APPENDIX E

2002 DRAFT ENVIRONMENTAL IMPACT REPORT

This page intentionally left blank.

Volume No. 1: Main Text

Draft Environmental Impact Report

for the

Oakland Army Base Area Redevelopment Plan

State Clearinghouse Number 2001082058

prepared by the

City of Oakland

environmental consultant:

g. borchard & associates

APRIL 2002

This page intentionally left blank.

CITY OF OAKLAND

Community and Economic Development Agency, Planning & Zoning Services Division
250 Frank H. Ogawa Plaza, Suite 3330, Oakland, California, 94612-2032

COMBINED NOTICE OF AVAILABILITY of the DRAFT ENVIRONMENTAL IMPACT REPORT (EIR) and NOTICE OF EIR PUBLIC HEARING for the OAKLAND ARMY BASE AREA REDEVELOPMENT PLAN

TITLE: Oakland Army Base (OARB) Area Redevelopment Plan

CASE NO.: ER01-035 **STATE CLEARINGHOUSE NO.:** 2001082058

LOCATION: The approximately 1,800-acre redevelopment area is located in West Oakland, bounded by I-80, Wood Street, and the Oakland Inner, Middle, and Outer harbors.

APPLICANT: City of Oakland

LEAD AGENCY: City of Oakland

DESCRIPTION: The proposed action is the implementation of a redevelopment plan for an approximately 1,800-acre area in West Oakland, including redevelopment, rehabilitation, and revitalization, on 710 acres within the redevelopment area. This redevelopment plan would alleviate physical and economic blight in West Oakland caused or exacerbated by the closure of the Oakland Army Base (OARB). Implementation of the redevelopment plan requires a General Plan amendment, re-zoning, amendment of the Redevelopment Plan, adoption of a Final Reuse Plan for the OARB, Port boundary changes, and other actions. The proposed redevelopment plan would result in structure clearance, site preparation, re-installation of major and service infrastructure, remediation of hazardous substances in soils and groundwater, construction, operation, and maintenance of approximately 4,100,000 square feet of light industrial, office/research & development, retail, warehouse/distribution, and community/civic land uses; 375 live/work units; 30 acres of public parks; and approximately 470 acres of industrial transportation facilities (port, rail, and supporting facilities). The redevelopment area spans the jurisdiction of both the City and Port of Oakland. The redevelopment area contains hazardous waste sites listed under Government Code section 65962.5. The proposed plan is expected to be complete by 2020, and is purposefully flexible, to allow the City and Port to respond to fluctuating market conditions over the relatively lengthy build-out horizon.

DRAFT ENVIRONMENTAL IMPACT REPORT: A Draft EIR was prepared pursuant to the California Environmental Quality Act (CEQA). The Draft EIR identifies significant impacts of redevelopment to the environment for the following factors: Consistency with Plans and Policies; Land Use; Transportation; Air Quality; Noise; Cultural Resources; Hazardous Materials; Public Services and Utilities; Aesthetics; Biological Resources; Geology, Seismicity, and Soils; Groundwater; and Surface Water. The Draft EIR recommends mitigation measures and evaluates alternatives that, if implemented, could eliminate or substantially reduce the significant impacts of redevelopment on the environment.

Copies of the Draft EIR are available to interested parties at no charge. One copy may be obtained, or the EIR and related documents may be reviewed, Monday through Friday, 8:30 a.m. to 5:00 p.m. at **250 Frank H. Ogawa Plaza, Suite 3330, Oakland**.

PUBLIC HEARING and COMMENTS: The Oakland City Planning Commission will conduct a public hearing on the Draft EIR **on Wednesday, June 5, 2002, at a meeting starting at 6:30 p.m. in Hearing Room 1, City Hall, One Frank H. Ogawa Plaza, Oakland.** Members of the public are welcome to attend this hearing and provide comments focusing on the sufficiency of the Draft EIR in discussing possible impacts to the environment of redevelopment, and ways those impacts may be avoided or minimized though mitigation or alternatives.

Comments may be made at the City Planning Commission public hearing, or in writing. All comments received in a timely manner will be considered by the City prior to finalizing the EIR. Written comments on the sufficiency of the EIR should be sent to the following: **Scott Gregory c/o Ms. Aliza Gallo, 250 Frank Ogawa Plaza, Suite 3315, Oakland, California 94612, and must be received no later than 4:00 p.m., on June 12, 2002.** If you challenge the EIR in court, you may be limited to raising only those issues that were raised in timely commenting on the sufficiency of the EIR. The Planning Commission will consider certification of the EIR for the redevelopment plan at a publicly noticed meeting whose date has yet to be determined.

For further information please call **Scott Gregory at 510/535-6690.**

Leslie Gould, Director of Planning & Zoning April 29, 2002

Volume No. 1: Main Text

Draft Environmental Impact Report

for the

Oakland Army Base Area Redevelopment Plan

April 2002

prepared by

City of Oakland

with the assistance of

g. borchard & associates
6026 Colby Street
Oakland, California 94618
a small local WBE

in conjunction with

Dowling Associates, Inc., a small local firm
GAIA Consulting, Inc., a small local WBE
Luster National, Inc., a small local MBE
URS Corporation, a local firm

This page intentionally left blank.

Chapter/Section **Page**

❖ ❖ ❖

Appendices

1 EIR Consultation

1A Notice of Scoping Meeting and Hearing to Adopt an Alternative Baseline

1B Scoping Comments

- Letter dated September 10, 2001 from the California Department of Transportation (Caltrans)
- Letter dated September 12, 2001 from the California Department of Toxic Substances Control (DTSC)
- Letter dated September 12, 2001 from the East Bay Regional Park District (EBRPD)
- Summary of scoping comments from September 13, 2001 Public Meeting
- Letter dated September 18, 2001 from West Oakland Commerce Association (WOCA)
- Summary of Scoping Comments from September 19, 2001 Planning Commission Hearing
- Letter dated September 20, 2001 from the San Francisco Bay Conservation and Development Commission (BCDC)
- Letter dated April 8, 2002 from the East Bay Municipal Utility District (EBMUD)

1C September 19, 2001 Staff Report to the Oakland City Planning Commission Regarding the OARB Redevelopment Project Area

1D Notice of Determination, Regarding Adoption of an Alternative Baseline

4.1 Consistency with Plans and Policies

4.1A San Francisco Bay Plan Objectives and Policies

❖ ❖ ❖

Tables **Page**

❖ ❖ ❖

Figures **Page**

❖ ❖ ❖
❖

AAQS	ambient air quality standard (California: CAAQS; National: NAAQS)
ABAG	Association of Bay Area Governments
ACM	asbestos containing material
AC Transit	Alameda County Transit Authority
AHERA	Asbestos Hazard Emergency Response Act
AHM	acutely hazardous material
ALUC	Airport Land Use Commission of Alameda County
ALUPP	Airport Land Use Policy Plan
AMS	ancillary maritime support
API	Area of Primary Importance
Army	U.S. Army
ASI	Area of Secondary Importance
AST	aboveground storage tank
ASTM	American Society for Testing and Materials
BAAQMD	Bay Area Air Quality Management District
BART	Bay Area Rapid Transit District
Base	Oakland Army Base (also OARB)
BCDC	Bay Conservation and Development Commission
bgs	below ground surface
BLS	basic life support
BMP	best management practice
BRAC	Base Realignment and Closure
BTEX	benzene, toluene, ethylbenzene, and xylene
CAA	Clean Air Act
CAAQS	California ambient air quality standards
Caltrans	California Department of Transportation
CAP	Clean Air Plan
CARB	California Air Resources Board (also ARB)
CBD	Central Business District
CCAA	California Clean Air Act
CCMP	California Coastal Management Program
CCR	California Code of Regulations
CDBG	Community Development Block Grant
CDFG	California Department of Fish and Game

CDMG	California Division of Mines and Geology
CEQA	California Environmental Quality Act
CERCLA	Comprehensive Environmental Responsibility, Compensation, and Liability Act
CFR	Code of Federal Regulations
City	City of Oakland
CNDDB	California Natural Diversity Database
CNEL	community noise equivalent level
CNPS	California Native Plant Society
CO	carbon monoxide
Corps	(U.S.) Army Corps of Engineers
CRHR	California Register of Historic Resources
CRL	Community Redevelopment Law
CUPA	Certified Unified Agency Programs
CWA	Clean Water Act
CY	cubic yards
CZMA	Coastal Zone Management Act
dB	decibels
dBA	A-weighted decibels
DDT	dichloro-diphenyl-trichloroethane
DERP	Defense Environmental Restoration Program
district	Oakland Army Base area redevelopment district (also project area)
DOD	(U.S.) Department of Defense
DPW	Department of Public Works
DTSC	(California) Department of Toxic Substances Control
DWR	(California) Department of Water Resources
EBMUD	East Bay Municipal Utility District (also District)
EBRPD	East Bay Regional Park District
EBS	Environmental Baseline Survey
EDD	(California) Employment Development Department
EEZ	Exclusive Economic Zone
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EMT	Emergency Medical Technician
EPA	(U.S.) Environmental Protection Agency

EPCRA	Emergency Planning and Community Right to Know Act
ESA	Endangered Species Act
ESG	Emergency Shelter Grant
FAR	Floor-to-area ratio
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FISCO	Fleet and Industrial Supply Center, Oakland
FOST	Finding of Suitability to Transfer
FOSET	Finding of Suitability to Early Transfer
GPG	General Plan Guidelines
HCD	(California Department of) Housing and Community Development
HEG	Hausrath Economic Group
HMTA	Hazardous Materials Transportation Act
HOPWA	Housing Opportunities for People with AIDS
HSC	Health and Safety Code
HUD	(U.S. Department of) Housing and Urban Development
HWCA	(California) Hazardous Waste Control Act
I-	Interstate
IEC	Interurban Electric (railway bridge)
JATC	Joint Apprentice and Training Committee
JIT	Joint Intermodal Terminal
kV	kilovolt
LBP	lead-based paint
L_{dn}	day/night average sound level
L_{eq}	equivalent sound level
LOS	level of service
LRA	Local Reuse Authority
LTMS	Long Term Management Strategy
LUTE	Land Use and Transportation Element (of the Oakland General Plan)
ìmho/cm	micromho per centimeter
MCL	maximum contaminant level
MEI	maximally exposed individual
mg/L	milligrams per liter
MHW	mean high water

MLLW	mean lower low water
MOA	Memorandum of Agreement
MOIA	Metropolitan Oakland International Airport
MOU	Memorandum of Understanding
mph	miles per hour
MSC	Maritime Support Center
msl	mean sea level
MTBE	methyl tertiary ethyl
MTC	Metropolitan Transportation Commission
MTS	Metropolitan Transportation System
NAAQS	National ambient air quality standards
NAS	Naval Air Station (Alameda)
NCP	National Contingency Plan
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NISA	National Invasive Species Act
NMFS	National Marine Fisheries Service
NO_2	nitrogen dioxide
NOA	Notice of Availability
NOC	Notice of Completion
NOD	Notice of Determination
NOP	Notice of Preparation
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRHP	National Register of Historic Places
NWP	nationwide permit
O_3	ozone
OARB	Oakland Army Base (also Base)
OBRA	Oakland Base Reuse Authority
OHP	(California) Office of Historic Preservation
OMC	Oakland Municipal Code
OPR	(Governor's) Office of Planning and Research
ORA	Oakland Redevelopment Agency

OSCAR	Open Space, Conservation, and Recreation (Element of the Oakland General Plan)
OSHA	Occupational Safety and Health Administration
OSH Act	Occupational Safety and Health Act (also Cal/OSH Act)
OUSD	Oakland Unified School District
OWS	oil/water separator
PBC	Public Benefit Conveyance
PCBs	polychlorinated biphenyls
PG&E	Pacific Gas and Electric Company
P.L.	Public Law
PM	particulate matter
PM_{10}	particulate matter with a diameter less than 10 microns
$PM_{2.5}$	particulate matter with a diameter less than 2.5 microns
Port	Port of Oakland
ppm	parts per million
PRC	Public Resources Code
RAO	remedial action objective
RAP/RMP	Remedial Acton Plan/Risk Management Plan
R&D	Research and Development
RCRA	Resource Conservation and Recovery Act
Reserves	U.S. Army Reserves
RHND	Regional Housing Needs Determination
ROG	reactive organic gas
RWQCB	Regional Water Quality Control Board
SFEP	San Francisco Estuary Project
SHPO	State Historic Preservation Officer
SIP	State Implementation Plan
SLC	State Lands Commission
SLM	sound level meter
SO_2	sulfur dioxide
SPRR	Southern Pacific Railroad
SR-	State Route
SWPPP	Storm Water Pollution Prevention Plan
SWRCB	(California) State Water Resources Control Board
TAC	toxic air contaminant

TCE	trichloroethelyne
TDS	total dissolved solids
TEU	twenty-foot equivalent unit
TPH	total petroleum hydrocarbons
TSCA	Toxic Substances Control Act
UBC	Uniform Building Code
ULR	Urban Land Redevelopment
UP	Union Pacific (railroad)
USC	United States Code
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
UST	underground storage tank
VOC	volatile organic compound
WDR	waste discharge requirements
WEAP	Women's Economic Agenda Project
WOCA	West Oakland Commerce Association
WOCAG	West Oakland Community Advisory Group
WQOs	water quality objectives
WWTF	wastewater treatment facility (also wastewater treatment plant)
WWTP	wastewater treatment plant (also wastewater treatment facility)
YOY	young-of-the-year

1. SUMMARY

The proposed action is the adoption and implementation of the Redevelopment Plan for the Oakland Army Base Area Redevelopment Project (herein the "Redevelopment Plan"). The lead agency for environmental review is the City of Oakland.

This document is a Redevelopment Environmental Impact Report (EIR) that discloses the environmental effects of establishing and redeveloping a redevelopment project area. By such disclosure, this EIR is intended to inform the public as well as the decisions of City officials, the Redevelopment Agency of the City of Oakland (ORA), and other approving agencies regarding redevelopment activities.

This EIR discloses impacts to the environment of redevelopment that would or could be adverse and significant, describes measures that would mitigate these impacts, and describes a range of alternatives to redevelopment as proposed.[1]

1.1 OVERVIEW

The Oakland Army Base (OARB) area redevelopment project area is an approximately 1,800-acre area located in West Oakland. Figure 1-1 depicts the general location of the project area. In July 2000, the City adopted the Redevelopment Plan, establishing the redevelopment project area and a program of redevelopment, rehabilitation, and revitalization of the project area. The project area encompasses the OARB, the Port of Oakland industrial maritime area, and an area near 16th and Wood streets in West Oakland. The center of the project area is the OARB, at one time an active military base, which the U.S. Congress approved for closure. Build-out is expected to occur by 2020.

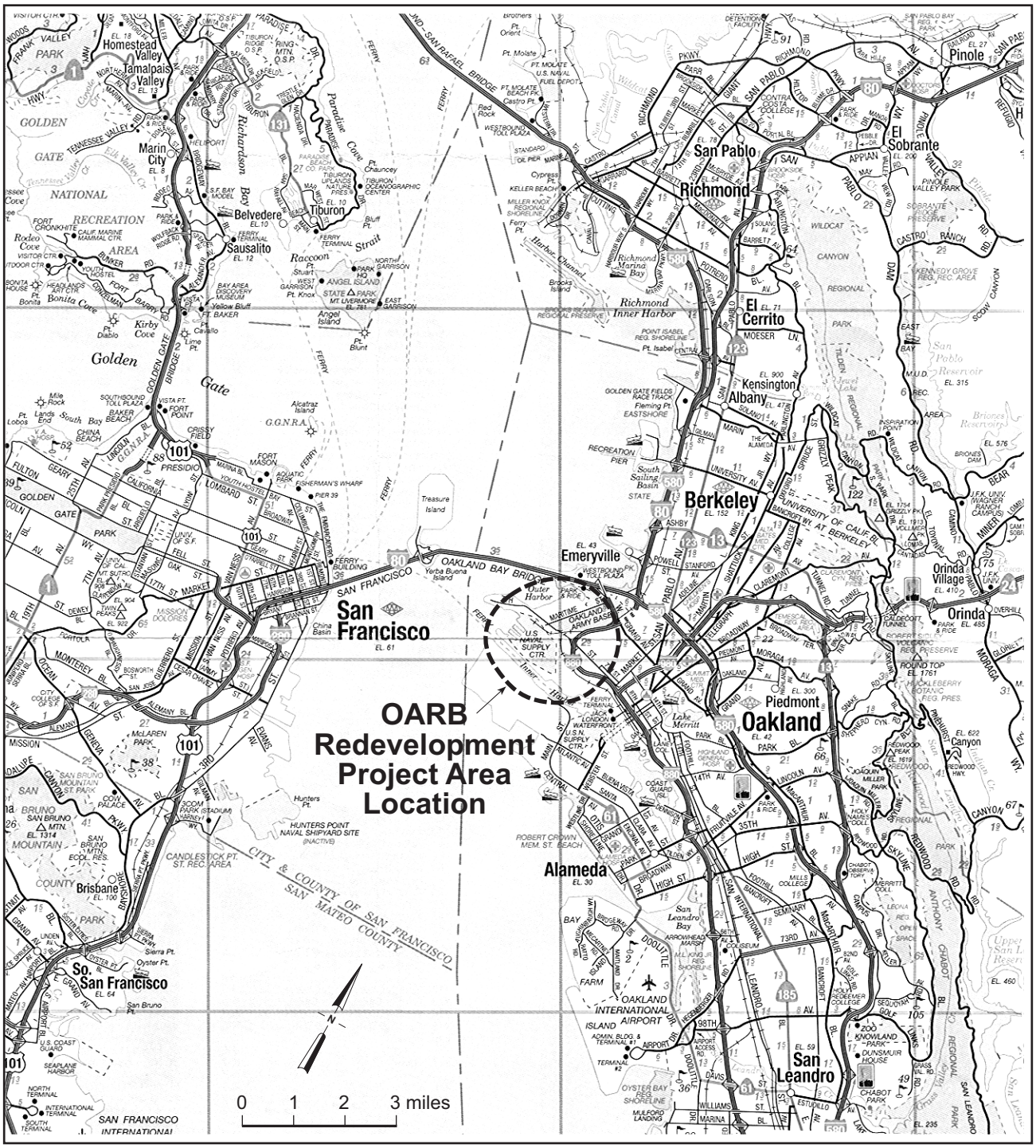
1.2 PROCESS OVERVIEW

Closure and reuse of a military facility and the establishment and implementation of a related project area entail numerous inter-related processes.

1.2.1 Base Closure Process

In 1995, the Base Realignment and Closure (BRAC) Commission recommended closure and realignment/disposal of the OARB. In July 1995, the President of the United States approved the BRAC Commission's recommendation; Congress reviewed the recommendation, and it became law on September 28,1995. The U.S. Army, the lead agency for base closure and transfer, conducted or participated in several required environmental processes. The Army:

[1] The Redevelopment Plan describes a series of related actions, or a program, which constitutes a "project" under CEQA. The terms "program" and "project" are used interchangeable in this EIR.



Source: AAA, San Francisco Bay Region, 1997

OARB Area Redevelopment EIR

Figure 1-1 Location of Redevelopment Project Area

April 2002

g. borchard & associates

- prepared an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA) disclosing the effects of base closure and disposal on the environment;
- consulted with and received approval of a Coastal Zone Consistency Determination from the San Francisco Bay Conservation and Development Commission (BCDC);
- consulted with the State Office of Historic Preservation (OHP) regarding cultural resources pursuant to the National Historic Preservation Act (NHPA); and
- consulted with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) regarding biological resources pursuant to the Endangered Species Act (ESA).

1.2.2 Base Transfer Process

The Army first reserved three parcels for the U.S. Army Reserves. The Army then decided to convey property to the Oakland Base Reuse Authority (OBRA), as well as to assign parcels to the U.S. Department of the Interior for conveyance to the East Bay Regional Park District (EBRPD). The OBRA plans to transfer its lands to the Oakland Redevelopment Agency, which will in turn transfer a portion of the Base to the Port of Oakland and to the Joint Apprentice and Training Committee (JATC).

1.2.3 Reuse Process

Once the OARB was slated for closure and transfer, the OBRA was established to direct the OARB reuse planning process. As the Local Reuse Authority (LRA) under federal base closure law, the OBRA is the agency eligible for managing the Base and its assets in the transitional period between base closure and transfer, accepting Base property from the Army, and planning for its reuse.

As part of the reuse planning process, OBRA established the West Oakland Community Advisory Group (WOCAG) to examine reuse opportunities and recommend community reuse options for OBRA's consideration. The planning document produced by the OBRA in consultation with WOCAG was the *OARB Draft Final Reuse Plan* (OBRA 1998, as amended 2001). The Reuse Plan documents the community reuse planning process and describes the proposed reuse development, including land use classifications and development densities. The Reuse Plan was amended in 2001 to reflect amendments to the Bay and Seaport plans.

1.2.4 Redevelopment Process

On July 11, 2000, the City adopted and approved the *Redevelopment Plan for the Oakland Base Redevelopment Project* (City of Oakland 2000), and established a redevelopment project area with the OARB at its core. The Redevelopment Plan was adopted pursuant to the California Community Redevelopment Law (CRL) (Health and Safety Code, §§ 33000, et seq.). The Redevelopment Plan provides the ORA—the agency primarily responsible for the project

area's redevelopment[2]—powers, duties, and obligations to implement and further a program of redevelopment, rehabilitation, and revitalization of the project area as broadly defined in the Plan. The Redevelopment Plan incorporates the OARB Reuse Plan, as it may be amended from time to time. At the same time, the City adopted a five-year implementation plan as required by the CRL.

1.2.5 Environmental Review

The City of Oakland is the lead agency for environmental review pursuant to the California Environmental Quality Act (CEQA). The City determined that redevelopment as proposed may result in significant impacts to the environment, and that an EIR would be required. To inform the public of its determination, and to initiate public participation in the environmental review process, the City issued a Notice of Preparation (NOP, included in Appendix 1). The Governor's Office of Planning and Research, which notifies relevant state agencies of available NOPs, received the NOP August 15, 2001, initiating a 36-day NOP review period, which ended September 19, 2001. The NOP was also mailed to Alameda County, regional regulatory and service agencies, environmental and business groups, and interested individuals. The NOP described the City's intent to prepare an EIR, briefly presented background and descriptive information, and listed the probable environmental effects of redevelopment. The NOP also described how the public should provide written or verbal input and comments on the scope (content) of the EIR, and provided notice of two public scoping meetings.

The purpose of the public scoping meetings, held September 13 and 19, 2001, was to provide a forum whereby agencies and interested citizens could provide input to the City regarding the appropriate scope of the EIR. Scoping input helps define the breadth of EIR analysis, and may include and is not limited to, environmental issues, reasonable alternatives, and mitigation recommendations. Citizens provided input at the September 13 scoping meeting; citizens, community board members, and decision-makers provided input at the September 19 scoping meeting held at the Oakland Planning Commission. The staff report for that meeting is included in Appendix 1. Relevant scoping comments are summarized in Section 1.5: Areas of Public Interest Known to the Lead Agency, below.

The NOP also served as a notice of the City's intention to use an "alternative baseline" for certain impact analyses, and of a September 19, 2001 public hearing in front of the Oakland Planning Commission regarding the alternative baseline. The physical context in which the type and intensity of impacts of a proposed project are determined is called the "baseline." Normally, the baseline comprises those environmental conditions that exist at the time of issue of an NOP. CEQA Section 21083.8.1 offers agencies preparing an EIR for reuse of a military base such as the OARB the option to analyze impacts in the context of the physical conditions that were present at the time the federal decision became final for closure of the base (in this case,

[2] The Port will be the agency primarily responsible for redevelopment of those portions of the redevelopment project area within the Port Area, as defined in the City Charter.

September 1995). Use of such an alternative baseline can better represent the actual impact of OARB reuse when compared to the impacts of the base in full operation. After hearing public input regarding this issue, the Planning Commission adopted the alternative baseline for certain environmental factors. A Notice of Determination relating to the use of the alternative baseline was filed with the State Office of Planning and Research (OPR) and the County Clerk (see Appendix 1).

The City is preparing this EIR to evaluate and disclose the environmental impacts of establishing and implementing the OARB redevelopment project area, including redevelopment of the OARB as envisioned in the Reuse Plan. The ORA and Port require flexibility for responding to future and evolving market and economic conditions. These fluctuating conditions necessarily require the Redevelopment Plan to be broad and flexible, and analysis in this EIR is consistent with a broad level of detail. To assess the type and intensity of OARB reuse impacts most accurately, this EIR uses an alternative baseline of 1995 when assessing impacts to the following environmental factors:

- Traffic
- Water consumption
- Energy consumption
- Noise
- Air quality
- Schools
- Population and Employment

1.3 NEED AND OBJECTIVES

1.3.1 Need

Redevelopment of the project area is necessary to alleviate physical and economic blight , resulting in part or exacerbated by closure of the OARB.

1.3.2 Objectives

Redevelopment objectives focus on elimination of blight and blighting influences, and strengthening the economic base, and include the following:

- Alleviate economic and social degradation due to closure of OARB
- Eliminate blighting influences, including remediation of contamination
- Create a vibrant and balanced land use pattern
- Strengthen the economic base
- Allow for sustainable job creation
- Expand, improve, and preserve low/moderate-income housing
- Provide for high-quality public/community services

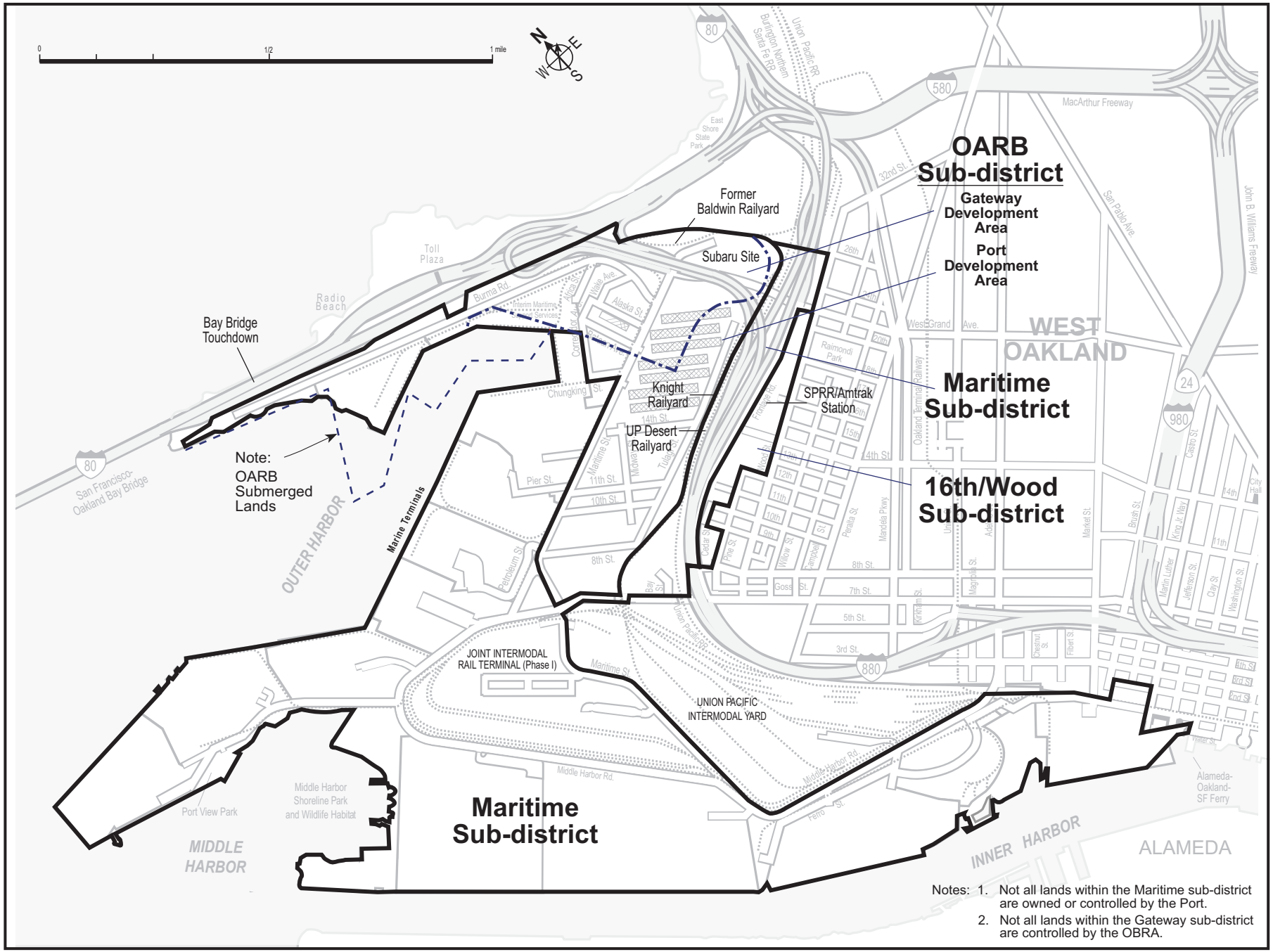
- Provide for safe, efficient, and effective movement of people and goods
- Protect, preserve, and enhance environmental resources
- Minimize waste generation, maximize reuse/recycling
- Accommodate the Port's share of regional cargo throughput in 2020
- Respond to trends and requirements of maritime shipping
- Increase Port productivity and efficiency
- Provide sufficient capacity to absorb additional cargo throughput in the event that another West Coast gateway port is shut down due to an emergency
- Keep competitive with other West Coast ports

1.4 GENERAL DESCRIPTION OF PROPOSED REDEVELOPMENT

As depicted by Figure 1-2, the OARB redevelopment project area is subdivided into three sub-districts:

1. The **OARB sub-district:** This approximately 470-acre sub-district is further subdivided into two development areas:
   - the **Gateway development area**, generally located in the northwest portion of the sub-district, would be redeveloped by the ORA; and
   - the **Port development area**, located in the southeast portion of the sub-district would be redeveloped by the Port of Oakland.
2. The **Maritime sub-district.** This approximately 1,290-acre sub-district comprises the Port of Oakland's industrial maritime area, plus freeway right-of-way and some miscellaneous non-Port parcels. Redevelopment of a former military installation, Fleet and Industrial Supply Center, Oakland (FISCO), located within this sub-district has already occurred under earlier environmental review.
3. **The 16th/Wood sub-district**. This approximately 41-acre sub-district comprises a crescent-shaped area of current and former industrial lands located between Wood Street and I-880, and between 26th and 9th streets.

The OARB redevelopment project area is urbanized. There are some vacant parcels; most were industrialized at one time. The OARB sub-district is largely a transportation-oriented military base; the only quasi-natural environment is located at the western tip of the Bay Bridge touchdown peninsula, south of the bridge. The Maritime sub-district contains generally highly industrialized maritime shipping facilities, with approximately 35 acres of waterfront park along the shoreline of the Middle Harbor and one loft development along 2nd Street. The 16th/Wood



OARB Area Redevelopment EIR

Figure 1-2 OARB Redevelopment Project Area, Sub-Districts, and Area Landmarks

April 2002

g. borchard & associates

sub-district encompasses light and medium industrial uses such as recyclers and warehousing/distribution facilities; in addition, there are several large vacant parcels that were formerly industrial and the former Southern Pacific Railroad (SPRR)/Amtrak railroad station.

1.5 AREAS OF PUBLIC INTEREST KNOWN TO THE LEAD AGENCY

As lead agency under CEQA, the City elicited input from agencies and interested citizens regarding the appropriate scope of this EIR. In response, the City received both verbal and written input. Written input in the form of letters and comment cards appears in its entirety in Appendix 1 of this EIR. Below is a summary of verbal and written input. The source of the input is first identified, the input is summarized, and the reader is directed to the location in the EIR where relevant input is addressed.

Some input received during the EIR scoping period did not relate to the scope (content) of the EIR, but pertained to other issues, such as a preferred alternative Redevelopment Plan boundary different than that approved by the ORA, or a preferred alternative Redevelopment Plan different than that proposed by the City. The Redevelopment Plan was presented for public comment at several public meetings and at two public hearings (the hearings were conducted by the City and ORA in June and July 2001). Some input regarding preferred alternative redevelopment program elements is incorporated into alternatives evaluated in Chapter 7: Alternatives to the Proposed Redevelopment Program; other suggestions that do not meet the vision of the Redevelopment Plan are not.

1.5.1 Input of Interested Individuals (by Topic)

The following verbal input/comments were provided at the September 13, 2001 scoping meeting.

Description of Redevelopment

1. Housing should be for all levels of income.
2. A connection from Mandela to 3rd Street should be included in the traffic analysis.
3. The 16th/Wood sub-district should include recreational amenities, including swimming pool, tennis courts, and a putting green.
4. Public access to and along the waterfront should be maximized. Trails and connectors should be included between the proposed Gateway Park and the community along 7th Street and West Grand Avenue.
5. Big box retail should not be included.
6. Land uses allowing smaller-scale retail should be included in the 16th/Wood sub-districts.

Items 1 through 6 are addressed in Chapter 3: Description, which describes elements of redevelopment that are known at this time, and describes proposed General Plan land use classifications, development intensities, and required infrastructure. The description includes funding for affordable housing, transportation improvements, public access improvements, and transportation and other infrastructure. Some input regarding suggestions for redevelopment elements is at a greater level of detail than is planned at this time, or analyzed in this EIR.

Impact Analysis and Mitigation

1. As mitigation for demolition of historic structures in the OARB, use the Youth Employment Program to deconstruct the buildings and recycle the material.

2. Reduce air emissions from trucks traveling through neighborhoods.

3. Comparison of 1995 (baseline) and 2000 (setting) employment conditions is really irrelevant, because the people that lost their jobs in 1995 will not be the ones employed through redevelopment.

4. New jobs created by redevelopment should have a first right of refusal to West Oakland residents.

5. Analyze the visual impacts of high-stack containers from the Bay Bridge.

Items 1 through 4 are addressed in Chapter 4: Setting and Baseline, Impacts, and Mitigation, which analyzes impacts that could result from redevelopment as proposed in Chapter 3: Description, including cultural resources, aesthetic resources, air quality, employment (and anticipated job capture rates for Oakland residents). Chapter 4 also includes numerous measures to mitigate those impacts that are considered significant. Regarding item 5, redevelopment as proposed would not result in additional high-stack containers at the Port of Oakland, and may ultimately eliminate those adjacent to Interstate-80 (I-80). Under the proposed Redevelopment and Reuse Plans, the lands adjacent to I-80 and most visible from the Bay Bridge would become part of the City's Gateway development area, and existing container storage would be replaced with a variety of "flex" uses, including office, research and development (R&D), light industrial, and commercial uses.

Alternatives

1. Move existing West Grand Avenue businesses/light industrial uses that support the Port to the OARB property to open up the West Grand Avenue area for higher scale uses.

2. Put forth an Adaptive Reuse alternative for detailed analysis.

3. Develop an alternative that reduces truck traffic in West Oakland.

4. Consider the development of a tramway system as a way to reduce traffic congestion and air emissions.

Regarding item 1, the West Grand Avenue corridor is not located within the project area, and is therefore not a part of the description of proposed redevelopment or further addressed in this EIR. Items 2 through 4 are addressed in Chapter 7: Alternatives to the Proposed Redevelopment Program, which examines a range of reasonable alternatives to the redevelopment program proposed in Chapter 3: Description. These include, among others, alternatives that would adaptively reuse existing structures, and a reduced level of intensity that would reduce traffic and related impacts. Some alternatives fail to fundamentally fulfill objectives of redevelopment, and are not put forth for detailed analysis. The tramway was not considered because of the relatively few trips with origins or destinations in Alameda associated with proposed redevelopment.

Miscellaneous

1. Why does East Bay Municipal Utility District (EBMUD) have to pay for land they receive? Originally, EBMUD was supposed to receive the land for free.

As noted in Chapter 3: Description, EBMUD is currently negotiating with the U.S. Army Reserves for properties located adjacent to, not within, the OARB or the project area. Development or redevelopment of those properties is not a part of the redevelopment program analyzed in this EIR nor were these properties included in the Army's BRAC actions, and terms of that negotiation have not been concluded. Chapter 5: Cumulative Impacts, includes evaluation of proposed redevelopment in light of past, present, and probable future actions, including potential expansion of nearby EBMUD facilities.

1.5.2 Input of Community Board Members, Interest Groups, and Decision-Makers (by Entity)

The following were provided as verbal input/comments at the September 19, 2001 scoping meeting.

Landmarks Preservation Board

1. The EIR should identify historical assets, recommend opportunities for reuse of historical buildings, and suggest creative mitigation measures.
2. When taking down other buildings, raw materials (especially redwood timbers) should be saved and salvaged.
3. At least two of the buildings designated as "temporary" by the Army should be preserved and reused.
4. The Diesel Shop (Building No. 812) and the Administration Building, Building No. 1 (permanent buildings) should be preserved and reused.
5. A curated exhibit should be located within one of the preserved buildings.
6. The parade grounds should be seen as an opportunity for an urban park.

7. A report regarding reuse of OARB buildings should be made available for review by the Landmarks Preservation Board.

Items 1, 2, and 5 are addressed in Chapter 4: Setting and Baseline, Impacts, and Mitigation. Chapter 4 identifies historic resources, the anticipated impacts of redevelopment on such resources, and a suite of measures that would partially mitigate effects to them, including de-construction and recycling rather than demolition. Items 3 and 4 are addressed in Chapter 7: Alternatives to the Proposed Redevelopment Program, which evaluates reuse of historic structures. Regarding item 6, evidence of the existence of a formal parade ground at the OARB was not identified during the course of this investigation, and this input is not further addressed in the EIR. Regarding item 7, the City conducted an analysis of the feasibility of adaptive reuse of buildings at the OARB; portions of this report are incorporated by reference into this EIR.

West Oakland Commerce Association

1. The OARB should be considered almost entirely for ancillary maritime support uses.
2. If lands are not dedicated to ancillary maritime services, the EIR should identify the impacts associated with trucking business having to relocate as far away as Tracy, Fairfield, and/or Sacramento to find available land.
3. Although the City feels the need to maximize the number of job opportunities at the OARB, it should also look at the types of jobs that are needed.
4. Existing trucking operations and related businesses should be moved to the OARB, thereby freeing opportunities for redevelopment with higher and better uses at other in-town locations (*i.e*., along Grand Avenue and Mandela Parkway).
5. An alternative that includes a transit village with a tram linking to Alameda needs to be considered.

Items 1 and 2 are addressed in Chapter 3: Description, which explains that redevelopment as proposed includes substantial ancillary maritime services in the project area. Approximately 105 acres would be dedicated to this use. Item 1 is also addressed in Chapter 7: Alternatives to the Proposed Redevelopment Program. Item 3 is addressed in Chapter 4: Setting and Baseline, Impacts, and Mitigation, and in Appendix 4.8: Employment Model, which include an analysis of job generation, including general job types. Regarding item 4, as explained above, the Redevelopment Plan boundary was established with several opportunities for public input. The West Grand Avenue corridor is not located within the redevelopment project area, and is therefore not a part of the description of proposed redevelopment or further addressed as an element in this EIR. Item 5 is addressed above.

City of Oakland Planning Commission

1. Market demand may not call for high-end uses as suggested in the Reuse Plan.
2. Redevelopment should consider more light industrial uses or other uses not as susceptible to fluctuating market conditions.

3. Public access to the waterfront is important and must be considered as part of redevelopment.
4. Truck parking and other ancillary maritime support land uses should be moved to the OARB from the Prescott neighborhood.
5. West Grand Avenue corridor, Mandela Parkway corridor, and other areas outside of the defined redevelopment area need to be studied.
6. The EIR should consider the impact of Port development activities on the entire surrounding area.
7. The EIR should evaluate aesthetic effects of containers stacked up along the side of the Bay Bridge, unless such containers will be eliminated under proposed redevelopment.
8. The EIR must study a full range of alternatives to the Reuse Plan, including OARB as a full-maritime use area, preservation of historic buildings, maximum development including benefits/effects of research and development uses as compared to light industrial uses.
9. An alternative should be considered that includes an expansion of ancillary maritime support uses greater than indicated in the current Reuse Plan.
10. One alternative should be to consider conveyance of the entire OARB to the Port for their use, with the Port serving as lead agency.
11. The City may find it difficult to require conditions/mitigation measures from the EIR on Port activities.
12. The Reuse Plan appears as if it were designed by committee—trying to accomplish too many competing objectives.

Items 1 through 4 are addressed Chapter 3: Description, which describes elements of redevelopment that are known at this time, and describes proposed General Plan land use classifications, development intensities, and required infrastructure. The description is flexible, and is intended to allow for a range of uses within a given land use classification, zoning, and maximum intensity, to allow for market response over the nearly 20-year build-out period. Regarding item 5, the West Grand Avenue and Mandela Parkway corridors are not located within the redevelopment project area, and are therefore not a part of the description of proposed redevelopment or further addressed in this EIR other than for traffic analysis issues. Item 6 is addressed in Chapter 4: Setting and Baseline, Impacts, and Mitigation, which includes analyses of impacts across study areas that vary by environmental factor, and which represent the area of potential effect for each factor. Regarding item 7, redevelopment as proposed would not result in additional high-stack containers at the Port of Oakland, and may ultimately eliminate those adjacent to I-80; the visual impact of such stacking is not evaluated in this EIR.

Items 8 through 10 are addressed in Chapter 7: Alternatives to the Proposed Redevelopment Program, which addresses a range of reasonable alternatives to the redevelopment proposed in Chapter 3: Description. These include, among others, alternatives that would result in an all-maritime development of the OARB sub-district; this alternative assumes such development

would occur under the lead of the Port of Oakland. Regarding item 11, the mechanism for enforcing mitigation measures would be through the City's implementation of the Mitigation Monitoring Program, the Port's role as a responsible agency to the EIR, and potentially through subsequent land conveyance conditions from the City to the Port. Regarding item 12, the Reuse Plan was a product of substantial and often conflicting community input. However, the Plan is not intended to satisfy particular groups, but rather to be broad and flexible to allow for fluctuating market conditions over the build-out period and to provide a basis for further refinements and detailed planning efforts throughout the implementation period.

1.5.3 Input of Resource and Service Agencies, and Interest Groups (by Entity)

The following were provided as written input/comments during the scoping period. They are reproduced in their entirety in Appendix 1 of this document.

California Department of Transportation (Caltrans): Letter Dated September 10, 2001

1. Redevelopment will put heightened demand on the existing, congested transportation infrastructure. Caltrans should be involved early in the planning process, and will look toward the EIR for detailed transportation data.

2. Caltrans has a Class II bikeway project along Burma Road, beginning at Maritime Street. This bikeway will connect Maritime Street to the proposed Gateway Park, and beyond to the Bay Bridge.

Items 1 and 2 are addressed in Chapter 4: Setting and Baseline, Impacts, and Mitigation, which contain detailed information regarding both vehicular and non-vehicular transportation networks. Item 2 is also addressed in Chapter 3: Description, which explains public access proposed as part of redevelopment.

East Bay Regional Park District: Letter Dated September 12, 2001

1. The EBRPD plans to acquire 15 acres of OARB land at the Bay Bridge touchdown peninsula for a shoreline regional park, the Gateway Park. This area will serve as the convergence of the Bay Trail from Emeryville, Oakland, and the Bay Bridge.

2. The EIR should address impacts to traffic of trucks.

3. The EIR should address safe vehicular, bicycle, and pedestrian access to the Gateway Park.

4. The EIR should address transit connections.

5. The EIR should address recreational demand generated by proposed redevelopment, and mitigation for that demand.

6. The EIR should address public waterfront access.

7. The EIR should address utility infrastructure, and how needed infrastructure will be financed.

Item 1 is addressed in Chapter 3: Description, which explains the District's intent to acquire OARB lands for park use, and also describes proposed public access improvements, to the extent they have been planned to date.

Items 2 through 7 are addressed in Chapter 4: Setting and Baseline, Impacts, and Mitigation, which addresses all issues identified by the EBRPD, as well as mitigation to avoid or otherwise mitigate significant impacts.

California Environmental Protection Agency, Department of Toxic Substances Control (DTSC): Letter Dated September 12, 2001

1. Pursuant to Public Resources Code (PRC) Section 21083.8.1(d)(2), alternative baseline provisions do not apply to the OARB.

2. The EIR should analyze the no project alternative for conditions as they exist at the time the EIR is prepared.

3. The EIR should state the correct acreage of the OARB.

4. The EIR should address impact to the environment from lead.

5. The EIR should address waste oil contamination at Building No. 1.

6. The EIR should address management of shallow groundwater during construction and operation.

7. The EIR should consistently present the project title.

8. The EIR should clearly identify any planned schools and state whether schools are a part of planned redevelopment.

9. The City cannot assume that remediation ultimately determined to be necessary to protect public health and the environment are consistent with redevelopment as proposed.

10. Siting of residential uses must be at locations with unrestricted use.

Regarding item 1, the EIR is prepared in accordance with the requirements of CEQA, including Section 21083.8.1(d)(2). While the EIR does use an alternative baseline for assessment of impacts for a select group of environmental factors, hazardous materials and waste are not among those factors. The City is aware of the restrictions regarding the use of alternative baselines, and prepared this EIR pursuant to those restrictions. Item 2 is addressed by Chapter 7: Alternatives to the Proposed Redevelopment Program, which analyzes a no project alternative reflecting conditions for all environmental factors as they existed at the time the NOP was filed, and as can be reasonably expected to occur in the absence of redevelopment. Items

3 and 7 are addressed consistently and correctly throughout the EIR. Items 4 through 6 are addressed in Chapter 4: Setting and Baseline, Impacts, and Mitigation, which addresses all issues identified by the DTSC, as well as mitigation to avoid or otherwise mitigate significant impacts. Items 8 and 10 are addressed by Chapter 3: Description. Regarding item 9, for purposes of this EIR, the City does assume that remediation ultimately determined to be necessary to protect public health and the environment is consistent with redevelopment as proposed. Should this assumption prove unfounded, the redevelopment program would be modified.

West Oakland Commerce Association: Letter Dated September 11, 2001

During the scoping period, the West Oakland Commerce Association (WOCA) submitted this letter to the OBRA regarding the U.S. Army's EIS for OARB disposal and reuse, and the OARB planning process. The letter expresses "cautious support" for the preferred OARB reuse alternative, which is the basis of the Redevelopment Plan for the OARB sub-district, but also recommends this sub-district be developed primarily as an industrial enclave.

Chapter 7: Alternatives to the Proposed Redevelopment Program, evaluates an alternative that would result in OARB sub-district uses that are entirely industrial maritime and maritime support.

West Oakland Commerce Association: Letter Dated September 18, 2001

1. Reuse of the OARB should consider the relationship of the Base to the West Oakland/Downtown nexus.

2. Jobs should accrue to West Oakland as a whole, as opposed to a certain segment.

3. An aerial tramway can be extended between Alameda and the Middle Harbor Shoreline Park through the Bay Area Rapid Transit West Oakland station and Jack London Village.

4. The redevelopment scoping process should properly include all of West Oakland.

Items 1 and 4 are addressed in Chapter 5: Cumulative Impacts, which evaluates impacts of proposed project area redevelopment in the context of other related past, current and future probable actions. Regarding item 2, Chapter 4: Setting and Baseline, Impacts, and Mitigation, describes total job generation of redevelopment, as well as net direct jobs generated. The analysis of employment estimates the number of jobs that would be filled by Oakland residents. Regarding item 3, an aerial tramway is not a redevelopment element, and is not analyzed in this EIR. Redevelopment elements are described in Chapter 3: Description. Regarding item 4, the NOP and notice of scoping meetings were mailed to agencies, interest groups, as well as to individuals who participated in OARB reuse planning or who requested such notice. In addition, scoping meeting notices were published in the Oakland Tribune, a newspaper of general circulation, so that all citizens of Oakland could participate. The NOP and newspaper advertisements are included in Appendix 1.

San Francisco Bay Conservation and Development Commission: Letter Dated September 20, 2001

1. The EIR should identify Bay Conservation and Development Commission's (BCDC's) jurisdiction on plans, and describe portions of redevelopment that will require BCDC permits.

2. The EIR should describe any required Bay fill, including its location, amount, possible environmental impacts, as well as measures taken to minimize such impacts.

3. The EIR should describe the type and amount of proposed public access, as well as its interconnectivity with other area public access.

Items 1 and 2 are addressed in Chapter 4: Setting and Baseline, Impacts, and Mitigation, which addresses all issues identified by BCDC, as well as mitigation to avoid or otherwise mitigate significant impacts. Item 3 is addressed in Chapter 3: Description, which explains proposed public access and its inter-connectivity to existing and planned public access.

East Bay Municipal Utility District: Letter Dated April 8, 2002

1. Water main extensions may be required to provide service to the redevelopment project area.

2. OBRA requested, and EBMUD completed a Water Supply Assessment for the proposed action.

3. EBMUD will not install pipelines in soil with contamination levels which would expose workers to dermal or respiratory impacts that cannot be mitigated by Level D personal protective equipment or which would generate solids or groundwater that requires disposal as a hazardous waste.

4. Developers of redevelopment activities (including the City, Port, and private entities) should make available any analytical data on sites to be redeveloped, as well as existing environmental assessments.

5. To help mitigate water demand, EBMUD recommends water conservation measures be incorporated into design.

6. The City should plan for potable water shortages in times of drought.

7. EBMUD prohibits wastewater flows above those allocated for each sewage sub-basin, and developers need to confirm with the city of Oakland Public works department that capacity is available within each relevant sub-basin.

8. The action should address replacement and/or rehabilitation of the existing sanitary sewer system to control inflow/infiltration (I/I).

9. EBMUD Policy No. 73 mandates customers use non-potable recycled (reclaimed) water when it is available at a reasonable cost, not detrimental to public health, and not injurious to plant life, fish, and wildlife. The redevelopment project area could be served by the East Bayshore Recycled Water Project. EBMUD recommends the redevelopment program require dual plumbing for landscaping, toilet water flushing, wash down water, decorative fountains, and other approved uses of tertiary treated recycled water.

10. Use of recycled water will reduce the redevelopment program's demand for potable water.

11. In compliance with Senate Bill 2095, the City of Oakland approved a recycled water ordinance, including requirements for dual plumbing. Developers of redevelopment activities should confer with the City regarding requirements of this ordinance.

12. The City should further contact EBMUD's Office of water Recycling to determine how to accommodate the use of recycled water in design.

Item 1 is addressed in Chapter 3: Description, which describes anticipated major infrastructure needs to serve the redevelopment program. Item 2 is addressed in Section 4.9: Utilities and Public Services, which presents results of the Water Supply Assessment; the actual assessment and correspondence with EBMUD is located in Appendix 4.9. Items 3 and 4 are addressed in Section 4.7: Hazardous Materials, which describes current project area conditions regarding environmental impairments, impacts redevelopment related to environmental impairments, and health-protective measures to effectively address such impairments. Items 5, 6, 9, 10, 11, and 12 are addressed in Chapter 3: Description, which describes anticipated infrastructure to serve the proposed redevelopment program, including the potential for inclusion of recycled water facilities. In addition, Section 4.9, recommends measures requiring subsequent redevelopment activities of a certain magnitude to incorporate potable water conservation measures, including dual plumbing to accommodate recycled water, in design. In addition, this section as well as Chapter 5: Cumulative Impacts, describe the City's recent adoption of a recycled water ordinance, as well as current Port efforts to develop and adopt a similar ordinance. Section 4.9 also describes the anticipation that redevelopment would be served by the East Bayshore Recycled Water Project as well the expected reduction in use of potable water due to the use of reclaimed water.

Item 7 is addressed in Section 4.9, which describes results of a wastewater capacity analysis; the analysis itself and correspondence with the City's Public Works Department is included in Appendix 4.9. Item 8 is addressed in Chapter 3: Description, which explains the necessity of re-construction of much of the sewerage infrastructure in the OARB and 16th/Wood sub-district, which would address existing I/I problems.

1.6 ENVIRONMENTAL AND OTHER BENEFITS OF REDEVELOPMENT

The proposed redevelopment program would result in social, economic, and environmental benefits. Decision-makers may elect to consider these benefits when they also consider the

adverse environmental effects of the proposed redevelopment program. Benefits include the following:

- Approximately 16,400 total new direct jobs (of these, more than 10,600 are expected to be located onsite), and more than 46,000 indirect/induced jobs.
- 375 new live/work units, and dedication of 20 to 25 percent of tax increment monies generated by redevelopment to improve the stock of low- and moderate-income housing in Oakland.
- Advancement (beyond simple consistency) of plans and policies of the Oakland General Plan, the San Francisco Bay Plan, the San Francisco Bay Area Seaport Plan, the East Bay Regional Park District Master Plan, and the Bay Trail Plan, and the San Francisco Bay Region Water Quality Control Plan.
- Development of a vibrant and compatible mix of land uses.
- Improvement of historic character at the 16th/Wood sub-district.
- Remediation of contaminants in soil and groundwater.
- Replacement of aged infrastructure.
- Development of local and region-serving public access and recreation facilities.
- Elimination of visual blight and development of a vibrant and modern visual setting.
- Reduction in dredging leading to improved wildlife water and audio environments.
- Reduction in seismic risks.
- Long-term improvement of surface water quality.

1.7 SIGNIFICANT IMPACTS OF REDEVELOPMENT, AND RECOMMENDED MITIGATION

Chapter 4: Setting and Baseline, Impacts, and Mitigation, presents results of an evaluation of the adverse impacts that could occur from redevelopment as proposed. The evaluation assesses potential effects to 15 environmental factors. If the City determines, based on established significance criteria and thresholds, that the magnitude of an impact is great enough to warrant corrective action, the impact is considered "significant." Feasible measures are recommended in this EIR to avoid or reduce each significant impact to a level that is less than significant (and warranting no further corrective action), thus "mitigating" the impact. Even with implementation of all feasible corrective measures, some impacts cannot be mitigated to a level that is less than significant; the mitigated, or "residual" impact is considered significant. These residually significant impacts are termed unavoidable and adverse. Table 1-1, located at the end of this chapter, summarizes significant impacts of redevelopment and mitigation**.** Redevelopment as proposed would result in unavoidable adverse impacts to the following environmental factors:

- Increases in traffic on certain Metropolitan Transportation System (MTS) facilities already experiencing degraded levels of service (LOS)—I-80 east of the I-80/I-580 split; I-880 connector to I-80 east; I-880 from 7th Street to the segment south of I-238; I-580 east and west of I-980/SR-24; and SR-24 east of I-580.
- Contribute considerably to traffic on certain MTS freeway facilities experiencing cumulatively degraded LOS—I-80 from the Bay Bridge to east of the I-80/I-580 split; I-880 connector to I-80 east; I-880 from I-980 to the segment south of I-238; I-580 from west of I-980/SR-24 to I-238; and SR-24 east of I-580.
- Degrade LOS at the Maritime Street/West Grand Avenue intersection under the cumulative condition.
- Inadequate truck-related parking supply under the cumulative condition.
- Short-term increases in criteria air pollutants and diesel emissions from construction equipment.
- Long-term substantial increases in criteria air pollutants and diesel emissions from Maritime, rail, and trucking operations.
- Long-term increases in certain criteria pollutants from passenger vehicles and delivery trucks.
- Contribute considerably to long-term cumulative increases in criteria pollutants and diesel emissions.
- Loss of structures contributing to the National Register–eligible OARB Historic District.
- Loss of the integrity of the OARB Historic District.
- Contribute considerably to the cumulative loss of Bay Area military historic resources.
- Loss of visual evidence of the military history of West Oakland.
- Increases in risk of introduced invasive species in San Francisco Bay under redevelopment-specific and cumulative conditions.

1.8 IMPACTS OF REDEVELOPMENT FOUND TO BE NOT SIGNIFICANT

If the City determines the magnitude of an impact is minor, corrective action is not warranted, and the impact is considered "less than significant." Redevelopment would result in less than significant impacts to all 15 environmental factors evaluated for this EIR.

1.9 ALTERNATIVES TO THE PROPOSED REDEVELOPMENT PROGRAM

Chapter 7: Alternatives to the Proposed Redevelopment Program, examines alternative redevelopment scenarios for their ability—like mitigation—to avoid or substantially reduce the significant environmental effects of the proposed redevelopment program. A suite of alternatives was initially evaluated. Of these, the following five were put forth for detailed analysis:

- **No Project.** Continuation of current interim leasing program at the OARB, and build-out of remainder of the project area in accordance with the Oakland General Plan and the Bay Plan.
- **High Intensity.** The upper range of potential mixed-use development within the project area.
- **Reduced Intensity.** The lower range of potential mixed-use development within the project area.
- **Full Maritime.** Development of the Base and Maritime sub-districts solely for Port and ancillary maritime support uses.
- **Gateway Adaptive Reuse/Eco-Park.** Adaptive reuse of historic structures within the Gateway development area as an eco-park.

Analysis of these alternatives finds the No Project alternative to be environmentally superior to the other alternatives. Of the "action" alternatives, the Gateway Reuse/Eco-Park is the environmentally superior alternative.

Table 1-1 provides a summary of mitigation measures. All measures proposed are intended to serve as specific, enforceable requirements. The Mitigation Monitoring and Reporting Plan required by CEQA will ensure compliance with all measures described herein and where the timing for implementing the measures will fully avoid or minimize the impacts. While the timetable for future redevelopment activities cannot be known with certainty given market uncertainties, the measures mitigating impacts from future remediation, demolition, or construction activities will be required to be implemented in tandem with those activities.

1

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
Consistency of Plans and Policies		
Impact 4.1-2: Proposed land uses in a portion of the 16th/Wood sub-district would be fundamentally inconsistent with Seaport and Bay plan Port Priority Use designations.	Mitigation 4.1-1: Amend the Bay and Seaport plans to eliminate, where necessary, Port Priority Use designations within the 16th/Wood sub-district.	L
Land Use		
Impact 4.2-1: Under proposed redevelopment, dissimilar land uses may be located proximate to one another.	Mitigation 4.2-1: The City shall ensure that Gateway development area redevelopment activities adjacent to Port of Oakland industrial maritime facilities are designed to minimize any land use incompatibilities to the extent feasible.	L
	Mitigation 4.2-2: If any land use incompatibility is subsequently identified, the Port of Oakland shall use its best efforts, consistent with meeting cargo throughput demand, to locate maritime activities that could result in land use incompatibilities as far away from the property boundary as feasible.	
	Mitigation 4.2-3: The City and Port shall coordinate to implement Mitigation Measures 4.2-1 and 4.2-2; if despite these efforts, subsequent land use incompatibilities are identified, the Port and City shall jointly develop, implement, and fund on a fair share basis additional strategies to reduce incompatibilities.	

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
Transportation and Traffic		
Impact 4.3-1: Redevelopment would cause the level of service to degrade to worse than LOS D at three intersections located outside the Downtown area: • West Grand Avenue/Maritime Street • West Grand Avenue/I-880 Frontage Road • 7th/Maritime Street	Mitigation 4.3-1: *West Grand Avenue/Maritime Street.* As part of the design for the realignment of Maritime Street, the Port shall also provide modifications to the West Grand Avenue/Maritime Street intersection.	L
	Mitigation 4.3-2: West Grand Avenue/I-880 Frontage Road. Project area developers shall fund, on a fair-share basis, modifications to the West Grand Avenue/I-880 Frontage Road intersection.	
	Mitigation 4.3-3: 7th/Maritime Street. As part of the design for the realignment of Maritime Street, the Port shall also provide modifications to the 7th/Maritime Street intersection.	
Impact 4.3-2: Redevelopment would cause some roadway segments on the MTS to operate at LOS F and increase the V/C ratio by more than three percent on segments that would operate at LOS F without redevelopment.	Mitigation 4.3-4: The City and Port shall jointly create and maintain a transit access plan(s) for the redevelopment project area designed to reduce demand for single-occupant, peak hour trips, and to increase access to transit opportunities. Major project area developers shall fund on a fair share basis the plan(s).	S
Impact 4.3-3: Redevelopment could result in traffic hazards to motor vehicles, bicycles, or pedestrians due to inadequate design features or incompatible uses.	Mitigation 4.3-5: Redevelopment elements shall be designed in accordance with standard design practice and shall be subject to review and approval of the City or Port design engineer.	L

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
	Mitigation 4.3-6: The Port shall fund signage designating through transport truck prohibitions through the interior of the Gateway development area.	
	Mitigation 4.3-7: The City and the Port shall continue to work together and shall create a truck management plan designed to reduce the effects of transport trucks on local streets. The City and Port shall fund on a fair share basis implementation of this plan.	
Impact 4.3-4: Due to site constraints, it may not be possible to provide two emergency access routes to the western portion of the Gateway development area, which would be in excess of 1,000 feet from the nearest major arterial.	Mitigation 4.3-8: Construct an emergency vehicle access to the western portion of the Gateway development area or provide an emergency service program and emergency evacuation plan using waterborne vessels.	L
Impact 4.3-5: Redevelopment could fundamentally conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).	Mitigation 4.3-9: Redevelopment plans shall conform to City of Oakland or Port development standards with facilities that support transportation alternatives to the single-occupant automobile.	L
Impact 4.3-6: Redevelopment could result in an inadequate parking supply at the Gateway development area, the 16th/Wood sub-district, or for trucks serving the Port of Oakland.	Mitigation 4.3-10: The number of parking spaces provided in the project area shall comply with City code or Port requirements and/or with recommendations of a developer funded parking demand analysis.	L
	Mitigation 4.3-11: During both construction and operation, the Port shall provide truck parking within the Port development area or Maritime sub-district, at a reasonable cost to truck operators and provide advance information to operators where the parking is located.	

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
Impact 4.3-9: Redevelopment would increase the peak hour average ridership at the West Oakland BART station by 3 percent where average waiting time at fare gates could exceed 1 minute.	Mitigation 4.3-12: The City and Port shall provide detailed information regarding redevelopment to BART to enable BART to conduct a comprehensive fare gate capacity assessment at the West Oakland BART station. Pending the results of this assessment, the City and the Port may need to participate in funding the cost of adding one or more fare gates at the West Oakland BART station.	L
Impact 4.3-11: Remediation, demolition/deconstruction, and construction activities within the redevelopment project area would utilize a significant number of trucks and could cause significant circulation impacts on the street system.	Mitigation 4.3-13: Prior to commencing hazardous materials or hazardous waste remediation, demolition, or construction activities, a Traffic Control Plan (TCP) shall be implemented to control peak hours trips to the extent feasible, assure the safety on the street system and assure that transportation activities are protective of human health, safety, and the environment.	L
Impact 5.3-1: Increased congestion at intersections exceeding the cumulatively significant threshold.	See Mitigation Measures 4.3-1, 4.3-2 and 4.3-3, above.	L:all but Maritime/ Grand S: Maritime/Grand
	Mitigation 5.3-1: 7th/Maritime Street. Project area developers shall fund a fair share of additional modifications at the 7th /Maritime Street intersection.	
	Mitigation 5.3-2: 7th Street/I-880 Northbound Ramps. Project area developers shall fund a fair share of modifications at the 7th Street/I-880 Northbound ramp.	

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
	Mitigation 5.3-3: 3rd/Adeline Street. Project area developers shall fund a fair share of the modifications at the 3rd/Adeline Street intersection.	
	Mitigation 5.3-4: 3rd/Market Street. Project area developers shall fund a fair share of modifications at the 3rd/Market Street intersection.	
	Mitigation 5.3-5: 12th /Brush Street. Project area developers shall fund a fair share of modifications to the 12th/Brush Street intersection to increase the signal cycle length to 102 seconds. Implementation of this mitigation measure would reduce cumulative impacts at the 12th /Brush Street intersection to a level that is less than significant.	
	Mitigation 5.3-6: Powell Street/I-80 Northbound Ramps. Project area developers shall fund a fair share of modifications at the Powell Street/I-80 northbound ramps intersection.	
Impact 5.3-2: Increased congestion on the Metropolitan Transportation System (MTS) exceeding the cumulatively significant threshold.	See Mitigation Measure 4.3-4, above.	S
Impact 5.3-3: Increased traffic hazards.	See Mitigation Measure 4.3-5, above.	L
Impact 5.3-4: Inadequate emergency access.	See Mitigation Measure 4.3-8, above.	L
Impact 5.3-5: Inadequate truck-related parking.	See Mitigation Measures 4.3-10 and 4.3-11, above.	S

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
	Mitigation 5.3-7: The City and Port shall cooperatively develop a program that combines multiple strategic objectives and implementation tools designed to reduce cumulative truck parking and other AMS impacts.	
Impact 5.3-6: Increased ridership on AC Transit during peak weekday hours.	See Mitigation Measure 4.3-12, above.	L
Impact 5.3-7: Increased ridership on BART trains.	Mitigation 5.3-8: The City and Port shall work with BART to ensure adequate BART train capacity will be available for riders to and from the redevelopment project area, and possibly fund, on a fair share basis, BART train capacity improvements.	L
Impact 5.3-8: Increased waiting time during peak weekday hours at BART fare gates.	See Mitigation Measure 4.3-12, above.	L
Air Quality		
Impact 4.4-1: PM as fugitive dust would be emitted during construction and remediation activities.	Mitigation 4.4-1: Contractors shall implement all BAAQMD "Basic" and "Optional" PM10 (fugitive dust) control measures at all sites, and all "Enhanced" control measures at sites greater than four acres.	L
Impact 4.4-2: Construction equipment exhaust could increase levels of NO_x, ROG, CO, and PM_{10} (the latter primarily as diesel PM) that could exceed 15 tons per year, or result in substantial increase in diesel emissions.	Mitigation 4.4-2: Contractors shall implement exhaust control measures at all construction sites.	S

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
Impact 4.4-3: Increased Port maritime and rail operations, as well as trucking activities associated with all redevelopment operations would emit NO_x, ROG, and PM_{10} in excess of 15 tons per year or 80 pounds per day, substantially increase diesel emissions, and potentially expose pollution-sensitive receptors to substantial pollutant concentrations.	Mitigation 4.4-3: The Port shall develop and implement a criteria pollutant reduction program aimed at reducing or off-setting Port-related emissions in West Oakland from its maritime and rail operations. The program shall be sufficiently funded to reduce and/or off-set redevelopment related contributions to local West Oakland air quality to the maximum extent feasible.	S
	Mitigation 4.4-4: The City and the Port shall jointly create, maintain, and fund on a fair share basis, a truck diesel emission reduction program. The program shall be sufficiently funded to reduce and/or off-set redevelopment related contributions to local West Oakland diesel emissions to the maximum extent feasible.	
Impact 4.4-4: Passenger vehicles and delivery trucks associated with redevelopment would emit NO_x, ROG, CO, and PM in excess of 15 tons per year or 80 pounds per day.	Mitigation 4.4-5: Major developers shall fund on a fair share basis BAAQMD-recommended feasible Transportation Control Measures (TCMs) for reducing vehicle emissions from commercial, institutional, and industrial operations, as well as all CAP TCMs the BAAQMD has identified as appropriate for local implementation.	S
Impact 4.4-5: Space and water heating as well as routine maintenance of office buildings, warehouses, retail stores, and live-work space, could emit NO_x, ROG, CO, and PM_{10} in quantities that could exceed thresholds.	Mitigation 4.4-6: Title 24 of the Uniform Building Code (UBC) requires that new construction include energy-conserving fixtures and designs. Additionally, the City and Port shall implement sustainable development policies and strategies related to new development design and construction.	L

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
Impact 5.4-1: Redevelopment would result in significant cumulative air quality impacts associated with emissions of nitrogen oxides (NOx), reactive organics gases (ROG), carbon monoxide (CO), particulate matter less than 10 microns in diameter (PM10), and diesel exhaust (almost entirely particulate matter less than 2.5 microns in diameter [PM2.5]), the latter defined as a toxic air contaminant by the California Air Resources Board (CARB).	See Mitigation Measures 4.4-1 4.4-2, 4.4-3, 4.4-4, and 4.4-5, above.	S
	Mitigation Measure 5.4-1: The City and the Port shall encourage, lobby, and potentially participate in emission reduction demonstration projects that promote technological advances in improving air quality.	
Noise		
Impact 4.5-1: Construction could result in short-term noise levels in excess of established standards, or that violate the City of Oakland Noise Ordinance at and near the redevelopment project area, and along construction haul routes.	Mitigation 4.5-1: Developers and/or contractors shall develop and implement redevelopment-specific noise reduction plans.	L
Cultural Resources		
Impact 4.6-1: Redevelopment has the potential to encounter previously unknown subsurface cultural resources during ground-disturbing activities.	Mitigation 4.6-1: Should previously unidentified cultural resources be encountered during redevelopment, work in that vicinity shall stop immediately, until an assessment of the finds can be made by an archaeologist. If the resource is found to be significant under CEQA, an appropriate mitigation plan must be developed.	L

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
Impact 4.6-2: Redevelopment would remove all resources contributing to the OARB Historic District.	Mitigation 4.6-2: The City, Port and OARB sub-district developers shall fund on a fair-share basis development of a commemoration site at a public place located within the Gateway development area.	S
	Mitigation 4.6-3: The City shall ensure the commemoration site is linked to the Gateway Park and the Bay Trail via a public access trail.	
	Mitigation 4.6-4: The City, Port and OARB sub-district developers shall fund on a fair-share basis collection and preservation of oral histories from OARB military and civilian staff.	
	Mitigation 4.6-5: The City, Port, and OARB sub-district developers shall fund on a fair share basis collaboration with "military.com" or a similar military history web site.	
	Mitigation 4.6-6: The City, Port, and OARB sub-district developers shall fund on a fair share basis distribution of copies of the complete OARB HABS/HAER documentation prepared by the Army to: Oakland History Room, Oakland Public Library; Bancroft Library, University of California; and Port of Oakland Archives for the purpose of added public access to these records.	

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
	Mitigation 4.6-7: The City, Port, and OARB sub-district developers shall fund on a fair share basis distribution of copies of "A Job Well Done" documentary video published by the Army to: the Oakland History Room, Oakland Public Library; Bancroft Library, University of California; the Port of Oakland Archives; local public schools and libraries; and local public broadcasting stations.	
	Mitigation 4.6-8: The City, Port, and OARB sub-district developers shall fund on a fair share basis preservation and long-term curation of murals from OARB Building No. 1, and OBRA shall either donate the murals to the Oakland Museum of California, or provide a permanent location within the project area.	
	Mitigation 4.6-9: The City, Port, and OARB sub-district developers shall fund on a fair share basis a program to salvage to the maximum extent feasible as whole timber posts, beams, trusses and siding of warehouses to be deconstructed. These materials shall be used on site, used in other East Bay Area construction, or be sold into the recycled construction materials market. Landfill disposal of salvageable construction material from contributing historic structures shall be prohibited by contract specification. Salvage and reuse requirements shall be enforced via contract specification.	

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
	Mitigation 4.6-10: The City, Port, and OARB sub-district developers shall fund on a fair share basis production and distribution of a brochure describing history and architectural history of the OARB to local libraries and schools.	
	Mitigation 4.6-11: The City, Port, and OARB sub-district developers shall fund on a fair share basis acquisition of copies of construction documentation and photographs of historic buildings currently in the OARB files. Copies shall be transferred to the Oakland History Room files and Port historic archives, including funding to cover costs of archiving and cataloging these materials at the Oakland History Room.	
	Mitigation 4.6-12: At least one building each in the Gateway and Port development areas of the OARB sub-district, if feasible, shall include architectural design elements such as double eaves and clerestory windows evocative of the warehouse structures.	
Impact 4.6-3: Redevelopment would render the OARB Historic District no longer eligible to the National and/or California Registers of Historic Places or the Local Register.	See Mitigation Measures 4.6-2, 4.6-3, 4.6-4, 4.6-5, 4.6-6, 4.6-7, 4.6-8, 4.6-9, 4.6-10, 4.6-11, and 4.6-12, above.	S

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
Impact 4.6-4: Redevelopment would result in renovation of the SPRR (Amtrak) Station and 16th Street Tower, which could alter the historic character of the buildings in a manner that could affect their eligibility.	Mitigation 4.6-13: Prior to major renovation of a historically significant structure, the redeveloper of the SPRR Station and 16th Street Tower shall ensure that historically significant artifacts and features, if present within the building, are recorded and deposited with the appropriate museum. All renovation of the exterior of a historic structure shall be consistent with the Secretary of Interior's Standards for Historic Preservation Studies.	L
Impact 5.6-1: Loss of historic resources.	See Mitigation Measures 4.6-2, 4.6-3, 4.6-4, 4.6-5, 4.6-6, 4.6-7, 4.6-8, 4.6-9, 4.6-10, 4.6-11, and 4.6-12, above.	S
Hazardous Materials		
Impact 4.7-2: Hazardous or acutely hazardous materials (AHMs) may be handled or emitted within ¼ mile of an existing or proposed school.	Mitigation 4.7-1: For use of hazardous materials within ¼ mile of an existing or proposed school, business operators shall prepare Business Plan, update annually, and keep on file with the Oakland Fire Department.	L
	Mitigation 4.7-2: For use of AHMs within ¼ mile of an existing or proposed school, in addition to a Business Plan, business operators shall prepare, implement, and update a Risk Management and Prevention Plan (RMPP) on at least an annual basis.	
Impact 4.7-4: Site preparation, remediation and development of areas that contain contaminated soil and groundwater could expose remediation and construction workers, and future utility workers, tenants, and visitors to soil and groundwater contamination conditions.	Mitigation 4.7-3: Implement RAP/RMP as approved by DTSC, and if future proposals include uses not identified in the Reuse Plan and incorporated into the RAP/RMP, or if future amendments to the remediation requirements are proposed, obtain DTSC and City approval.	L

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
	Mitigation 4.7-4: For the project area not covered by the DTSC-approved RAP/RMP, investigate potentially contaminated sites; if contamination is found, assess potential risks to human health and the environment, prepare and implement a clean-up plan for DTSC or RWQCB approval, prepare and implement a Risk Management Plan, and prepare and implement a Site Health and Safety Plan prior to commencing work.	
Impact 4.7-5: Potential exposure to contaminants in soil and groundwater remaining in place after remediation could be a hazard to future residents, employees and visitors.	Mitigation 4.7-5: For the project areas not covered by the DTSC-approved RAP/RMP, remediate soil and groundwater contamination consistent with the City of Oakland ULR Program and other applicable laws and regulations.	L
Impact 4.7-6: Workers and others could be exposed to LBP in buildings, ACM or PCBs during demolition, remediation, renovation and site work activities.	Mitigation 4.7-6: Buildings and structures constructed prior to 1978 slated for demolition or renovation that have not previously been evaluated for the presence of LBP shall be sampled to determine whether LBP is present in painted surfaces, and the safety precautions and work practices as specified in government regulations shall be followed during demolition.	L
	Mitigation 4.7-7: Buildings, structures and utilities that have not been surveyed for ACM, shall be surveyed to determine whether ACM is present prior to demolition or renovation, and the safety precautions and work practices as specified in government regulations shall be followed during demolition.	

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
	Mitigation 4.7-8: Buildings and structures proposed for demolition or renovation shall be surveyed for PCB-impacted building materials, and the safety precautions and work practices as specified in government regulations shall be followed during demolition.	
Impact 4.7-7: Workers or others could be exposed to hazardous materials and contamination in and around ASTs and USTs during remediation and redevelopment activities.	Mitigation 4.7-9: For ASTs/USTs on the OARB, implement the RAP/RMP, which incorporates the steps enumerated below.	L
	Mitigation 4.7-10: For the remainder of the redevelopment project area (non-OARB areas), if an AST or UST is encountered, it would be closed in place or removed and the soil would be tested and remediated, if necessary, pursuant to regulatory approvals and oversight.	
Impact 4.7-8: Workers or others could experience direct contact exposure to LBP-contaminated soil, concrete, and pavement surrounding buildings that have LBP.	Mitigation 4.7-11: For LBP-impacted ground on the OARB, implementation of RAP/RMP to be approved by DTSC as part of the project will result in avoidance of this potentially significant impact. For the remainder of the redevelopment project area, sampling shall be performed on soil or paved areas around buildings that are known or suspected to have LBP, and the safety precautions and work practices specified in government regulations shall be followed.	L
Impact 4.7-10: During interim or future use of existing buildings, people could be exposed to ACM or other environmental hazards.	Mitigation 4.7-12: The condition of identified ACM shall be assessed annually, and prior to reuse of a building known to contain ACM.	L

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
	Mitigation 4.7-13: No future tenancies shall be authorized at the OARB for use categories that are inconsistent with the Reuse Plan without an updated environmental analysis and DTSC approval as provided for in the RAP/RMP.	
	Mitigation 4.7-14: For the remainder of the redevelopment project area (non-OARB areas), any building that has not been surveyed for ACM but potentially contains ACM shall be surveyed to determine whether ACM is present prior to demolition, renovation or reuse.	
Impact 4.7-11: Workers could be exposed to polychlorinated biphenyls (PCB) and PCB-contaminated equipment during remediation, construction and future operations.	Mitigation 4.7-15: Known PCB transformers or PCB-contaminated transformers at the OARB shall be removed, monitored and/or maintained in accordance with applicable laws and regulations.	L
	Mitigation 4.7-16: Oil-filled electrical equipment in the redevelopment project area that has not been surveyed shall be investigated prior to the equipment being taken out of service to determine whether PCBs are present.	
	Mitigation 4.7-17: PCB-containing or PCB-contaminated equipment taken out of service shall be handled and disposed in compliance with applicable laws and regulations.	
Impact 5.7-1: Increased exposure to hazardous wastes during construction.	See Mitigation Measures 4.7-3, 4.7-4, 4.7-6, 4.7-7, 4.7-8, 4.7-9, 4.7-10, 4.7-11, and 4.7-14, above.	
Population, Housing, and Employment		
No significant impacts.		

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
Public Services and Utilities		
Impact 4.9-1: Construction activities and increases in employees and residents as well as increased building density would increase demand for fire, hazmat, and first responder medical emergency services.	Mitigation 4.9-1: The City and Port shall cooperatively investigate the need for, and if required shall fund on a fair-share basis construction and operation of a fire station in the OARB sub-district. Construction and operation of this fire station shall occur in accordance with all applicable measures recommended in this EIR to mitigate environmental impacts of such construction and operation.	L
Impact 4.9-6: Redevelopment construction could interfere with operation of the Maritime Street emergency response staging area, or with the West Grand Avenue and 7th Street evacuation routes.	Mitigation 4.9-2: The Port and City shall work with OES to ensure changes in local area circulation are reflected in the revised Response Concept.	L
	Mitigation 4.9-3: The Port and City shall require developers within their respective jurisdictions to notify OES of their plans in advance of construction or remediation activities.	
Impact 4.9-8: Redevelopment would increase potable water demand.	Mitigation 4.9-4: Individual actions with landscaping requirements of one or more acres shall plumb landscape areas for irrigation with reclaimed water.	L
	Mitigation 4.9-5: Individual buildings with gross floor area exceeding 10,000 square feet shall install dual plumbing for both potable and reclaimed water, unless determined to be infeasible by the approving agency (City or Port).	
	Mitigation 4.9-6: Site design shall facilitate use of reclaimed water, and shall comply with requirements of CCR Title 22 regarding prohibitions of site run-off to surface waters.	

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
Impact 4.9-10: Redevelopment would increase the quantity of solid waste, and demand for solid waste services.	Mitigation: 4.9-7: To the maximum extent feasible, the City and Port shall jointly participate in a deconstruction program to capture materials and recycle them into the construction market.	L
	Mitigation 4.9-8: Concrete and asphalt removed during demolition/construction shall be crushed on-site or at a near-site location, and reused in redevelopment or recycled to the construction market.	
	Mitigation 4.9-9: The City and Port shall require developers to submit a plan that demonstrates a good faith effort to divert at least 50 percent of operations phase solid waste from landfill disposal.	
Impact 4.9-12: Both construction/remediation vehicles and increased operations vehicle activity would accelerate or advance deterioration of local roadways and the timing and extent of roadway maintenance/repair.	Mitigation 4.9-10: The Port and City of Oakland shall work cooperatively to develop an ongoing joint program to identify and evaluate impacted local roadways and identify required maintenance/repair activities. The agencies will fund needed repairs and maintenance on a fair-share basis.	L
Impact 5.9-1: Increased demand for fire-related services.	See Mitigation Measure 4.9-1, above.	L
Impact 5.9-2: Increased demand for police protection services.	Existing funding mechanism	L
Impact 5.9-3: Increased demand for library services.	Existing funding mechanism	L
Impact 5.9-5: Increased demand for water.	See Mitigation Measures 4.9-4 and 4.9-5, above.	L
Impact 5.9-7: Increased demand for solid waste services.	See Mitigation Measures 4.9-7, 4.9-8, and 4.9-9, above.	L

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
Recreation and Public Access		
Impact 4.10-2: Construction and/or operation of the Gateway Park could have an adverse physical effect on the environment.	See Mitigation Measures 4.12-1, 4.12-2, 4.12-3, 4.15-1, and 4.15-2, below	L
Aesthetics		
Impact 4.11-2: Redevelopment would remove buildings contributing to a historic district, including visually striking warehouse structures visible from I-80, a locally designated scenic route, and a portion of the state scenic highway system.	See Mitigation Measure 4.6-12, above.	S
Impact 4.11-3: New security lighting and/or lighting for night time operations would alter current patterns of light or glare, and could alter nighttime views in the area.	Mitigation 4.11-1: New lighting shall be designed to minimize off-site light spillage; "stadium" style lighting shall be prohibited.	L
	Mitigation 4.11-2: At or near the boundary of the proposed Gateway Park, new lighting shall be shielded to prevent light spillage into natural areas.	
Impact 4.11-4: New construction could introduce building or landscaping elements that would now or in the future cast shadow on existing collectors or photovoltaic cells, or a building using passive solar heat collection.	Mitigation 4.11-3: New active or passive solar systems within or adjacent to the project area shall be set back from the property line a minimum of 25 feet.	L
	Mitigation 4.11-4: New construction within the Gateway development area adjacent to a parcel containing permitted or existing active or passive solar systems shall demonstrate through design review that the proposed structures shall not substantially impair operation of existing solar systems.	

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
	Mitigation 4.11-5: The City and Port shall coordinate with respect to the design of new, permanent buildings constructed along the Port/Gateway boundary to minimize conflicts over solar access.	
Impact 4.11-5: New construction could introduce building or landscaping elements that would now or in the future cast shadow that substantially impairs the beneficial use of a public park or open space.	Mitigation 4.11-6: New construction adjacent to a public park or open space shall demonstrate through design review that development shall not substantially impair enjoyment of the public using the space.	L
Biological Resources		
Impact 4.12-1: Redevelopment could result in the loss of 15 acres of ruderal/beach habitat.	Mitigation 4.12-1: EBRPD shall maintain and enhance beach habitat where feasible between the shoreline and the park in order that water birds have space to forage and roost on the peninsula, and comply with all applicable resource agency requirements.	L
Impact 4.12-2: Redevelopment could result in increased raptor predation on least terns that may forage near the Gateway peninsula.	Mitigation 4.12-2: Tall ornamental trees that could provide perches for raptors shall be prohibited in the design of the Gateway Park.	L
	Mitigation 4.12-3: Raptor deterrents shall be placed on light standards and other tall elements installed within the Gateway Park.	
	See Mitigation Measure 4.11-2, above.	
Impact 4.12-3: Redevelopment would result in net loss of approximately 27 acres of open and covered water at New Berth 21; minor amounts of fill and revetment could occur along the shoreline of the Gateway Park, with a loss of near-shore habitat.	Mitigation 4.12-4: Contractors, developers, the Port, and EBRPD shall comply with all permit conditions from the Corps, RWQCB, USFWS/NMFS and CDFG for fill.	L

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
Impact 4.12-4: Redevelopment could result in both temporary impacts to herring spawning habitat during construction, and a permanent net loss of Pacific herring spawning habitat associated with the wharf pilings at existing Berths 9, 10, 20 and 21 due to construction of New Berth 21.	Mitigation 4.12-5: A qualified observer shall be present on site during all in-water construction activities near potential herring spawning areas between December 1 and March 1.	L
	Mitigation 4.12-6: If spawning is observed, in-water construction activities shall be redirected for 200 meters around the spawning area for two weeks.	
Impact 4.12-6: Redevelopment may result in loss of protected trees measuring 4 inches dbh (or larger) or trees with a dbh of greater than 9 inches.	Mitigation 4.12-7: Application for a tree preservation/tree removal permit from the City of Oakland for all protected trees shall comply with the Tree Ordinance, which includes replacement of native trees at a minimum of a 1:1 ratio.	L
Impact 4.12-7: Redevelopment may result in the loss of breeding bird nesting habitat with the removal of certain trees.	Mitigation 4.12-8: Trees shall be removed between September 1 and January 31 to avoid the nesting season (February 1 to August 31). Alternatively, field surveys shall be conducted no earlier than 45 days and no later than 20 days prior to the removal of any trees during the nesting/breeding season of bird species potentially nesting on the site to determine whether birds are present.	L
	Mitigation 4.12-9: Construction shall not occur within 150 feet of an active nest until the nest is vacated or the juveniles have fledged.	

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
Impact 4.12-8: Redevelopment could result in a substantial increase in the risk of establishment of invasive species in the San Francisco Bay.	Mitigation 4.12-10: The Port shall continue to enforce its tariff requirements regarding ballast water and if the State law sunsets, shall implement the remainder of its ballast water ordinance, as it may be amended from time to time.	S
	Mitigation 4.12-11: The Port shall continue to develop and implement a carrier ballast water education program.	
	Mitigation 4.12-12: The Port shall support international and United States efforts to adopt uniform international or national standards to avoid introduction of exotic species through shipping activities.	
Impact 4.12-9: Loss of up to approximately 0.5 acre of isolated, urban wetlands	Mitigation 4.12-13: Contractors and developers shall comply with all conditions imposed by the RWQCB for fill of wetlands.	L
Impact 5.12-1: Effects to sensitive species.	See Mitigation Measures 4.12-1, 4.12-2, and 4.12-3, above.	L
Impact 5.12-2: Loss of protected wetlands and waters of the U.S.	See Mitigation Measures 4.12-4 and 4.12-13, above.	L
Impact 5.12-3: Redevelopment could increase potential risk of invasive species being established in San Francisco Bay.	See Mitigation Measures 4.12-10, 4.12-11, and 4.12-12, above.	S
Geology, Seismicity, and Soils		
Impact 4.13-1: Redevelopment could expose increased numbers of people and structures to strong seismic ground shaking.	Mitigation 4.13-1: Redevelopment elements shall be designed in accordance with criteria established by the UBC, soil investigation and construction requirements established in the Oakland General Plan, the Bay Conservation and Development Commission Safety of Fill Policy, and wharf design criteria established by the Port or City of Oakland (depending on the location of the wharf).	L

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
	Mitigation 4.13-2: Redevelopment elements shall be designed and constructed in accordance with requirements of a site-specific geotechnical evaluation.	
Impact 4.13-2: Redevelopment could expose increased numbers of people or structures to seismic related ground failure, including liquefaction, lateral spreading, subsidence, or collapse.	See Mitigation Measures 4.13-1 and 4.13-2, above.	L
Impact 4.13-3: Localized landsliding may occur in sloped shoreline areas.	See Mitigation Measures 4.13-1 and 4.13-2, above.	L
Impact 4.13-4: Under certain conditions, disturbance of soils during construction could result in erosion.	Mitigation 4.13-3: Prior to ground-disturbing activities, the contractor shall develop and implement a Regional Water Quality Control Board (RWQCB)-acceptable Stormwater Pollution Prevention Plan (SWPPP) that includes erosion control measures.	L
Impact 4.13-5: Redevelopment could occur on expansive soils.	See Mitigation Measures 4.13-1 and 4.13-2, above.	L
Impact 4.13-6: Redevelopment elements may be located above a well, pit, sump, mound, tank vault, unmarked sewer line, landfill, or unknown fill soils.	See Mitigation Measure 4.13-2, above	L
	Mitigation 4.13-4: The project applicant shall thoroughly review available building and environmental records.	
	Mitigation 4-13.5: The developer shall perform due diligence, including without limitation, retaining the services of subsurface utility locators and other technical experts prior to any ground-disturbing activities.	
Impact 5.13-1: Exposure of persons or property to seismic risk.	See Mitigation Measures 4.13-1 and 4.13-2, above.	L

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
Groundwater		
Impact 4.14-1: Operation of wells could cause saltwater to intrude into shallow groundwater.	Mitigation 4.14-1: Installation of groundwater extraction wells into the shallow water-bearing zone or Merritt Sand aquifer for any purpose other than construction de-watering and remediation shall be prohibited.	L
Impact 4.14-2: Operation of wells could cause contaminants to migrate to uncontaminated groundwater.	Mitigation 4.14-2: Extraction of groundwater for construction de-watering or remediation shall be minimized where practicable.	L
Impact 5.14-1: Concurrent operation of multiple remediation wells or construction dewatering activities could further impair groundwater quality.	See Mitigation Measures 4.14-1 and 4.14-2, above.	L
Surface Water		
Impact 4.15-1: In-water construction or remediation would increase turbidity, and could release contaminants, affecting water quality.	Mitigation 4.15-1: Prior to in-water construction, the contractor shall prepare a water quality protection plan acceptable to the RWQCB, including site-specific best management practices for protection of Bay waters, and shall implement this plan during construction.	L
	Mitigation 4.15-2: Contractors and developers shall comply with all permit conditions from the Corps, RWQCB, and BCDC.	
Impact 4.15-2: Under certain circumstances, disturbance of soils during construction could result in erosion, which in turn could increase sediment loads to receiving waters.	Mitigation 4.15-3: Prior to ground-disturbing activities, the contractor shall develop and implement a Stormwater Pollution Prevention Plan to be reviewed by the City or the Port, including erosion and sediment control measures.	L

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

Table 1-1
Summary of Significant Impacts and Mitigation

Significant Impact	Proposed Mitigation	Residual Significance
Impact 4.15-3: During construction or remediation, shallow groundwater may be encountered that could be contaminated with sediment or chemicals, and could enter nearby receiving waters as could contaminated stormwater.	Mitigation 4.15-4: Prior to construction or remediation, the contractor shall develop and implement a Stormwater Pollution Prevention Plan, including protocols for determining the quality and disposition of construction water which includes shallow groundwater encountered during construction/remediation.	L
Impact 4.15-4: Net changes in impervious surface could result in higher pollutant loads to receiving waters.	Mitigation 4.15-5: Post-construction controls of stormwater shall be incorporated into the design of new redevelopment elements to reduce pollutant loads.	L
Impact 4.15-5: Use of recycled water for non-potable purposes could lead to degradation of surface water quality.	Mitigation 4.15-6: Site-specific design and best management practices shall be implemented to prevent runoff of recycled water to receiving waters.	L
Impact 4.15-6: New construction could result in changes in localized flooding.	Mitigation 4.15-7: New development shall conform with the policies of the City of Oakland's Comprehensive Plan Environmental Health Hazards Element regarding flood protection.	A
	Mitigation 4.15-8: The City and the Port shall complete flood hazard mapping in the project area, where necessary and applicable to delineate 100- and 500-year flood hazard zones.	
Impact 5.15-1: Construction-related increases in erosion and sedimentation/turbidity.	See Mitigation Measures 4.15-1, 4.15-2, and 4.15-3, above	L
Impact 5.15-2: Increases in 303(d) pollutants and toxics.	See Mitigation Measures 4.15-4 and 4.15-5, above	L

1
2
3

~ ~ ~
~

Legend: S = Significant and unavoidable; L = Less than significant; A = Impact avoided

2. INTRODUCTION

This overview chapter describes the purpose, scope, and intended uses of this Environmental Impact Report (EIR). It also describes under what conditions additional environmental review will be required in the future. The chapter concludes with a description of the format of the EIR, as well as a summary of its content.

2.1 PURPOSE

This document is an EIR for the City of Oakland's (City) Oakland Army Base (OARB) Area Redevelopment Plan (herein, "Redevelopment Plan"). The primary purpose of this EIR is to describe and disclose potential environmental consequences of City adoption of the Redevelopment Plan, which would authorize physical redevelopment of the plan area (herein, "project area"). In addition, public officials and agencies may use the EIR to inform decisions regarding future redevelopment activities (including parcel-specific projects).

2.2 SCOPE AND INTENDED USES OF THIS ENVIRONMENTAL IMPACT REPORT

2.2.1 Scope of the Environmental Impact Report

In accordance with the California Environmental Quality Act (CEQA, Public Resources Code [PRC] §§ 21000—21178), adoption of the Redevelopment Plan and redevelopment of the project area constitute a single project, analyzed in this EIR. Section 21090 of CEQA provides that "all public and private activities or undertakings pursuant to, or in furtherance of, a redevelopment plan shall be deemed a single project." (PRC § 21090). Here, the Redevelopment Plan describes a framework or program for project area redevelopment, and many details of the redevelopment activities are not yet known. Nevertheless, this EIR evaluates impacts of redevelopment activities to the extent accurate and stable information is available. When specific circumstances occur as described below, additional environmental analysis will occur.

2.2.2 Intended Uses of the Environmental Impact Report

This EIR is intended to be used by the City and other responsible agencies, such as the Oakland Base Reuse Authority (OBRA), the Redevelopment Agency of the City of Oakland (ORA), and the Port of Oakland (Port),[1] to disclose environmental impacts of the following:

[1] Under the National Environmental Policy Act of 1969 (NEPA, 42 United States Code [USC] § 4321 *et seq.*), the Army prepared an Environmental Impact Statement (EIS), which examined the direct environmental effects of the Army's decision to close the Base and transfer the property to the City, as well as estimated indirect environmental effects of reuse of the OARB by the community. (U.S. Army Corps of Engineers [Corps] Draft EIS 1999; Supplemental Draft EIS 2001; Final EIS 2001). That EIS, which will be used by relevant federal agencies, addresses only the approximately 430-acre OARB. This EIR, which will be used by state and local agencies, addresses the entire redevelopment project area.

- acceptance of a majority of the OARB from the Army by the OBRA, including all necessary discretionary actions and inter-agency agreements;
- acceptance of portions of the OARB by other public agencies and organizations including 15 acres conveyed to the East Bay Regional Park District (EBRPD);
- transfer of OARB lands by OBRA to ORA, and portions of these lands from ORA to the Port of Oakland, and to the Painters and Decorators Joint Apprenticeship Training Committee (JATC);
- adjustment of Port jurisdictional boundaries to correspond to the Reuse Plan;
- establishment of a redevelopment project area by the City and implementation of the Redevelopment Plan by the ORA to facilitate elimination of physical and economic blight arising from or exacerbated by the closure of the Base;
- amendment of the Oakland General Plan by the City to reflect land uses within the project area appropriate to accomplish redevelopment;
- adoption of a Final Reuse Plan by OBRA;
- amendment of zoning designations by the City to reflect zoning within the project area appropriate to accomplish redevelopment;
- approval and implementation of remediation activities; and
- implementation of certain well-defined redevelopment activities by the OBRA, ORA, the City, and/or the Port, including demolition, land assembly, land grading and site preparation, and installation of infrastructure.

In addition, this document would be used by agencies, including the City and Port, granting discretionary approvals or permits to inform their decisions and permitting processes. A discussion of potential approvals, permits, and consultations is contained in Chapter 3: Description, of this document.

2.3 POTENTIAL ADDITIONAL ENVIRONMENTAL REVIEW

Subsequent or supplemental environmental review may be required should one or more of the following events occur pursuant to Section 21166 of CEQA:

1. Substantial changes are proposed in the program which will require major revisions of the EIR.
2. Substantial changes occur with respect to the circumstances under which the program is being undertaken which will require major revisions in the EIR.
3. New information becomes available, which is not known and could not have been known at the time the EIR was certified as complete.

When a subsequent redevelopment activity is proposed, the lead agency for that activity—the City, ORA, OBRA, or the Port of Oakland[2]—will make a determination whether additional environmental review is warranted pursuant to CEQA Section 21166, as implemented by the CEQA Guidelines, (14 California Code of Regulations [CCR] §§ 15162, 15163).

2.4 EIR FORMAT AND CONTENT OVERVIEW

This EIR is organized into eleven chapters, and appendices.

Chapter 1.0: Summary, provides an overview of the redevelopment program; briefly describes planning processes undertaken to date; summarizes the need for and objectives of the redevelopment program; generally describes proposed redevelopment; identifies areas of public interest known to the lead agency; summarizes benefits and environmental impacts of the redevelopment program and recommended mitigation measures and alternatives that could avoid or substantially reduce significant impacts; and briefly describes the City's proposed plan to monitor the implementation and effectiveness of recommended mitigation measures.

Chapter 2.0: Introduction (this chapter), provides an overview of the purpose, scope, intended use, and format and content of this document, as well as a description of the process for determining the need for and type of potential additional environmental review.

Chapter 3.0: Description, provides information regarding the redevelopment program as follows: an overview; background; purpose, need, and objectives; location; district characteristics; redevelopment activities; operational and construction characteristics and activities; and required approvals, permits, and consultations.

Chapter 4.0: Setting and Baseline, Impacts, and Mitigation, describes for 15 environmental factors the current environmental setting, and where appropriate, the environmental setting in 1995 (the alternative baseline year); describes physical direct and indirect impacts to the environment of the redevelopment program; and recommends mitigation measures that could avoid, minimize, reduce, rectify, or compensate for significant impacts of the redevelopment program.

Chapter 5.0: Cumulative Impacts, describes the redevelopment program's contribution to environmental impacts that could result from the combination of past, current, and probable future actions.

Chapter 6.0: Consideration of Impacts of Proposed Redevelopment, describes significant and irreversible changes to the environment that could result from implementation of the

[2] The project area spans the project approval jurisdiction of both the City of Oakland and the Port of Oakland. Within their respective jurisdictions, each agency would exert approval authority over redevelopment activities, and would serve as lead agency under CEQA, should further environmental review be warranted.

redevelopment program. This chapter also describes the potential of the redevelopment program to result in area population or other growth that could result in environmental impacts.

Chapter 7.0: Alternatives to the Proposed Redevelopment Program, describes a suite of alternatives to the redevelopment program as well as a screening process to focus on the most effective and feasible of these alternatives; presents a comparative analysis of alternatives put forth for further consideration, and identifies the alternative with the least overall environmental impact.

Chapter 8.0: Consultation, describes agencies and interested parties contacted during development of this document, and also describes the process of engaging the community in providing input to this EIR.

Chapter 9.0: EIR Preparers, identifies persons who prepared this document, their role in its preparation, their agency or company affiliation, and their experience and qualifications.

Chapter 10.0: Bibliography, lists information sources relied upon in the preparation of this document.

Appendices follow the text of this document, and include information regarding community and public agency consultation for this EIR, required notices, and information and data supporting technical analyses.

❖ ❖ ❖
❖

3. DESCRIPTION

This chapter provides information regarding the proposed action, *i.e.*, approval and implementation of the Oakland Army Base (OARB) Area Redevelopment Plan, including the OARB Reuse Plan. Specifically, this chapter provides an overview of the proposed redevelopment program[1] and of key redevelopment entities; background about the Base closure, transfer and reuse planning process, as well as background about the redevelopment planning process; a statement of purpose, need, and objectives of redevelopment; and a description of the location and characteristics of the project area. This general and background information is followed by a description of redevelopment activities. The chapter concludes with information regarding required approvals, permits, and consultations that may rely on this Environmental Impact Report (EIR).

3.1 OVERVIEW

This section provides an overview of the study area, the proposed redevelopment, and key entities involved in redevelopment.

As illustrated by Figures 1-1 and 3-1, the OARB area redevelopment project area is located in the San Francisco Bay region, in the western portion of the City of Oakland, Alameda County.

3.1.1 The Study Area

The study area for this EIR primarily comprises the approximately 1,731-acre OARB Redevelopment Area as described in the Legal Description of the Project Area Boundaries attached to, and incorporated into the OARB Area Redevelopment Plan (Oakland Redevelopment Agency 2000). In addition, the study area for this EIR includes modifications and additions to the legal description of the Redevelopment Project Area boundaries to allow for thorough environmental review of all actions anticipated as a result of approval and implementation of the OARB Area Redevelopment Plan and OARB Reuse Plan. These differences, depicted on Figure 3-2, include the following:

- Inclusion of approximately 56 acres of submerged lands that are part of the OARB but not included in the legal description of the Redevelopment Area, and other submerged lands immediately southeast of the OARB and west of existing Berth 10.
- Modifications to the shoreline of the Oakland Inner and Middle harbors. These modifications were completed as part of the Port of Oakland's Vision 2000 Program, and occurred following adoption of the Redevelopment Area boundaries.

[1] The Redevelopment Plan describes a series of related actions, or a program, which constitutes a "project" under CEQA. The terms "program" and "project" are used interchangeable in this EIR.

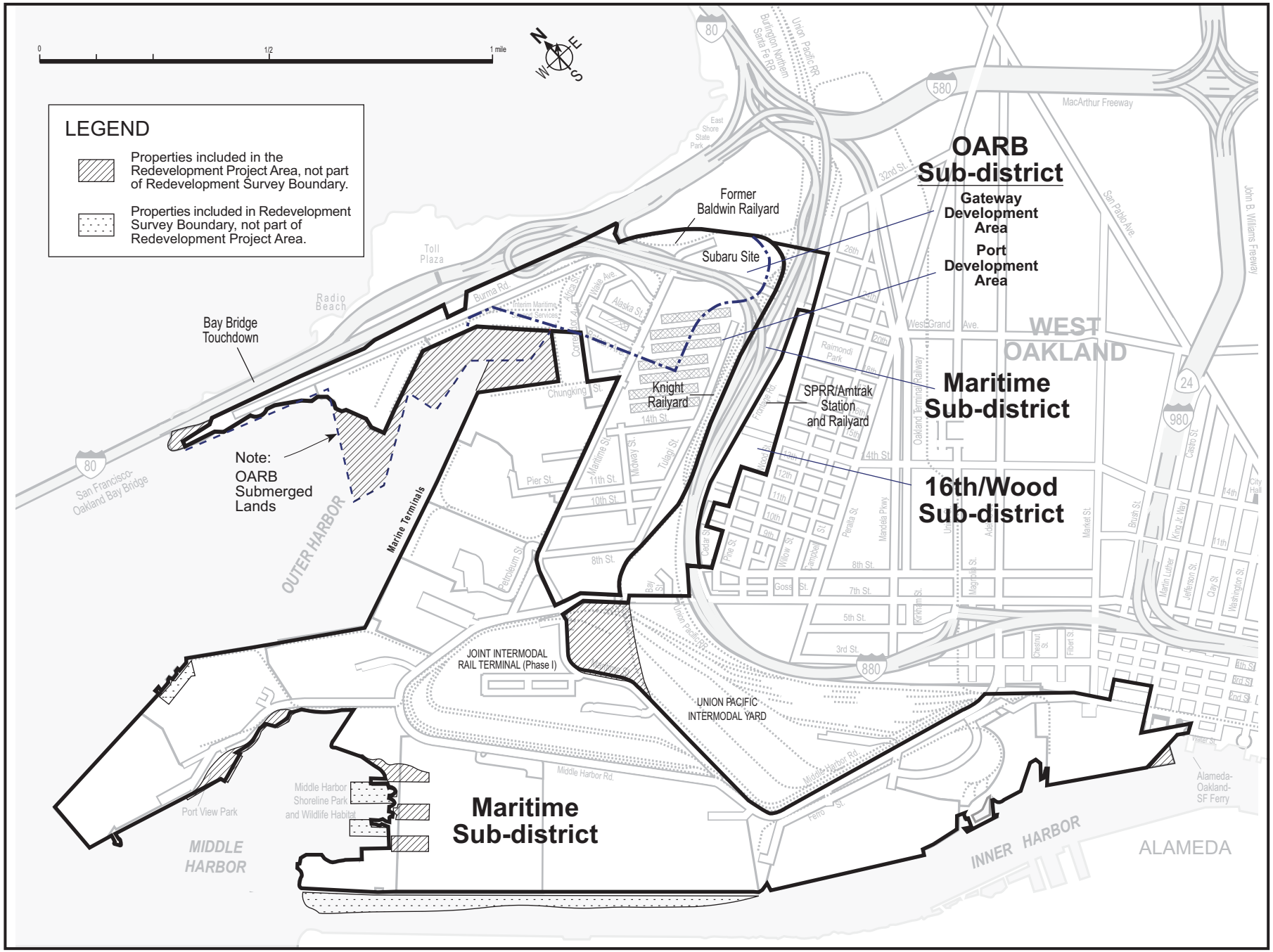
Not to Scale

OARB Area Redevelopment EIR

Figure 3-1 Regional Vicinity

April 2002

g. borchard & associates



OARB Area Redevelopment EIR

Figure 3-2 OARB Redevelopment Project Area

April 2002

g. borchard & associates

- Inclusion of land adjacent to the Union Pacific (UP) Intermodal railyard that is needed to fully implement rail improvements identified in the Reuse Plan.
- Other minor boundary adjustments (including both additions and subtractions of land) throughout the Redevelopment Area to accurately represent existing conditions and planned land uses.

In total, these differences represent a net increase of approximately 70 acres to the 1,731-acre Redevelopment Area. For ease of reference, this now approximately 1,800-acre redevelopment study area is referred to herein as the OARB area "redevelopment project area," or simply "project area."

3.1.2 The Redevelopment Program

The proposed action is the approval and implementation of the OARB Area Redevelopment Plan and OARB Reuse Plan to redevelop the project area. The core of the project area is the approximately 430-acre OARB (also herein "the Base"), which was slated for closure by the federal government in 1995. In total, redevelopment activities are planned for approximately 710 acres, and the EIR will examine the direct, indirect, and cumulative effects of that development to the extent activity-specific information is known about each of the proposed land uses. The purpose of redevelopment is to eliminate or alleviate blight—physical and economic liabilities—over the whole project area in the interest of the public health, safety, and general welfare of the people of both the blighted community and of the State of California. Build-out of the project area is expected to occur by 2020. As depicted by Figure 1-2, the project area is subdivided into three sub-districts:

1. The approximately 470-acre[2] ***OARB sub-district***. The OARB sub-district is further subdivided into two development areas, and a number of miscellaneous parcels:

    - the 228-acre City of Oakland's ***Gateway development area***, generally located in the northwest portion of the sub-district. The Gateway development area includes approximately 189 acres of the OARB and several miscellaneous parcels generally located outside of the OARB and north of Burma Road. These miscellaneous parcels are currently in mixed ownership, including the Port and Caltrans.

[2] In addition to approximately 14 miscellaneous acres, the OARB sub-district includes approximately 26 acres of OARB lands currently owned by the U.S. Army Reserves (Reserves). The property owned by the Reserves is located at two distinct areas: the 19-acre Subaru site is immediately above West Grand Avenue; the 7-acre Enclave comprises two smaller parcels grouped in the south central OARB. Redevelopment as proposed includes acquisition of these lands by the City (approximately 17 acres of the Subaru site) and the Port (approximately 2 acres of the Subaru site and the 7-acre Enclave). The Reserves has indicated its current facilities are substandard and relocation of their facilities is required to prevent impacts to morale, and to allow the units to conduct effective, realistic, and meaningful training to meet its readiness and mobilization missions (U.S. Army Reserves 2001). The City, Port and East Bay Municipal Utility District (EBMUD) are currently in negotiations to acquire these lands. (EBMUD plans to acquire an approximately 16-acre area known as the Heroic War Dead Site, which is outside of the project area, and not addressed in this EIR.)

- the 241-acre Port of Oakland's ***Port development area***, located in the west and southeast portions of the sub-district. The Port development area includes approximately 185 acres of land area from the OARB and an additional 56 acres of OARB submerged land.

2. The approximately 1,290-acre ***Maritime sub-district***, and

3. The approximately 41-acre ***16th/Wood sub-district***.

The project area was established by the City in 2000, when the City adopted a redevelopment plan to combat economic and physical blight that currently exists in western Oakland within the broad project area, and blight that could result from, or be exacerbated by, the closure of the OARB (*Redevelopment Plan for the Oakland Army Base Redevelopment Project*, City of Oakland 2000). The Redevelopment Plan defines a framework of agency powers, duties, and obligations to enable redevelopment of the project area. The Redevelopment Plan incorporates in its entirety (and as may be amended from time to time) the OARB Reuse Plan[3] (*Amended Draft Final Reuse Plan for the Oakland Army Base*, OBRA 1998, as amended 2001). The Reuse Plan describes a "Flexible Alternative" land use plan for the Gateway development area with proposed land uses and approximate densities as envisioned by the West Oakland community and the Oakland Base Reuse Authority (OBRA).[4] The Reuse Plan also describes the Port of Oakland's plans for maritime and rail facilities in the Port development area.

Redevelopment would replace existing uses—some in derelict condition—with vibrant, mixed-use development. Redevelopment benefits include the following:

- Job generation
- Increased number of Oakland housing units
- Improved visual environment
- Improved land use variety and compatibility
- Increased public access to and along the Oakland waterfront
- Remediation of site contamination as necessary, and related improvement to surface and groundwater quality
- Improved efficiency of Port operations
- Ability of the Port to handle 2020 cargo throughput projections

---

[3] Note the Reuse Plan is officially referred to as a "draft final" until its formal adoption by the OBRA, at which time it will simply be the final Reuse Plan.

[4] The Redevelopment and Reuse plans, herein summarized and incorporated by reference pursuant to Public Resources Code Section 21061, are available for review at 250 Frank Ogawa Plaza, Suite 3330 during regular business hours.

Build-out of the proposed land uses in the project area is projected to result in up to 375 new live/work units[5], approximately 4.1 million square feet of new business-oriented development, approximately 3 acres of new community-serving uses, nearly 31 acres of park and open space, approximately 120 acres of new maritime cargo terminals and 82 acres of re-configured terminal area, 105 acres of ancillary maritime support uses and a relocated and improved rail facility. Note this build-out does not include ongoing Port modernization, as described in Section 3.6.4, nor other Port improvements in the Maritime sub-district that have already been approved. Figure 3-3 conceptually illustrates the redevelopment strategy, and Table 3-1 describes in more detail the projected build-out.

3.1.3 Key Redevelopment Entities

Planning and implementation of the redevelopment program involves numerous government agencies and members of the community. A general description of key entities and their roles in base reuse and project area redevelopment is provided below.[6]

The U.S. Army. The U.S. Army (Army) constructed and operated the OARB. The Army is transferring OARB property to several entities for reuse.

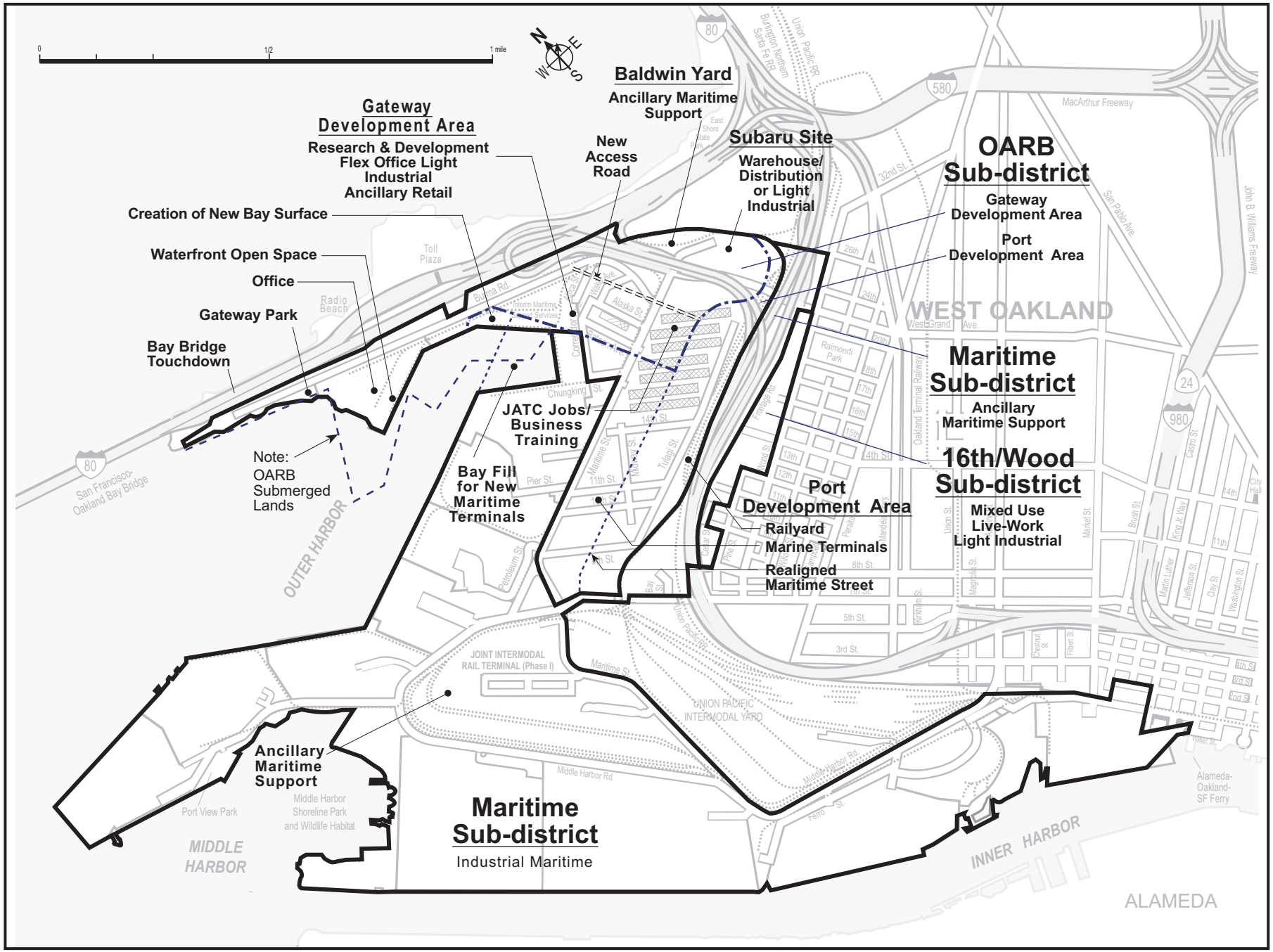
The U.S. Army Reserves. The U.S. Army Reserves (Reserves) has retained certain OARB property. The Reserves is expected to transfer this OARB property to other entities, including the City, the Port, and the East Bay Municipal Utility District (EBMUD), in the future.

The California State Lands Commission. The California State Lands Commission (SLC) has jurisdiction over "tidelands trust" lands, which are certain tidal and submerged lands granted by the state in trust to cities and counties to develop harbors in furtherance of state and national commerce. These grants require that granted lands be used consistent with the public trust and terms of the grant and require the grantee to use the revenues produced from these lands for trust purposes consistent with the grants. The existence and extent of lands subject to the trust at OARB has not been determined. The SLC has taken the position that a portion of the OARB

---

[5] Under Community Redevelopment Law at the time the OARB area project area was established, 20 percent of a tax increment generated within a district must be used by the redevelopment agency to increase, improve, and preserve the supply of affordable housing (HSC § 33334.2). On December 11, 2001 the Oakland Redevelopment Agency adopted a resolution increasing the percentage to 25 for redevelopment areas that achieve a 120 percent debt coverage threshold. While such housing is required to be located within the City, it need not be located within the project area, if the agency and legislative body find this would benefit the project area (HSC § 33334.2(g). Affordable housing demolished or removed for purposes of redevelopment must be replaced within four years of such destruction or removal (HSC § 33334.5). No such housing will be demolished as a result of redevelopment. Furthermore, the redevelopment program provides for setting aside required monies, and locating required housing at sites located outside the project area. The characteristics and location of this housing have not been identified. Therefore, sufficient information does not currently exist with which to analyze impacts of its construction and occupation; when such information is developed, the housing project(s) may be subject to environmental review under CEQA.

[6] See also Table 3-2, which lists relevant agencies, as well as approvals, permits, or consultation processes required to implement this redevelopment program, and Figure 4.2-1, which depicts jurisdictional boundaries.



OARB Area Redevelopment EIR

Figure 3-3 Conceptual Redevelopment Strategy

April 2002

g. borchard & associates

Table 3-1
OARB Area Redevelopment Project Area Buildout, 2002 through 2020

		Redevelopment Sub-District				
		OARB[a]				
Potential Land Uses	**Units[b]**	**Gateway**	**Port**	**Maritime**	**16th/Wood**	**Total**
Light Industry	sq. ft.	494,000[c]		0	305,000	799,000
Office, R&D	sq. ft.	1,528,000		0	1,437,000	2,965,000
Retail	sq. ft.	25,000		0	1,300	26,300
Warehouse/distribution	sq. ft.	300,000		0	0	300,000
Total square feet		**2,347,000**		**0**	**1,743,300**	**4,090,300**
Live/work units					375	375
From uses listed above	ac.	168	0	0	40	208
Park, Public Access	ac.	29	0	0	1	30
New Maritime Terminals	ac.		55	65	0	120
Terminal Reconfiguration	ac.			82		82
Maritime Support	ac.	15	2	88[e]	0	105
Rail	ac.		130	35	0	165
Acres to be redeveloped[d]		**212**	**187**	**270**	**41**	**710**
Total acres		**228**	**241**	**1,290**	**41**	**1,800**

Notes:

[a] As required by federal BRAC law, redevelopment of the OARB sub-district includes a Homeless Assistance Accommodation program. Redevelopment as proposed would locate the entire program outside the project area; however, Chapter 7: Alternatives to the Proposed Redevelopment Program, examines alternatives for locating the Homeless Assistance Accommodation program on site.

[b] sq. ft. = square feet; ac. = acres

[c] Includes 50,000 square feet of training facilities for the Joint Apprentice and Training Committee (JATC).

[d] Acreages identified above are gross land use acreage, and are inclusive of roadway and utility rights-of way.

[e] See discussion of ancillary maritime uses (AMS), Section 3.6.4.

that includes the property west of Maritime Street, is within the tidelands trust boundary. The Port and OBRA are working with the SLC to execute an "exchange," whereby tidelands trust requirements would be transferred from portions of the Gateway development area to the Port development area and Maritime sub-district.

The San Francisco Bay Conservation and Development Commission. The San Francisco Bay Conservation and Development Commission (BCDC) has jurisdiction over the San Francisco Bay, its shoreline, and certain related waterways. BCDC exerts its authority through its regulatory program and two planning documents: the *San Francisco Bay Area Seaport Plan* (the "Seaport Plan," BCDC and the Metropolitan Transportation Commission [MTC], 1982, as amended through 2001) and the *San Francisco Bay Plan* (the "Bay Plan," BCDC 1968, as amended through 2001). These plans define "priority use areas" at specific shoreline sites. If a site is designated a priority use area in the Seaport Plan or the Bay Plan, it is reserved for that use. Until the plans were amended in April 2001, the entire OARB was designated as port priority use. In September 2000, the City and Port filed a joint application to amend the Seaport

Plan and Bay Plan to reconfigure the development areas on the Base, to remove the port priority use designation from the Gateway development area, and to designate other specific parcels as port priority use areas. BCDC then amended the plans in April 2001 to reflect the requested change in land use designation. BCDC retains ongoing permit jurisdiction over the Bay and shoreline areas of the project area.

Department of Toxics Substance Control. The Department of Toxics Substances Control (DTSC) is a department of the California Environmental Protection Agency responsible for approving the Remedial Action Plan (RAP), approving the Army's early transfer (FOSET) of the Base to OBRA, and overseeing remediation at the OARB.

The East Bay Regional Park District. The East Bay Regional Park District (EBRPD) is a regional agency that is expected to receive certain OARB property (15 acres) from the Army via the Department of the Interior for a public park.

The Oakland Base Reuse Authority. The Oakland Base Reuse Authority (OBRA) is the Local Reuse Authority (LRA) responsible for managing OARB assets and planning reuse of the Base. The OBRA operates the interim leasing operations, will acquire property from the Reserves, will accept the majority of OARB property from the Army, and will, in turn, transfer that property to other entities for reuse/redevelopment.

The City of Oakland. The City of Oakland (City) adopted the Redevelopment Plan, establishing the project area, and empowered the Oakland Redevelopment Agency to enact that plan and oversee redevelopment. The City is the lead agency under CEQA and, except as otherwise provided in the City Charter with respect to certain Port-related matters, is also responsible for planning, including amending the General Plan, rezoning, issuing land use approvals, and — jointly with the Port — altering the Port area boundary from time to time.

The Oakland Redevelopment Agency. The Redevelopment Agency of the City of Oakland (also the Oakland Redevelopment Agency, ORA) is expected to accept the majority of OARB land from the OBRA, transfer lands to other entities, and implement the Redevelopment Plan.

The Port of Oakland. The Port of Oakland (Port) is expected to accept certain OARB lands from the ORA, acquire land from the Reserves, annex these lands to the Port area, waive certain reversionary rights, approve changes in the Port area jointly with the City to allow City development to proceed, and approve redevelopment activities within its jurisdiction.[7]

[7] Section 706(3) of the City of Oakland Charter vests in the Board of Port Commissioners "complete and exclusive power" over "…all the waterfront properties, and lands adjacent thereto, or under water, structures thereon, and approaches thereto, storage facilities, and other utilities, and all rights and interests belonging thereto, which are now or may hereafter be owned or possessed by the City, including all salt or marsh or tidelands and structures thereon granted to the City in trust by the State of California for the promotion and accommodation of commerce and navigation." Section 706(4) of the Charter vests in the Board "complete and exclusive power" over "...that part of the City hereinafter defined as the 'Port area,' " which Section 725 defines as "the same area that existed immediately prior to the adoption of this Section, as it has been defined by Charter and by ordinance, and as it may hereafter be altered by Council ordinance in accordance with and upon the recommendation of the Board, or by amendment of this Charter."

The Alameda County Homeless Base Conversion Collaborative. The Homeless Collaborative is a non-profit collaborative of organizations that provides housing and services to the homeless. Under federal BRAC law, base closure programs must include an accommodation to recognized homeless providers. The OARB Reuse Plan commits to providing a Homeless Assistance Accommodation through the Homeless Collaborative, including providing for the following services: a workforce and business development campus, a food bank, transitional housing, domestic violence support services, and a childcare facility. Redevelopment as proposed would locate the entire program outside the project area.[8]

The Joint Apprentice and Training Committee. The Joint Apprentice and Training Committee (JATC) is a non-profit educational organization expected to receive certain OARB property (3 acres) from the ORA for a job training facility.

The West Oakland Community Advisory Group. The WOCAG is community group representing a broad range of interests in West Oakland. WOCAG advised the OBRA in preparing the original, revised, and amended Reuse plans and continues to meet and provide input on the redevelopment program.

Developers. Private or quasi-private sector developers, as well as public sector development entities such as the City and Port, may implement specific projects (subsequent redevelopment activities) within the project area.

3.2 BACKGROUND

This section describes closure and transfer of the OARB, the history and status of reuse planning, and the history and status of redevelopment planning. The processes of base closure, transfer, and reuse/redevelopment are complex and inter-dependent. Figure 3-4 illustrates these processes and their general status. Figure 3-5 provides more detail regarding disposal and transfer of OARB.

3.2.1 Base Closure, Transfer, and Reuse Planning

Base Closure and Transfer

During the late 1980s and the 1990s, the U.S. government closed and/or realigned (transferred the functions of) numerous military facilities. Through the closure process, all or a portion of

[8] Pursuant to a 1999 Legally Binding Agreement between, OBRA, ORA, and the Homeless Collaborative, OBRA and ORA committed to provide low-cost leases to the Homeless Collaborative for eight buildings (approximately 229,000 square feet and 52 dwelling units) to be used as a workforce and business development campus, childcare facility, transitional housing, and food bank. Subsequent to that agreement, however, BCDC requirements related to Port Priority land uses at and near the Base necessitated OBRA to substantially revise the property disposition plan for the OARB, and those eight buildings are no longer available for Homeless Collaborative long-term leasing. Therefore, pursuant to the terms of the 1999 Legally Binding Agreement, the parties are currently negotiating alternative terms and conditions to satisfy the homeless assistance component of the Reuse Plan.

OARB
Interim Leasing Program
Negative Declaration:
City of Oakland

Approve and operate interim leasing program

Disposal of OARB
Environmental Impact Statement:
U.S. Army

Issue Record of Decision on disposal

Convey portions of OARB to OBRA and EBRPD

Section 106 consultation, National Historic Preservation Act

Section 7 consultation, Endangered Species Act

Consistency determination, Coastal Zone Management Act

OARB
Redevelopment Program
Environmental Impact Report:
City of Oakland (lead agency)
Port of Oakland (responsible agency)
Other responsible/trustee agencies

Approve Final OARB Reuse Plan (OBRA)

Amend Redevelopment Plan (City)

Accept OARB from Army (OBRA and EBRPD)

Convey portion of OARB to ORA (OBRA)

Accept portion of OARB from OBRA and transfer portion to Port and JATC (ORA)

Accept portion of OARB from ORA (Port)

Adjust Port Area boundary (City and Port)

Amend Oakland General Plan (City)

Re-Zone (City)

Execute tidelands trust exchange (City, Port, SLC)

Grant demolition permits (City)

Conduct demolitions/deconstructions/ site preparation (City, Port)

Grant infrastructure construction permits (City)

Conduct site remediation (City, and with appropriate approvals, to subsequent transferres)

Install major infrastructure (ORA, Port)

Approve subsequent activities (City, Port, EBRPD)

Subsequent Activities
Potential additional environmental review:
City of Oakland
Port of Oakland
EBRPD
U.S. Army Corps
Other responsible/trustee agencies

Approve subsequent activities with potentially significant impacts not disclosed in this EIR, pursuant to CEQA Section 21166

LEGEND

Environmental review

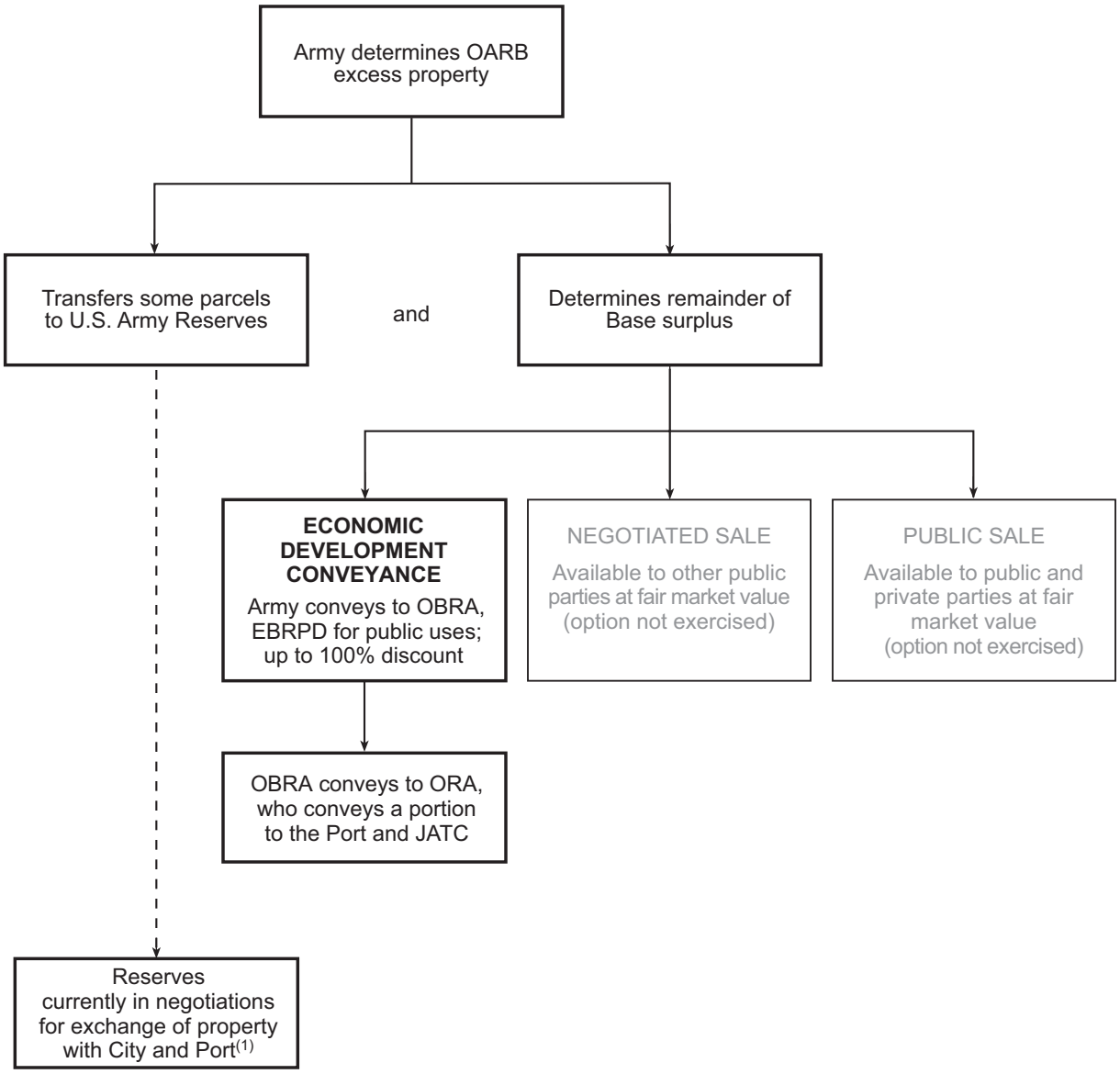
Action, consultation, permit, or approval

g. borchard & associates

OARB Area Redevelopment EIR

Figure 3-4 OARB Reuse and Redevelopment Process

April 2002



(1) The Reserves is also negotiating terms with EBMUD on adjacent lands not within the redevelopment district.

OARB Area Redevelopment EIR

Figure 3-5 OARB Property Conveyance

April 2002

g. borchard & associates

these military bases were then available to their respective local cities or counties for community reuse. In this manner, local communities are able to re-capture the loss of jobs that occurred when a base was closed. Planning for reuse of these bases generally occurs under the guidance of an LRA, an entity established specifically for the purpose of planning transitional and ultimate reuse, and managing the assets of the base during the military-to-community transitional or "interim" period.

In 1995, the Base Realignment and Closure (BRAC) Commission recommended closure and realignment of the OARB. In July 1995 the President of the United States approved the BRAC Commission's recommendation, Congress reviewed the recommendation, and it became law on September 28,1995.

The Army, the lead agency for base closure and transfer of OARB, first realigned the approximately 430-acre Base, reserving 26 acres for the Reserves. The Army then began the process of OARB "disposal" by screening requests for property. The Army plans to convey 384 acres to the OBRA and 15 acres to the EBRPD.[9] The OBRA, in turn, plans to transfer the land to the ORA; the ORA will transfer 241 acres to the Port (approximately 185 acres of upland and 56 acres of submerged land),[10] and 3 acres to the JATC.

In its role as lead agency for OARB closure and disposal, the Army undertook several federal planning processes, described below.

Federal Environmental Review. The Army prepared an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act ([NEPA], 42 United States Code [USC] § 4231 *et seq.*). The EIS described the direct effects of its action, Base closure and disposal. The EIS also described Base reuse as a secondary effect of disposal (U.S. Army Corps of Engineers [Corps] Draft EIS 1999; Supplemental Draft EIS 2001; Final EIS 2001).

Coastal Zone Consistency Determination. Pursuant to the Coastal Zone Management Act of 1972 as amended, ([CZMA], 16 USC § 1451), in May 2001 the Army obtained BCDC's agreement with the Army's consistency determination. The Army is responsible for ensuring that federal development projects in the coastal zone, including projects such as the Army's closure and transfer of the OARB, are consistent to the maximum extent practicable with the California Coastal Management Program (CCMP). In the San Francisco Bay area, two documents embody the CCMP: the McAteer-Petris Act and the Bay Plan (BCDC 1998, as amended), which incorporates the Seaport Plan (BCDC and MTC 1997, as amended). Therefore, the Army must determine the proposed federal action is consistent with the McAteer-Petris Act and the Bay and Seaport plans. Because the Bay and Seaport plans initially designated the entire OARB as a Port Priority Use area, the City and the Port of Oakland applied for an amendment to those

[9] The Army will assign 15 acres to the Department of Interior who will transfer this acreage to the EBRPD.

[10] As discussed in Section 3.1.2, the upland portion of the Base includes the approximately 9 acres to be acquired by the Port from the Reserves.

plans in September 2000. The amendment was designed to ensure that adequate acreage would be devoted to meeting BCDC's year 2020 container throughput forecasts for the Port and reserving sufficient property for the City to meet its goals of economic development and job generation. The application for the plan amendments was approved by BCDC in January 2001. After the Seaport and Bay plans were amended by BCDC to remove the "port priority" use designation from the Gateway development area (see discussion regarding BCDC, above), BCDC issued a letter concurring with the Army's consistency determination for the OARB closure and transfer in May 2001.

National Historic Preservation Act Consultation. Pursuant to Section 106 of the National Historic Preservation Act ([NHPA], 16 USC §470 *et seq.*), the Army engaged in consultation with the Office of Historic Preservation (OHP) regarding historic resources on the Base. Through the Section 106 consultation process, the Army must take into account the effect of its undertaking on historic resources that are listed, or are eligible for listing on the National Register of Historic Places (NRHP). On December 11, 2001, a Memorandum of Understanding (MOU) was executed between the State Historic Preservation Officer (SHPO) and the Army. That MOU describes the Section 106 consultation process and its conclusions. The executed MOU, to which the OBRA and the Port are concurring parties, signifies completion of the NHPA Section 106 consultation.

Endangered Species Act Section 7 Consultation. Pursuant to the Endangered Species Act Section 7 ([ESA], 16 USC §1531 *et seq.*), the Army consulted with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) regarding the potential impact that disposal and reuse of the Base might have on listed species. The Army notified the USFWS by letter dated August 3, 2000 that it intended to include the following restriction in the property transfer document to ensure that potential impacts to the federally endangered California least tern would be avoided: "Prior to site development or other opening of the property parcel known as the 'spit' area (a parcel consisting of approximately 15 acres at the far west end of the installation, south of and adjacent to the east end of the Oakland Bay Bridge)[11] to public access or other reuse, the new owners will coordinate with and obtain approval of their specific development plan for the property from the USFWS Endangered Species Office." In a letter dated October 11, 2000, the USFWS concurred with the Army's determination that the disposal and reuse of the Oakland Army Base "are not likely to adversely affect least terns." In a letter dated April 10, 2000, the NMFS determined the actions associated with the Army's proposed disposal and reuse of the OARB have either been previously addressed, or will be addressed in future Section 7 consultations.[12]

[11] The area termed the "spit" by the USFWS is termed the Bay Bridge touchdown peninsula or the Gateway peninsula in this document.

[12] This correspondence is included in Appendix 4.12.

Base Reuse Planning

Once the Base was slated for closure and transfer, OBRA was tasked with directing the OARB reuse process. The OBRA governing body comprises representatives of the City, County, City of Alameda, Congressperson Lee's office, the Association of Bay Area Governments, and adjacent jurisdictions. As the Local Reuse Authority under federal base closure law, the OBRA is the agency eligible to manage the Base and its assets in the transitional period between base closure and transfer, to accept the Base property from the Army, and to plan for its reuse.

Through a separate environmental review, after the OARB was closed in 1995, OBRA entered into a master lease with the Army for the entire base that provided for continued use of the existing facilities by various tenants (Interim Leasing Program Initial Study/Mitigated Negative Declaration, ER 98-13).[13] As part of the reuse planning process, OBRA established the WOCAG to examine reuse opportunities and recommend community reuse options for OBRA's consideration. Interviews with Oakland residents began as early as 1996, and many meetings were held to discuss the community's vision of the reuse of the Base. The planning document produced by the OBRA in consultation with WOCAG was the *OARB Amended Draft Final Reuse Plan* (OBRA 1998, as amended through 2001). The Reuse Plan documents the community reuse planning process and describes the proposed reuse development, including land use classifications and development densities. The first draft Reuse Plan was issued in 1998, and the 2001 amended draft Reuse Plan reflects changes required for consistency with the Bay and Seaport plans. Redevelopment of the Base pursuant to the Reuse Plan is intended to accrue economic benefits to the Oakland citizenry.

Once the Army transfers ownership of the majority of OARB land to the OBRA, the OBRA will, in turn, transfer the land to the ORA. The ORA will transfer the Port development area to the Port, 3 acres to JATC, and will retain the Gateway development area. The ORA will then be primarily responsible for redevelopment of the Gateway development area, and the Port will be primarily responsible for redevelopment of the Port development area.

3.2.2 Redevelopment Planning

The City is the lead agency for CEQA. Immediately upon the BRAC Commission's recommendation to close the OARB, the City began to evaluate how best to implement community reuse of the Base and the surrounding areas. The City investigated redevelopment options, designated a redevelopment survey area, and prepared a preliminary redevelopment plan in September 1999. Conditions within the survey area were inventoried, conditions of blight documented (see below, under "Need"), the survey area was refined, and the *Oakland Army*

[13] During construction of the Bay Bridge Seismic Improvement Project (also termed the Bay Bridge Replacement Project), Caltrans is expected to utilize western portions of the Gateway development area near Berth 7 for construction staging. This use is similar in nature to ongoing water-oriented transportation-activities occurring in this portion of the Base under the existing interim leasing program. Caltrans would complete its use of Base lands prior to the end of the redevelopment build-out period, and its interim use of OARB property is not expected to affect redevelopment as proposed.

Base Preliminary Redevelopment Plan prepared (City of Oakland 1999). The Preliminary Redevelopment Plan accomplishes the following:

- describes boundaries of the survey area;
- provides a general statement regarding proposed land uses and densities, major transportation infrastructure, and development standards for the survey area;
- demonstrates how redevelopment of the survey area would accomplish the intent of the California Community Redevelopment Law (CRL);
- demonstrates how proposed redevelopment of the survey area conforms to the Oakland General Plan; and
- generally describes the impact of survey area redevelopment on nearby residents.

Based on the Preliminary Redevelopment Plan, a final project area was defined and a final redevelopment plan and supporting documentation prepared (Hausrath Economics Group [HEG] 2000; City of Oakland 2000).

On July 11, 2000, the City adopted and approved, via Ordinance No. 12259 C.M.S., the *Redevelopment Plan for the Oakland Base Redevelopment Project* (City of Oakland 2000), and established a redevelopment project area. The Redevelopment Plan provides the ORA—the agency primarily responsible for the project area's redevelopment—with powers, duties, and obligations to implement and further a program of redevelopment, rehabilitation, and revitalization of the project area as broadly defined in the plan. The Redevelopment Plan incorporates the Reuse Plan, as it may be amended from time to time. The City may amend the Redevelopment Plan after certification of this EIR.

The Redevelopment Plan estimates build-out of the project area by 2020. With respect to the Gateway development area and 16th/Wood sub-district, this long-term build-out horizon is coupled with the need of the ORA to flexibly respond to fluctuating market and economic conditions. These conditions necessarily require the Redevelopment Plan to be broad and flexible. As the plan states:

> *Because of the long-term nature of this Plan and the need to retain in the [ORA] the flexibility to respond to market and economic conditions, developer interests, and opportunities from time to time presented for redevelopment, this Plan does not present a precise plan or establish specific projects for the redevelopment, rehabilitation, and revitalization of any area within the project area, nor does this Plan present specific proposals in an attempt to solve or alleviate the concerns and problems of the community relating to the project area. Instead, this Plan presents a process and a basic framework within which specific plans will be presented, specific projects will be established, and specific solutions be proposed and by which tools are provided to the [ORA] to fashion, develop, and proceed with such specific plans, projects, and solutions.*

3.3 PURPOSE, NEED, AND OBJECTIVES

3.3.1 Purpose

The primary purpose of the proposed redevelopment is to alleviate physical and economic blight in the project area resulting in part from closure of the OARB.

3.3.2 Need

The West Oakland area of the City is an older urban center that historically supported maritime-related industry associated with the Oakland waterfront, such as shipping, shipbuilding, and goods processing. During World War II, the U.S. Navy's Fleet and Industrial Supply Center, Oakland (FISCO) and the OARB were established on the Oakland waterfront as maritime staging points and supply depots supporting American armed forces operating in the Pacific theater. In addition, during World War II, approximately a dozen shipyards operated along the Oakland Estuary in or near West Oakland. West Oakland businesses supported the military, and shipbuilding and shipping industries, and local residents provided labor. After World War II, the need for military support by local civilians sharply declined. Along the Oakland Estuary, the shipbuilding industry declined, while the cargo shipping industry increased, absorbing some, but not all West Oakland maritime labor. The post–World War II era initiated a gradual, but steady state of economic decline in West Oakland. In the 1960s to 1970s, the shipping industry worldwide, including Oakland's port, shifted from relatively labor-intensive bulk cargo to much more labor-efficient containerized cargo methods (Minor 2000). With this shift, the economic decline of West Oakland escalated, leaving in its wake outdated and outmoded industrial facilities and a poor mix of incompatible industrial, business, and residential land uses.

Compounding this decline was closure of the OARB by Congress in 1995. The Base is primarily a World War II–era facility, with a relatively high percentage of temporary buildings, as well as obsolete structures and antiquated utility systems. Moreover, the majority of the site is located on fill, and settlement of underlying strata has further stressed structures and utility systems. The closure of the OARB poses a substantial burden to the local West Oakland community, already characterized as economically depressed.

Pursuant to California's Community Redevelopment Law (HSC § 33000 *et seq*.), the City conducted a detailed analysis of the current and expected conditions of decline and blight in West Oakland. The results of this study are documented in the *Report to City Council: Oakland Army Base Redevelopment Project* (herein "Report to City Council") (HEG 2000). Chapter 4 of the Report to City Council describes blight within each of the three redevelopment sub-districts.[14]

[14] Chapter 4 and Appendix B of the *Report to City Council*, herein summarized and incorporated by reference pursuant to PRC Section 21061, provides substantial written and photographic evidence of existing blighted conditions in the project area. The report is available for review at 250 Frank Ogawa Plaza, Suite 3330, during regular business hours.

Pursuant to Community Redevelopment Law, a military base must meet a two-pronged test to be considered blighted (HSC §§ 33492.10(a), 33492.11). First, the blighted conditions cannot reasonably be expected to be alleviated in the absence of redevelopment. Second, the military base must satisfy two of seven criteria regarding physical blight. According to the Report to City Council, the OARB redevelopment sub-district meets the first test, and also meets or exceeds all seven criteria of the second test, including the following:

- unsafe or unhealthy buildings;
- obstacles to economically viable reuse;
- adjacent to or nearby incompatible land uses;
- non-conformance with subdivision, zoning, or planning regulations;
- infrastructure that does not meet existing standards;
- buildings that, when built, did not conform to codes; and
- materials or facilities that need to be removed.

Furthermore, under Community Redevelopment Law, non-military areas related to a base closure must meet a four-pronged test of blight (HSC §§ 33492.10(b), 33030, and 33031). First, an area must be predominantly urbanized, and the blighted conditions cannot reasonably be expected to be alleviated in the absence of redevelopment. Second, the area must have inadequate public improvements, parking, or utilities. Third, the area must be necessary for the effective redevelopment of the related military base. Finally, the area must satisfy one or more criteria regarding physical blight and one or more criteria of economic blight. According to the Report to City Council, the Maritime and 16th/Wood sub-districts met the first three tests, and met or exceeded criteria of the fourth test, including the criteria shown in Table 3-2.

Table 3-2
Criteria for Physical and Economic Blight

	Applied to Following Sub-District per Report to City Council	
Criteria Establishing Blight	**Maritime**	**16th/Wood**
Physical Blight		
Unsafe or unhealthy buildings	**U**	**U**
Obstacles to economically viable use of buildings or lots	**U**	**U**
Adjacent or nearby incompatible land uses		**U**
Lots in multiple ownership of irregular form and shape and inadequate size for proper usefulness		**U**
Economic Blight		
Depreciated or stagnant property values or impaired investments	**U**	**U**
Non-conformance with subdivision, zoning, or planning	**U**	**U**

Table 3-2
Criteria for Physical and Economic Blight

Criteria Establishing Blight	Applied to Following Sub-District per Report to City Council: Maritime	Applied to Following Sub-District per Report to City Council: 16th/Wood
regulations		
Infrastructure that does not meet existing standards	**U**	**U**
Buildings that, when built, did not conform to codes	**U**	**U**
Materials or facilities that need to be removed	**U**	**U**
Abnormally high business vacancies or low lease rates, high turnover, abandoned buildings, excessive vacant lots within an area developed for urban use, and served with utilities	**U**	**U**
High crime rate that constitutes a serious threat to public safety and welfare	**U**	**U**

Source: *Report to City Council: Oakland Army Base Redevelopment Project* (HEG, 2000).

Within the OARB and 16th/Wood sub-districts, conditions of blight are widespread. Generally, within the Maritime sub-district, conditions of physical blight were concentrated at the former FISCO site, at the time the Redevelopment Plan was drafted. This site is currently undergoing redevelopment under previously certified environmental review (Port of Oakland 1998 and 1999; Corps and Port of Oakland 1998) and construction is nearly complete. Details of ongoing and future Port facility modernization in the Maritime District evolve on a facility-by-facility basis, and the modernization of each specific facility has been and will continue to be implemented by and under the control of the Port under separate project-level approval and environmental review.

3.3.3 Objectives

In developing the Redevelopment Plan, the City identified objectives for redevelopment of the entire project area. In addition, through the OARB base reuse planning process, the City and community collaboratively identified additional objectives for redevelopment of the OARB, especially the City's Gateway development area. The Port has also identified objectives specific to the Port development area and Maritime sub-district, as shown in Table 3-3.

Table 3-3
Redevelopment Objectives

Objective	Applies to the Following		
	Gateway development area	**Maritime sub-district and Port development area**	**16th/Wood sub-district**
Alleviate economic and social degradation due to closure of OARB	**U**	**U**	**U**
Eliminate blighting influences	**U**	**U**	**U**
Create a vibrant and balanced land use pattern	**U**	**U**	**U**
Strengthen the economic base	**U**	**U**	**U**
Allow for sustainable job creation	**U**	**U**	**U**
Expand, improve, and preserve low/moderate-income housing.	**U**	**U**	**U**
Provide for high-quality public/community services	**U**	**U**	**U**
Provide for safe, efficient, and effective movement of people and goods	**U**	**U**	**U**
Protect, preserve, and enhance environmental resources	**U**	**U**	**U**
Minimize waste generation, maximize reuse/recycling.	**U**	**U**	**U**
Accommodate the Port's share of regional cargo throughput in 2020		**U**	
Respond to trends and requirements of maritime shipping		**U**	
Increase Port productivity and efficiency		**U**	
Provide sufficient capacity to substitute for other West Coast gateway ports in the event of natural disaster or other emergency		**U**	
Keep competitive with other West Coast ports		**U**	

Source: Staff Report to the Oakland City Planning Commission (September 19, 2001; Case File No. DET01-06, ER01-035), included in Appendix 1 of this EIR.

In order to achieve district-wide redevelopment goals, all sub-districts require investment in infrastructure and improvement of investment potential. In addition, in the OARB and 16th/Wood sub-districts, substantial construction, or demolition followed by re-construction will also be required.

3.4 LOCATION

The project area encompasses approximately 1,800 acres in western Oakland, partially along the eastern shoreline of San Francisco Bay (Figures 1-1 and 3-1). This is the westernmost portion of West Oakland. The project area is located approximately two miles west of the central business district. The project area is roughly L-shaped. It is located adjacent to several regional transportation links, as well as to the Bay. The project area is bounded by the following:

- To the north is Interstate 80 (I-80), and the Bay Bridge touchdown (where the bridge meets land, located on a peninsula into the Bay also called the "Gateway peninsula") and toll plaza; beyond is the Bay.
- To the northeast is the East Bay Municipal Utility District (EBMUD) Main Wastewater Treatment Plant (WWTP), a large, region-serving industrial sewage treatment facility. Beyond the WWTP is the MacArthur maze (the interchange of I-80, I-580, and I-880), and farther beyond is the City of Emeryville. To the southeast is the Union Pacific (UP) intermodal railyard and Jack London Square.
- To the south is the Inner Harbor of the Oakland Estuary; beyond is Alameda Point, another closed military installation.
- To the west are Oakland's Middle and Outer harbors; beyond is the Bay.

The OARB sub-district encompasses approximately 470 acres. This sub-district encompasses approximately 430 acres of OARB (both the land and submerged portions of the Base, including on-Base lands currently owned by the Reserves) plus several parcels immediately adjacent to the northern boundary of OARB, between the Base and I-80, totaling approximately 39 acres. It is bounded by (clockwise from north) the Bay Bridge, I-880, the Port of Oakland, and the Bay. This sub-district comprises two development areas: the 228-acre Gateway development area is the northwest portion of the sub-district; the 241-acre Port development area is in the west and southeast portion.

The Maritime sub-district encompasses approximately 1,290 acres. The majority of this sub-district comprises that portion of the Port of Oakland dedicated to maritime use from the Outer Harbor on the west to and including Howard Terminal on the east (including Schnitzer Steel, a non-Port property), and from the Inner Harbor on the south to Berth 10 on the north. The Maritime sub-district includes the existing marine cargo terminals, the Joint Intermodal Terminal (JIT) rail facility, marine terminals recently constructed or under construction at Berths 57-59, and the Middle Harbor Shoreline Park, also under construction.[15] It abuts, but does not include,

[15] Berths 55-59, including the Middle Harbor Shoreline Park and the JIT, are elements of the Port's Vision 2000 program. Impacts of their construction and operation were disclosed in a certified EIR (*Berths 55-58 Project EIR,* Port of Oakland, Draft EIR 1998; Final EIR 1999; SCH No. 97102076). This program is intended to provide modern marine and rail facilities to transport containerized cargo between foreign—predominantly Asian Pacific—ports and destinations throughout the United States. The program also provides a new regional waterfront park, and substantial new public Bay access. The projects comprising the Vision 2000 Program were approved in 1999. Portions of those projects have been completed and are currently in operation; construction of the remaining portions is in progress.

Jack London Square and the Union Pacific Railroad Desert yard. This sub-district also includes areas not under the Port's ownership, including a portion of I-880 and its frontage road, Schnitzer Steel, miscellaneous parcels near 2nd and 3rd streets, and miscellaneous parcels east of I-880 between Wood Street, West Grand Avenue, and 26th Street. The area outside the Port's ownership within this sub-district totals approximately 192 acres.

The 16th/Wood sub-district encompasses approximately 41 acres. This sub-district is located roughly between the realigned Cypress Freeway (I-880) to the west and Wood Street to the east, West Grand Avenue to the north and 7th Street to the south. The area includes the old Southern Pacific Railroad (SPRR) station (also known as the Amtrak station), as well as the Phoenix Iron Works site.

3.5 PROJECT AREA CHARACTERISTICS

The project area is urbanized, with some vacant parcels that at one time were industrialized. The project area, including each sub-district, also contains some parcels that are contaminated, and/or are listed on the Cortese List. The following discussion focuses on the project area's physical characteristics. Section 4.1: Consistency with Plans and Policies, and Section 4.2: Land Use, describe the planning and policy characteristics/context of the project area.

3.5.1 OARB Sub-District

With the exception of approximately 12 acres at the Gateway peninsula and several parcels above West Grand Avenue, the OARB sub-district is developed. Its focus is transportation-oriented, with highway operations and maintenance facilities, cargo container storage and maintenance facilities, ship berths and terminals, rail yards, and large warehouses. A major truck route, Maritime Street, runs southwest-northeast through the Base. Industrial transportation uses dominate. An institutional multi-story, multi-winged Army administration building (Building No. 1) is centrally located within this sub-district, along with other Army-related transportation-supporting, residential, community services, recreation, and office uses. Some of the buildings, including the large administration building, are in obvious disrepair.

The Gateway peninsula, located within the Gateway development area, is undeveloped land traversed by both overhead and underground easements, and is used occasionally for temporary storage. Two relatively small buildings exist at the peninsula: one is a Caltrans building, the other is an EBMUD dechlorination facility. In general, however, the site remains unused, and is fenced off from the remainder of the project area.

The miscellaneous parcels located within this sub-district but not within the Base are owned by a variety of owners, but primarily the Port and Caltrans. These parcels are used for such purposes as highway maintenance, container storage and materials storage, Port-related trucking operations and other storage and temporary uses.

3.5.2 Maritime Sub-District

The majority of this sub-district is an operating maritime cargo port, and it is dedicated almost entirely to industrial transportation uses. The sub-district contains terminals with large waterfront cranes and a variety of mobile and semi-mobile ground equipment, and railyards. Cargo containers are stacked in the terminal yards. Large transport trucks are common on the streets in this area, either actively moving cargo, or waiting in queues to enter the terminals.

The shoreline of the Middle Harbor is dedicated to public access. The 4.5-acre Port View Park exists in the southwest shoreline of the 7th Street Terminal. The approximately 30-acre Middle Harbor Shoreline Park is under construction, and will extend along the entire Middle Harbor shoreline to join with Port View Park (Port of Oakland 1999). This sub-district encompasses some inland areas not in port use.

One residential (loft) building is located within this sub-district on 2nd Street between Brush and Castro streets.

3.5.3 16th/Wood Sub-District

This sub-district, historically dedicated to industrial uses, is now generally underutilized. The large historic SPRR (Amtrak) station building remains, but is boarded up in a derelict state. Non-smokestack industrial and light industrial uses, such as warehousing/distribution centers, waste recycling facilities, and truck repair businesses are located in or adjacent to this sub-district, as are miscellaneous businesses located in older buildings. While there are currently no residential uses in this sub-district, such uses abut a portion of the project area, and others are directly across Wood Street from the eastern boundary of the sub-district. A portion of this sub-district is designated Port Priority Use pursuant to the Seaport Plan.

3.6 REDEVELOPMENT ACTIVITIES

Detailed information regarding redevelopment activities on specific parcels is, for the most part, not yet available. However, information is available regarding amendment of General Plan land use classifications and zoning, demolitions and site preparation, and major infrastructure improvements. Furthermore, stable assumptions regarding overall redevelopment densities and activities exist, and are sufficient for a general level of impact analysis and development of a mitigation program.

The redevelopment program includes the following activities:

- amendment of General Plan land use classifications and of zoning designations;
- amendment of the Port area boundary;
- approval of sub-district/development area-specific demolition, and site preparation;

- remediation of environmental impairments, including the remediation of surface and subsurface soil and groundwater contamination caused by prior releases of hazardous materials and the abatement of environmental hazards from regulated building components such as asbestos and lead-based paints;

- installation, repair and/or improvements to major infrastructure; and

- ultimate redevelopment, for which either the types of uses and maximum densities from the Reuse Plan are assumed or, for the Port, achievement of projected cargo throughput capacity as described in the amended Seaport Plan is assumed.

The following sources were used to develop information regarding proposed redevelopment:

- **Redevelopment Plan:** for the entire project area, describes necessary major infrastructure improvements.

- **OARB Reuse Plan** (as amended): for the majority of the OARB sub-district, describes a preferred reuse alternative, designating land uses and densities/intensities, and some major infrastructure.

- **City/Port Application to BCDC for Amendment of the Bay and Seaport Plans and BCDC Amendment to the Seaport Plan:** generally describes proposed Port Priority land use designations, necessary Bay fill, seaport facilities, and the Port's share of regional cargo throughput in 2020.

- **Pre-Application Discussions:** for the 16th/Wood sub-district, information from pre-application development meetings is included for approximately 23 acres proposed as the Central Station. This redevelopment activity is in the conceptual planning stages, and no application has been submitted to the City. For purposes of this environmental review, the City has made conservative assumptions based on preliminary input. The City also made assumptions regarding likely development in the remainder of the 16th/Wood sub-district.

- **EIR Scoping Comments:** input received from community members, regulatory agencies, and the Port of Oakland during the EIR scoping period identifies some potential redevelopment elements and activities.[16]

- **Environmental Reports:** Soil and groundwater investigative reports, as described in Section 4.7: Hazardous Materials, and listed in Appendix 4.7.

3.6.1 Amendment of Land Use Classifications and Zoning Designations

General Plan Land Use Classifications

Figures 3-6a and 3-6b illustrate existing and proposed General Plan land use classifications for the project area. Existing General Plan land use classifications primarily include Business Mix

[16] See Staff Report to the Oakland City Planning Commission (September 19, 2001; Case File No. DET01-06, ER01-035), included in Appendix 1 of this EIR**.** All written EIR scoping comments in their entirety, plus written summarizations of verbal scoping comments are included in Appendix 1.

and General Industrial/Transportation. In addition, some shoreline areas along the Middle and Outer harbors are classified Park & Urban Open Space (City of Oakland 1998).

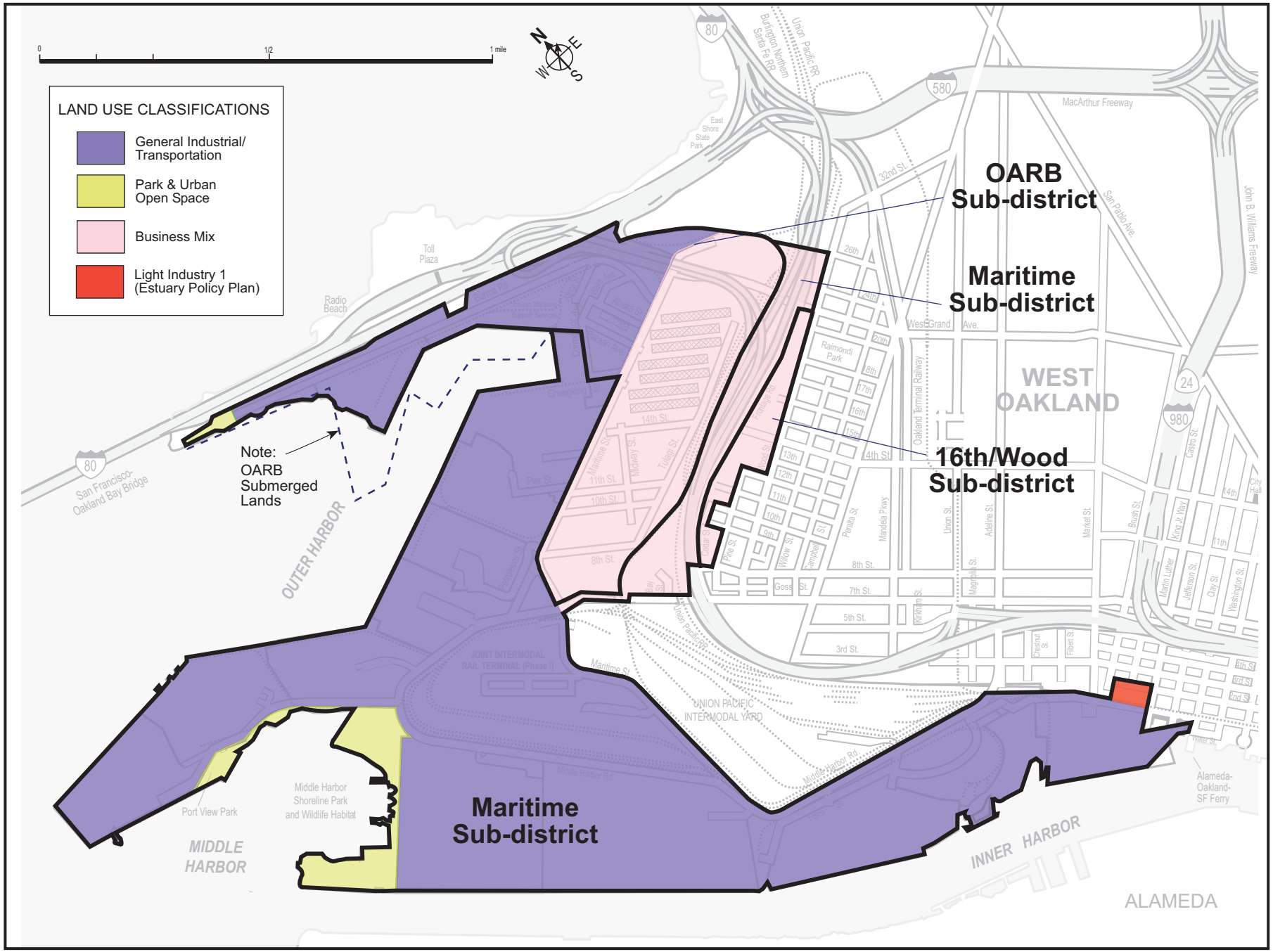
The Business Mix classification is intended to create and enhance areas of the City that are appropriate for a wide variety of business and related commercial and industrial establishments, and it allows for flexibility in land use decisions. With Combining Zoning, live/work uses are allowed on lands classified Business Mix. The General Industrial/Transportation classification is intended to recognize, preserve, and utilize areas of the City for a variety of business and related establishments that may have potential to create off-site impacts such as noise, light, glare, truck traffic, and odor.

Under the Redevelopment Plan, no new land use classifications would be added to the project area. The majority of the project area would retain its current classification, with some acreages shifting between Business Mix and General Industrial/Transportation in the OARB sub-district. In addition, some existing General Industrial/Transportation in the vicinity of the Bay Bridge and the shoreline of the Gateway development area would be reclassified Park & Urban Open Space. The City would amend land use classifications and zoning within the OARB sub-district to allow for redevelopment as envisioned in the OARB Reuse Plan.

Zoning

Currently, the entire project area is zoned Industrial (M). The OARB sub-district and the majority of the Maritime sub-district are zoned M-40 (Heavy Industrial). Two areas of the Maritime sub-district are zoned M-30 (General Industrial): immediately east of I-880 above West Grand Avenue, and immediately west of I-880 along both sides of 7th Street. The majority of the 16th/Wood sub-district is zoned M-30, with a small area between 9th and 11th streets zoned M-20 (Light Industrial). The majority of the 16th/Wood sub-district is additionally zoned S-16 (Industrial-Residential Transition Combining Zone). The intent of this zoning overlay is to provide a compatible transition between residential and industrial zones, including joint living-work quarters. The S-16 Zone may be combined with any other zone that has a General Plan land use classification of Business Mix or General Industrial/Transportation, and abuts a residential zone, or with any industrial zone that abuts a residential zone (City of Oakland Municipal Code § 17.101.020).

The City is currently updating its zoning regulations to make them consistent with the General Plan. This update process is expected to conclude in the near future. As part of this city-wide zoning update, the City will re-zone the project area with new zoning designations that best match the land use classifications of the Reuse Plan and the Redevelopment Plan. These zoning designations would be consistent with the "Business Mix" and General Industrial/Transportation land use classifications, allowing such uses as Office, Research and Development, Warehouse/Distribution, and Light Industrial.

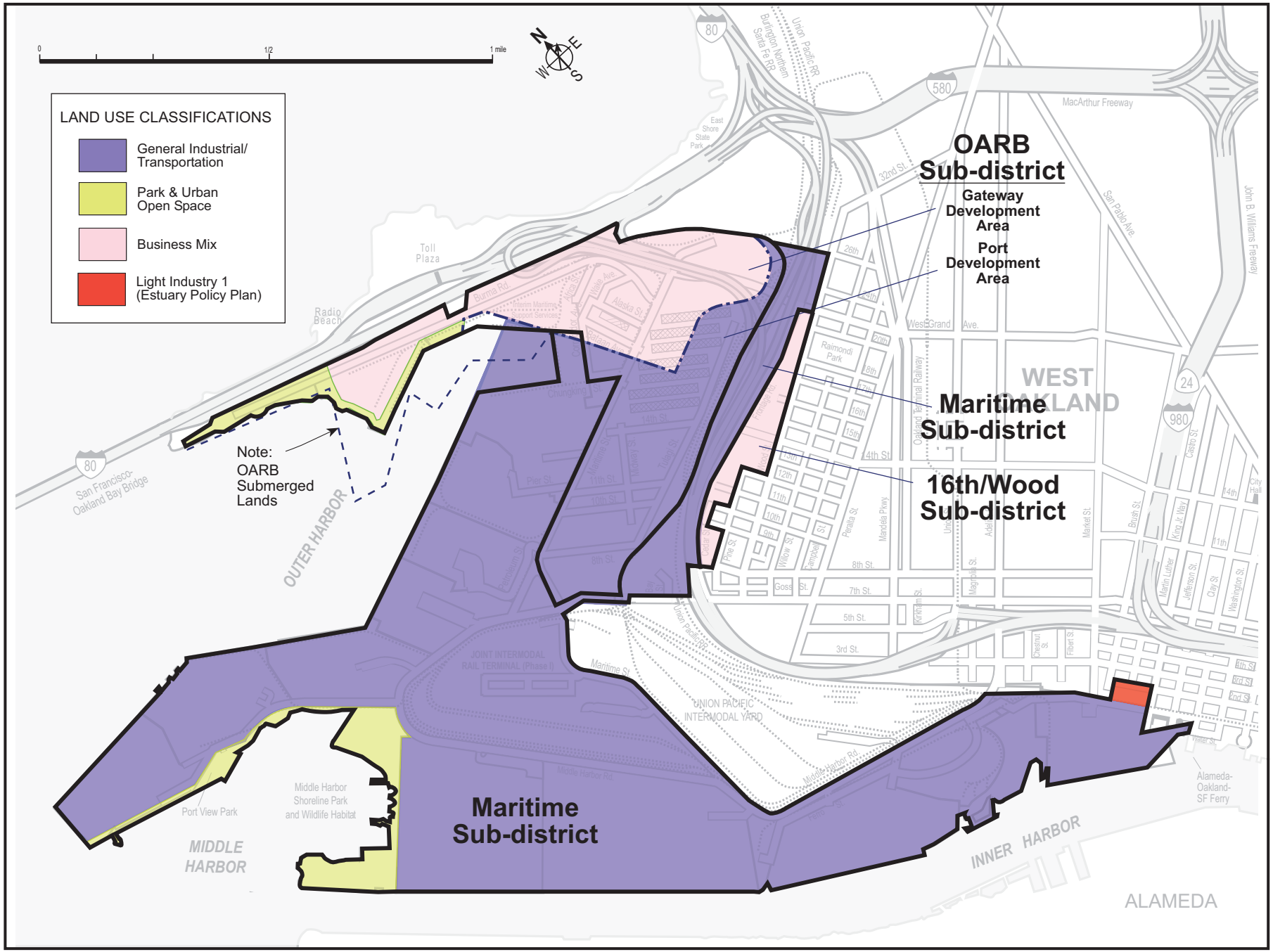


OARB Area Redevelopment EIR

Figure 3-6a Existing Oakland General Plan Land Use Classifications

April 2002

g. borchard & associates



OARB Area Redevelopment EIR

Figure 3-6b Proposed Oakland General Plan Land Use Classifications

April 2002

g. borchard & associates

At such time as specific development projects within the project area are proposed, the City will identify the appropriate new zoning designation for those uses. As part of the approval process for these subsequent development projects, the City will consider rezoning actions as determined necessary at that time. In all cases, the subsequent zoning actions shall only be approved when determined consistent with the General Plan land use classifications as described in the OARB Reuse Plan, and as discussed above.

In addition to zoning regulations, future proposed uses would have to take into consideration the level of remediation and any associated land use restrictions.

3.6.2 OARB Sub-District: Gateway Development Area Redevelopment Activities

Demolition, Site Preparation, and Remediation

The Gateway development area would generally be cleared for new construction. All structures[17] would be demolished or de-constructed ("de-construction" consists of dismantling a structure so that historic elements and materials such as large timbers can be reused), and existing paving and concrete would be removed. Surface and subsurface contaminants would be removed, or remediated as appropriate to comply with applicable federal, state, and local requirements and processes discussed in Section 4.7: Hazardous Materials. Remediation activities will include a variety of activities, ranging from subsurface excavation and removal of impacted soils, to containment and removal of regulated building materials such as asbestos, to ongoing soil and groundwater management programs to assure the protection of human health and the environment. The area would be graded and drainage corrected**.** Approximately 1 acre on the Gateway development area would be filled as required for construction of the Port's New Berth 21 (see discussion in Section 3.6.4, below).

Transportation Improvements

Realignment and Extension of Maritime Street. To accommodate the Port's reuse of OARB, existing Maritime Street (above 7th Street) would be realigned 400 to 600 feet to the east. In order to accommodate this realignment, Maritime Street would also be extended along the Gateway development area/Port development area boundary to connect with West Grand Avenue at the current Wake Avenue intersection in a loop configuration. The City may reserve some land within the Gateway development area for right-of-way to allow construction and connection of the Maritime Street extension to West Grand Avenue.

Access Roadway. An access roadway would be constructed from realigned Maritime Street through the center of the Gateway development area to the Gateway peninsula. For a portion of its alignment, this roadway would constitute improvements to existing Burma Road.

Trails. As partial mitigation for impacts resulting from its construction of the relocated I-880 Freeway, Caltrans has committed to fund a bicycle/pedestrian spur trail from the vicinity of the

[17] Wharf 7 and the majority of Wharf 6½ would remain and be reused.

MacArthur maze (Bay Bridge Distribution Structure) along Burma Road to the Gateway peninsula. Redevelopment would be designed in a manner that would not preclude Caltrans from fulfilling its commitment. In addition, redevelopment would include a Class I spine trail within the right-of-way of the new access road, connecting Maritime Street to the new spur trail in Burma Road.

Utility Improvements

Storm Drainage. The OARB storm drain system in the Gateway development area is in substantial disrepair due to age and settlement. Certain areas are subject to insufficient drainage and contamination from storm event and dry season flows. Storm drain upgrades would include replacement and/or rehabilitation of the existing system, and installing a network of new storm drainpipes. In addition, manholes, inlets and outfall structures with backflow gates would be replaced or repaired (EarthTech 2000).

Sanitary Sewer. It is anticipated that redevelopment of the Gateway development area would require installation of new sewer infrastructure, including pipes, manholes, lift stations and controls, and similar facilities. The existing EBMUD sewer outfall that passes through the Gateway development area would be retained.

Water. Build-out of the Gateway development area would require construction of a new looped water line system, including new fire hydrants and valves. Additionally, as part of its East Bayshore Recycled Water Project, EBMUD intends to supply the Gateway development area with high-quality reclaimed water for irrigation and possibly for industrial processes and commercial applications, as appropriate. The impacts of the construction of the reclaimed water system and use of reclaimed water were analyzed by EBMUD and are disclosed in the certified project EIR (EBMUD 2001).

Electrical. Overhead and underground electrical distribution systems exist throughout the OARB. Existing OARB electrical facilities, however, are insufficient to serve future development within the Gateway development area. Electrical upgrades include demolishing the existing system; installing a new underground duct bank from the Port's 115 kV/12 kV (kilovolt) Davis substation at Maritime and 7th streets to existing and new switchgear; replacing and upgrading the area main switchgear; installing a new underground duct bank for the Hetch Hetchy/Treasure Island 12 kV feeder; installing new underground electrical utility infrastructure; and installing new 12 kV pad-mounded switchgear, as necessary (EarthTech 2000).

Natural Gas. A new natural gas system would be installed from the existing Pacific Gas & Electric (PG&E) transmission line located on the south side of the Bay Bridge toll plaza.

Telecommunications. The telecommunication system presently serving the Gateway development area is insufficient to support planned future development. New infrastructure would be required to upgrade the system's capabilities, including installation of new distribution

cables, feeder cables, switches, and connections to building mainframes. Existing fiber optics feeding San Francisco must also be preserved.

Relocation of Utilities. As a result of the realignment of Maritime Street (see Section 3.6.3), major infrastructure located in the right-of-way of that portion of Maritime Street would be relocated, including 6-inch and 4-inch PG&E gas mains, overhead electric distribution lines, EBMUD water lines, and City storm and sanitary sewer lines. It is anticipated that these utilities would be relocated when Maritime Street is realigned.

Build-Out Projections

The Gateway development area would be redeveloped by the ORA to provide an attractive entry to the City of Oakland, create significant new employment opportunities, and bring new industry and business to the area.

Proposed land uses and development intensities for the Gateway development area are based on the "Flexible Alternative" land use plan developed during preparation of the Reuse Plan. As its name implies, this land use program is intended to provide the flexibility to balance economic and community interests for the Gateway development area over time. The focus of development within the Gateway development area would include light industrial, research and development (R&D), and flex-office space uses, with business-serving retail space.[18] In addition, some warehousing and distribution facilities and ancillary maritime support facilities would be located in this area. The Gateway development area also includes commitments for public benefit uses (*i.e.,* a park, job training, and possibly homeless assistance programs). No housing is proposed within the Gateway development area. Actual development within the Gateway development area may vary over time.

Economic Development. Within the Gateway development area, approximately 165 acres may be available for economic development opportunities, including certain lands owned by the Port and Caltrans outside of the OARB but within the Gateway development area. According to the Reuse Plan, the maximum anticipated development potential for this area is approximately 2,347,000 square feet of new "flex" uses, including light industrial, office, R&D, ancillary (and possibly regional) retail, and warehouse/distribution. Based on gross land availability (including land needed for future roadways, pedestrian circulation, utility easements, etc.), overall development intensity for this area would be a floor-to-area ratio (FAR) of 0.35. (See Table 3-1.)

Park. The EBRPD has requested 15 acres of land from the Army located immediately south of the Gateway peninsula for use as a public park. This park would be visible to eastbound travelers on the Bay Bridge and would serve as the gateway to the City of Oakland. It is currently referred to as the "Gateway Park." The park would be accessible from Bay Trail spurs

[18] Depending on market conditions, the City may elect to include high-end retail, regional-serving retail, and/or a hotel. These uses are analyzed in *Chapter 7: Alternatives to the Proposed Redevelopment Program*.

constructed as part of both redevelopment and other activities[19] connecting to the waterfront, the Bay Bridge, Maritime Street, and Shellmound Street (the latter in Emeryville). Additionally, EBRPD is exploring the opportunity to acquire several additional non-OARB properties (including 4 and possibly more acres in the immediate vicinity) that may be available for expansion of this park.

A waterfront strip classified Urban Park & Open Space encompassing approximately 10 acres would access, then parallel, the shoreline in the Gateway development area. In combination with the park, this open space would provide maximum feasible public access consistent with redevelopment of the project area.

Community/Civic. The JATC has requested 3 acres of OARB land for a job-training facility. This organization provides job training in the building trades.

Additionally, although the preferred alternative is to locate the Homeless Assistance Accommodation program run by the Homeless Collaborative outside of the project area, this EIR examines alternatives that locate some or all of the program in the Gateway development area (Chapter 7: Alternatives to the Proposed Redevelopment Program).

Ancillary Maritime Support. Approximately 15 acres of the Gateway development area would be dedicated to truck parking, cargo storage, or other ancillary maritime support uses. Such uses would be located in the northwest portion of the Gateway development area, generally at a site known as the Baldwin Yard, north of West Grand Avenue and adjacent to I-80.

3.6.3 OARB Sub-District: Port Development Area Redevelopment Activities

Demolition, Site Preparation, and Remediation

The Port development area would be cleared for new construction. All existing structures would be demolished or de-constructed, and existing paving and concrete would be removed. Surface and subsurface contaminants would be removed or remediated as appropriate to comply with applicable federal, state, and local requirements and processes described in Section 4.7: Hazardous Materials. Implementation of the remediation program will commence following Base conveyance, and be integrated, as feasible, with the Port's planned infrastructure improvements and redevelopment activities. Additionally, the area would be graded and drainage would be corrected.

Transportation Improvements

Realignment and Extension of Maritime Street. To accommodate 2020 cargo throughput commitment of the Port, and operational characteristics of proposed rail facilities at the New

[19] See Section 4.10: Recreation and Public Access, for a discussion of Caltrans' requirements to construct Bay Trail and other public access amenities resulting from BCDC permit conditions for the I-880 (Cypress Structure) Replacement and Bay Bridge Replacement projects.

Intermodal Facility, existing Maritime Street (above 7th Street) would be realigned 400 to 600 feet to the east. In order to accommodate this realignment, Maritime Street would also be extended along the Gateway development area/Port development area boundary to connect with West Grand Avenue in a loop configuration. A portion of the loop would be located on the Gateway development area. Realignment would require consolidation and reconfiguration of the existing intersections of Maritime Street and of Maritime Street West with 7th Street. The reconfigured intersection would be an at-grade four-way intersection. This would require realignment of a portion of Maritime Street below 7th Street.

Trails. Design of realigned Maritime Street would include a Class I spine trail that would connect to the existing Bay Trail spur along 7th Street, to the proposed spine along the Gateway development area access road (see above), and to West Grand Avenue. This Bay Trail spine would traverse a portion of the Maritime sub-district, as well as the Port development area of the OARB sub-district.

Utility Improvements

Storm Drainage. The OARB storm drain system in the Port development area is in substantial disrepair. Certain areas are subject to insufficient drainage and contamination from storm event and dry season flows. Storm drain upgrades would include replacement and/or rehabilitation of the existing system, and installing a network of new storm drainpipes. In addition, manholes, inlets and outfall structures with backflow gates would be replaced or repaired. Most runoff from the Port development area would be collected by the newly constructed storm drain system and would be conveyed to the Port's existing main pipelines (Port of Oakland 2002).

Sanitary Sewer. It is anticipated that redevelopment of the Port development area would require installation of new sewer infrastructure, including pipes, manholes, lift stations and controls, and similar facilities.

Water. Build-out of the Port development area would require construction of a new looped water line system, including new fire hydrants and valves. Additionally, as part of its East Bayshore Recycled Water Project, EBMUD intends to supply the Port development area with high-quality reclaimed water for irrigation and possibly other uses, as appropriate. The impacts of the construction of the reclaimed water system and use of reclaimed water were analyzed by EBMUD and are disclosed in the certified project EIR (EBMUD 2001).

Electrical. Overhead and underground electrical distribution systems exist throughout the OARB. Existing OARB electrical facilities, however, are insufficient to serve future development within the Port development area. Electrical upgrades may include demolishing the existing system; installing a new underground duct bank from the Port's Davis substation at Maritime and 7th streets to new substations and switchgear; installing a new underground duct bank for the Hetch Hetchy/Treasure Island feeder; installing new underground electrical utility infrastructure; and providing necessary back-up power sources (Port of Oakland 2002).

Natural Gas. A new natural gas system would be installed from the existing Pacific Gas & Electric (PG&E) transmission line located on the south side of the Bay Bridge toll plaza. New PG&E natural gas main and distribution pipelines would be installed in realigned Maritime Street and would extend to Port facilities (Port of Oakland 2002).

Telecommunications. The telecommunication system presently serving the Port development area may be sufficient to support planned future development, but would require relocation. Existing fiber optics feeding San Francisco would be preserved.

Relocation of Utilities. As a result of the realignment of Maritime Street, major infrastructure located in the right-of-way of Maritime Street would be relocated, including 6-inch and 4-inch PG&E gas mains, 12.47 kV overhead electric distribution lines, EBMUD water mains, and storm and sewer pipelines. These utilities would be relocated when Maritime Street is realigned.

Build-Out Projections

Relocation of Railyard Functions. The Port intends to improve efficiencies and geometrics of its existing Joint Intermodal Terminal (JIT) rail facility, where cargo is transferred to and from trains, by relocating the functions of that facility to the eastern portion of the OARB (including the former Knight railyard) and portions of the Maritime sub-district immediately west of the Union Pacific (UP) Desert railyard, which is located immediately west of I-880. This facility is referred to as the New Intermodal Facility. Relocation and enhancement of the JIT's functions would result in longer, straighter track design, using land more efficiently than the existing JIT and would be located adjacent and parallel to existing Union Pacific (UP) rail facilities. Remediation associated with rail relocation is anticipated to occur in tandem with such relocation. In addition, the New Intermodal Facility would allow for more efficient maritime use of property closer to the marine terminals. Finally, the facility is expected to increase rail efficiencies, allowing the Port to reach the Seaport Plan's 2020 cargo throughput goals by maximizing transport by trains, rather than by truck.

The New Intermodal Facility would consist of paved and unpaved ballasted surface areas, rails and support infrastructure. Other related modifications to tail and support tracks would be required south of 7th Street for optimal operation of the New Intermodal Facility.

Existing railroad tracks crossing over 7th Street located between Maritime Street and I-880 would be reconstructed to accommodate additional railroad tracks, and vehicular traffic parallel to the tracks. In addition, existing 7th Street would be widened beneath the overcrossing railroad tracks.

Temporary Ancillary Maritime Support. With realignment of Maritime Street, a strip of land of approximately 44 acres would be located between the New Intermodal Facility and existing Port Outer Harbor terminals. These lands are expected to be used in the interim for ancillary maritime support (AMS) operations such as container storage, truck parking, warehousing, and

offices. Ultimately, this land is expected to be incorporated into one or more realigned and expanded Port marine terminals.

3.6.4 Maritime Sub-District Redevelopment Activities

Demolition, Site Preparation, and Remediation

Maritime sub-district activities related to OARB reuse would require demolition or de-construction of two railroad structures, demolition of marginal wharves in the Outer Harbor, and removal of existing paved surfaces. Surface and subsurface contaminants would be removed or remediated as appropriate to comply with applicable federal, state, and local requirements and processes described in Section 4.7: Hazardous Materials. The area would be graded and drainage corrected. Approximately 3 acres would be excavated and dredged to a depth of –50 feet mean lower low water (MLLW), removing about 250,000 cubic yards (CY) of material to create new Bay surface. Approximately 2 million CY of fill would be deposited in the Outer Harbor (currently at –42 feet MLLW) to create about 29 acres of new land, or "fastland."

Transportation Improvements

Realignment and Extension of Maritime Street. A portion of the improvements to Maritime Street discussed above are within the Maritime sub-district. Specifically, a portion of Maritime Street below 7th Street would be realigned to create a single, four-way intersection.

Build-Out Projections

The Maritime sub-district encompasses existing and planned maritime, rail, and park facilities on Port of Oakland property, plus miscellaneous right-of-way and other parcels not under Port control. The Port development area (including submerged lands) will provide the Port with approximately 240 additional acres. This would allow improvements in operations that are expected to result in significant efficiencies in the movement of cargo. Consolidation and realignment of areas not currently configured at peak geometry, plus modernizing improvements, would allow the Port to meet its share of cargo throughput as described in the Seaport Plan (BCDC and MTC 1982, as amended through 2001). Specifically, the Port has estimated it would achieve 24.5 million annual metric tons of container cargo throughput by the year 2020. This estimate served in part as the basis of an amendment to the Seaport Plan. Proposed components of Port development, primarily in the Maritime sub-district, are generally described below.

Expansion/Realignment of Maritime Facilities. The trend in terminal operations is to create operational efficiencies through expansion of storage, or "yard" areas in marine cargo terminals. This requires larger, fewer terminals, and consolidation of land areas. Another recent trend in shipping and terminal operations is the proliferation of "strategic alliances," whereby previously highly competitive shippers have aligned with one another, exchanging equipment and sharing ship space to increase efficiencies. Usually, alliances are created between firms located on adjacent marine terminals. This physical proximity facilitates equipment and ship sharing. In

order to further assist these alliances, better alignment of adjacent wharf faces between terminals and flexibility in adjusting lease lines, fence lines, etc. is required. On an ongoing basis, the Port intends to consolidate and realign terminals to increase efficiencies and support alliances. Because all Port terminals have tenants, this action is accomplished as opportunities present themselves. Information regarding such consolidation and realignment is, therefore, conceptual, and subject to change. The Port does, however, intend to implement this policy until terminals are configured to tenants' preferences.

Partly using land freed from rail use by the relocation of the functions of the existing JIT, the Port anticipates realignment of virtually all of its existing container terminal areas and expansion of Berths 55-59. Through the realignment process, operational elements of adjacent terminals are located to facilitate common use of ships, cargo handling equipment, etc. between terminals. Such a shared arrangement can increase throughput for adjacent terminal operators, and shippers delivering to more than one terminal in a single port. Realignment generally results in fewer, larger terminals with greater upland area for more efficient cargo storage and transfer. Terminal realignment and expansion would improve the efficiency of maritime operations and provide capacity for cargo throughput expected in the Bay and Seaport plans. Information regarding Port terminal realignment and expansion is evolving, and this EIR analyzes impacts to the extent information is available regarding ultimate throughput as described in the City and Port of Oakland's application to BCDC for a Seaport Plan amendment (City and Port of Oakland 2000).

New Berth 21. The Port proposes to replace existing Outer Harbor Berths 21, 20, 10, 9, and 8 with a "New Berth 21." To achieve an efficient terminal and berth geometry, reconfiguration of a portion of the Outer Harbor shoreline, including both excavation and fill, would be necessary. Approximately 3 acres of new Bay surface would be created by excavation, and 29 acres of new land (fastland) would be created by fill (in part from the nearby excavation). These net 26 acres[20] of fill are the minimum necessary to achieve efficiencies required to meet the 2020 cargo throughput projections as presented in the amended Seaport Plan (MTC and BCDC 1996, as amended through 2001). By maximizing cargo throughput using former OARB lands, the Port will eliminate the need for the previously planned Army and Bay Bridge marine terminals. The elimination of these two facilities eliminates the need for 127 acres of Bay fill previously included in the Seaport Plan.

Ancillary Maritime Support. The Port proposes to develop a Maritime Support Center (MSC) for centralized AMS operations on 75 acres located in the vicinity of the existing JIT. The MSC would house activities that directly facilitate the Port's container operations, such as container

[20] Portions of areas slated for excavation and fill are located beneath marginal wharves along the shoreline of the Oakland Outer Harbor, a situation termed "covered fill." This covered fill would include approximately 1 acre within the Gateway development area. The acreages of excavation and fill in this description do not take into account covered fill, and are for the gross area of excavation and of fill. More precise quantities of cut and fill, including extent of covered fill, would be developed prior to submittal of applications for fill to the BCDC, RWQCB and Corps.

freight stations, truck parking, container/chassis repair, storage, trans-loading, related cargo handling and distribution operations, and Port harbor maintenance functions.

In addition, the Port and the City agreed in their application for Seaport and Bay Plan amendments that the Port would provide an additional 15 acres of land near the Port area designating AMS uses involving trucking (City and Port of Oakland 2001). In 2001 BCDC amended the Bay and Seaport plans by Port Priority Use to approximately 11 acres of land in the I-880 right-of-way under the elevated portion of the freeway, and approximately 10 acres of land between the I-880 right-of-way and Wood Street, so that the Port could negotiate use of these areas for AMS uses (BCDC 2001). Subsequently, the City has considered non-Port Priority uses for land below West Grand Avenue between Wood Street and I-880. If, after further property negotiations and redevelopment planning, the Port and the City identify alternative site(s) for Port AMS uses, the Port and the City will seek a further Seaport Plan amendment to designate a new Port Priority Use acreage and delete Port Priority Use from these identified properties.

3.6.5 16th/Wood Sub-District Redevelopment Activities

Development of this sub-district as proposed would require removal of Port Priority Use designation in portions of this area. Removal of that designation would require amendment of the Bay and Seaport plans.

Demolition, Site Preparation, and Remediation

Redevelopment of the 16th/Wood sub-district may involve demolition of certain buildings, although the historic SPRR (Amtrak) Station is not expected to undergo demolition. Surface and subsurface contaminants would be removed or remediated as necessary to meet applicable legal requirements. The area would be graded and drainage would be corrected.

Build-Out Projections

The 16th/Wood sub-district encompasses approximately 41 acres. It includes several sites that have the potential for redevelopment opportunities, including the 23-acre SPRR (Amtrak) station site and the 5-acre former Phoenix Ironworks site.

Central Station. According to pre-application discussions with City staff, a developer has presented a preliminary development concept, called "Central Station," that would include approximately 375 units of live/work space and approximately 1.4 million square feet of commercial, office, R&D, and retail space (inclusive of the live/work units). This concept plan includes restoration and reuse of the historic SPRR (Amtrak) station to include a community event space and creation of a 1-acre park. This is a preliminary development concept that would be generally analyzed in this EIR, and the concept plan may be altered or refined if subsequent, specific project applications for this site are received by the City.

Other Development. Other development and redevelopment plans within the remainder of the 16th/Wood sub-district are not known. Some parcels are currently for sale, but no pre-applications or applications are pending at the City. The EIR analysis assumes for purposes of cumulative impact analysis, build-out of 305,000 square feet of light industrial uses on the remaining parcels, which is consistent with the existing Business Mix land use classification identified in the General Plan.

3.7 OPERATIONAL CHARACTERISTICS AND ACTIVITIES

This section describes the characteristics and reasonably anticipated activities of project area operation that could result in impacts to the environment.

3.7.1 Light Industrial

Light industrial uses are proposed for the OARB sub-district Gateway development area and the 16th/Wood sub-district. Light industrial development includes a wide variety of land uses related to fabrication, processing, assembly, and non-smokestack manufacturing. These uses generally require 10 contiguous developable acres or more and good access to interstate freeway or other interstate transportation systems. Buildings are generally one to two stories. Utility system reliability is critical, and utility demand may be moderate to high. Light industrial uses generate a moderate amount of traffic, including truck traffic. Some light industrial uses may include processes that generate air or water pollutants. Some warehousing or storage of product may occur at the site. Hazardous materials may be transported to, stored, or used at light industrial sites.

3.7.2 Office and Research and Development

Office or R&D is proposed for the OARB sub-district Gateway development area and the 16th/Wood sub-district. Office development supports business, professional services, civic administration, medical, as well as non-hazardous laboratory and non-assembly, non-hazardous R&D uses. These uses generally require 25 contiguous acres or more to accommodate a multi-story building and surface parking and excellent telecommunications facilities. Office development should be located within 60 miles of a medium- to major-sized airport. Excellent transit connections are preferred. Office uses generate a high volume of employee vehicle traffic in peak commute hours. Minor amounts of routine hazardous materials (cleaning fluids, lubricants, etc.) may be transported to, stored, or used at office sites.

R&D development includes data processing, laser technology, communications, medical or biotechnology laboratories. In addition, R&D includes research, testing, design, development, and training for technology-focused industries such as aerospace, telecommunications, vehicles, satellites, medical, computers, electronics, and robotics. Assembly may occur on site as well. These uses generally require 5 contiguous acres or more, good access to similar facilities or a university (for access to workforce and to enhance technology transfer), and

technical equipment support services. Buildings are generally low profile, but may be multi-story. R&D uses generate a moderate amount of traffic, most related to employees. Some warehousing or storage of product may occur at the site. Hazardous materials may be transported to, stored, or used at R&D sites.

3.7.3 Retail

Ancillary retail is proposed for the OARB sub-district Gateway development area and the 16th/Wood sub-district. This type of retail would support other uses at the site: restaurants for area workers, copy shops, etc. Ancillary retail requires 1,000 to 5,000 square feet, adjacent off-street parking, and access to a critical mass of customer base. Minor amounts of routine hazardous materials (cleaning fluids, lubricants, etc.) may be transported to, stored, or used at retail sites.

The OARB sub-district Gateway development area may optionally include mid-sized, high-end retail. Such a use would be intended to attract shoppers to the site. Mid-sized retail generally requires 15 to 20 acres per store (including non-integrated parking), visibility from nearby major transportation facilities, and outstanding automobile access for a critical mass of customers. Buildings are two to five stories, and parking may be surface, or located in multi-story garages adjacent to or integrated with the main structure. Regional retail generates substantial traffic: employee and customer automobiles, delivery trucks, and trash haulers. Minor amounts of routine hazardous materials (cleaning fluids, lubricants, etc.) may be transported to, stored, or used at retail sites.

3.7.4 Warehouse/Distribution

Warehouse/distribution is proposed for the OARB sub-district. Warehouse/distribution development includes the short-term storage and transport of cargo. In the OARB sub-district, this use is currently envisioned to be located above West Grand Avenue, on a parcel known as the Subaru site. Warehouse/distribution centers are typically 250,000 or more square feet, require 20 contiguous acres or more, and must have outstanding access to the interstate freeway system. Access to additional interstate transportation systems is highly desirable. Preferred nearby support services include trucking companies, mechanics, and janitorial services. In order to achieve required internal clearances, buildings are at least 30 feet in height. Warehouse/distribution facilities usually operate 24 hours per day and generate noise and air emissions from transport trucks, ground equipment, and possibly trains. Traffic generation is moderate; a high proportion is mid-sized and large trucks. Minor amounts of routine hazardous materials (cleaning fluids, lubricants, etc.) may be transported to, stored, or used at warehouse sites.

3.7.5 Community/Civic

Community/civic use is proposed at the Gateway development area of the OARB sub-district. A specific use slated for this area is the JATC job training facility. This facility is expected to have the physical characteristics of, and operate much like, a light industrial land use. It may generate minor amounts of employee and trainee automobile traffic, as well as minor amounts of truck traffic. Job training would occur during regular business hours and could generate noise similar to a construction site. Minor amounts of routine construction hazardous materials (cleaning fluids, lubricants, fuels, paints, hydraulic fluids etc.) may be transported to, stored, and/or used at community/civic use sites.

In addition to the JATC facility, this analysis assumes the job/business training and food bank elements of the Homeless Collaborative program would occur in the Gateway development area. The training component would have the characteristics of light industrial, and the food bank would have the characteristics of warehouse/distribution land uses.

Community/civic use is also proposed for the 16th/Wood sub-district. Specifically, reuse of a portion of the historic SPRR (Amtrak) station is proposed as an event center. Exact details of the types of activities planned and the capacity of the facility are not yet stable and finite; but this document assumes the center would not generate substantial traffic in the peak hour, but would generate event-specific modest amounts of automobile traffic on a periodic basis.

3.7.6 Parks and Public Access

Interpretive/passive recreation park uses are proposed for the Gateway peninsula area of the OARB sub-district Gateway development area, along the Gateway development area shoreline, and a minor amount of urban park is proposed in the 16th/Wood sub-district. Parks require regular maintenance (trash removal, landscape upkeep, etc.). Depending on their size, parks generally generate very minor to minor amounts of routine, non-commute hour traffic. Parks that have event facilities may generate sporadic substantial temporary event-related vehicular traffic.

Waterfront development, including parks, requires non-vehicular public Bay access for pedestrians and bicyclists. Such public access generates essentially no vehicular traffic. Activities include landscape and trail maintenance.

3.7.7 Maritime

Maritime use is proposed for the OARB sub-district Port development area as well as the Maritime sub-district. Maritime development is fundamentally industrial; it is the movement of cargo between water-dependent transportation and another mode of transportation (*e.g.*, ship to truck, train to ship, etc.).[21] A marine terminal comprises a berth (the water area where ships

[21] Almost all cargo that passes through the Port of Oakland is containerized. The amount of cargo, or "throughput," is described as either metric tons, or—for containerized cargo—as a normalizing unit termed a twenty-foot equivalent unit (TEU). On average, one container of cargo is equal to 1.75 TEUs.

anchor), a wharf where cargo is transferred, a yard where cargo is stored, and a gate, where trucks enter and exit the terminal. A marine terminal requires contiguous waterfront land with direct access to the water, outstanding access to interstate roadways, and preferably, outstanding access to interstate rail facilities. A two-story administration building and several miscellaneous one-story buildings (*e.g.*, repair shop, storage, etc.) are typical; large waterfront cargo cranes and a variety of yard equipment are essential to terminal operation. Marine terminal operations related to ships may occur at any time; off terminal truck activities occur Monday through Friday 8 a.m. to 4:30 p.m. Operations can generate moderate amounts of employee vehicle trips and substantial truck traffic; because terminals operate on the basis of the shipping schedule, marine terminal traffic peaks may or may not correspond with other traffic peaks. Operations generate air emissions related to ships, trucks, yard equipment, and maintenance dredging; they also generate noise primarily related to transport trucks. During operations, some container ships maintain stability by up-loading ballast water into internal tanks, and as necessary, shifting ballast water internally and/or off-loading it. In this manner, aquatic organisms from one part of the world may be introduced to another, although ocean exchange of ballast water is required for ships that discharge ballast water at the Port of Oakland. Minor amounts of routine hazardous materials (cleaning fluids, lubricants, etc.) may be transported to, stored, or used at maritime use sites.

3.7.8 Ancillary Maritime Support

AMS uses are proposed for the OARB and Maritime sub-districts. Such uses may include a variety of port-related transportation-supporting facilities, including and not limited to: truck parking; container freight stations (packing and unpacking containers); container depots (container repair, cleaning, and temporary storage);U.S. Customs inspections; and agricultural inspection facilities. The facilities would attract moderate traffic, primarily truck. Since traffic would be dependent on ship activity, marine terminal traffic peaks may or may not correspond with other traffic peaks. Minor amounts of routine hazardous materials (cleaning fluids, lubricants, etc.) may be transported to, stored, or used at ancillary maritime support facilities.

3.7.9 Rail

Rail use is proposed for the Port development area of the OARB sub-district. Rail development is fundamentally industrial, and is the movement of cargo between rail-dependent transportation and another mode (*e.g.*, rail to truck, ship to train, etc.). A rail terminal comprises tracks, a yard where cargo is stored, and a gate, where trucks enter and exit the terminal. An intermodal rail yard handles mainly containerized freight. A rail terminal requires at least 75 acres of contiguous land with access to interstate roadways, and access to other modes, such as ships. A two-story administration building and several miscellaneous one-story buildings (*e.g.*, repair shop, storage, etc.) are typical; and a variety of yard equipment is essential to terminal operation. Rail terminals may operate 24 hours per day, seven days per week. Operations can generate moderate amounts of employee vehicle trips and substantial truck traffic; because terminals operate on the basis of the rail and shipping schedules, rail terminal traffic peaks may

or may not correspond with other traffic peaks. It should be noted that the truck trips generated by intermodal rail facilities occur predominantly on Port property, because these truck trips transport cargo between the rail facility and maritime facilities. Operations generate air emissions related to trains, trucks, and yard equipment; they also generate noise primarily related to trains and transport trucks. Routine hazardous materials (fuel, cleaning fluids, lubricants, etc.) may be transported to, stored, or used at rail sites.

3.7.10 Live/work

Live/work, high-density residential-commercial use is proposed for a portion of the 16th/Wood sub-district. Live/work land use usually requires excellent access to the arterial roadway system. Preferred nearby land uses include subsistence shopping (food, fuel, etc.), entertainment (restaurants), and community/civic services (transit, libraries, schools, hospitals, etc.). Buildings are generally multi-story. Live/work generates noise from vehicles and outdoor human activity, and air emissions from vehicles and in the winter from interior heating. Traffic generation from commute automobiles may be substantial in the commute peak hours, although less than with traditional high-density residential use.

3.8 CONSTRUCTION CHARACTERISTICS AND ACTIVITIES

This section describes the characteristics and reasonably anticipated activities of project area construction that could result in impacts to the environment. Chapter 4: Baseline and Setting, Impacts, and Mitigation, of this EIR describes potential effects of construction,[22] as well as best management practices (BMPs) and mitigation measures that would avoid or substantially reduce impacts of construction. These practices and measures would be made conditions of project approval, or required to be made enforceable through contract specifications. Construction is expected to occur on a parcel-by-parcel basis, from 2002 through 2020.

3.8.1 Demolition/Deconstruction and Removal/Remediation

All existing OARB and some Maritime sub-district structures would be demolished or de-constructed, and their foundations would be removed. As described in greater detail in Section 4.7: Hazardous Materials, regulated building components such as asbestos, electric transformers, and lead-based paints, will be removed and disposed of pursuant to applicable federal, state and local requirements. Additionally, surface and subsurface environmental conditions will be remediated in accordance with applicable federal, state and local requirements.

[22] Throughout Chapter 4: Baseline and Setting, Impacts, and Mitigation, "construction" includes demolition/deconstruction, removal/remediation, grading, excavating and fill activities, as well as infrastructure building and facility construction.

Assuming all OARB structures are removed, approximately 3.7 million square feet of existing structures would be demolished or de-constructed. The Army has identified some of these structures as contributing to the Oakland Army Base Historic District See Section 4.6: Cultural Resources.

3.8.2 Grading, Excavation, and Fill

In order to correct drainage, reduce the risk from flood or tsunami, and create sites geometrically suitable for development, site grading and land surface fill would be required. In addition, in order to develop a logical geometry for New Berth 21 in the Port development area of the OARB sub-district and a small portion of the Gateway development area, the shoreline would be reconfigured by filling 29 acres currently at a depth of –42 MLLW with approximately 2 million CY of material to create fastland, and excavating 3 acres to a depth of –50 feet MLLW to create open water (a net fill of 26 acres). While the excavated material would likely be one source of approximately 250,000 CY of the required fill, the source of the remaining approximately 1.8 million CY of the fill is not currently identified. This analysis assumes that material is imported from a location in the East Bay. It is estimated that approximately 90 percent of the fill material would arrive by barge, probably from maintenance dredging or from the Bay Bridge reconstruction project, and that 10 percent would arrive by truck.

3.8.3 Infrastructure and Utilities

Infrastructure and utilities include realignment of Maritime Street and utilities located within its right-of-way. Other roadway improvements and distribution utilities would be constructed as the need arises.

3.8.4 Construction Scenario

Construction methods are expected to be industry standard, and importation of specialized personnel from outside the region is not anticipated.

Because construction could occur over as much as 18 years, it is not practically possible to know how many personnel would be required or pieces of construction equipment would operate at any one time. It is, however, possible to broadly state that a combination of earthmovers, pile-drivers, cranes, and other heavy equipment, as well as haul and delivery trucks and personnel vehicles may be operating for months or years at a time.

This EIR includes a framework of BMPs and control measures for avoiding or mitigating reasonably anticipated construction impacts. These BMPs and controls focus on noise, air quality, traffic/parking, and water quality impacts; they rely in large part on policies and standards of the relevant resource and regulatory agencies. Construction BMPs and control measures are described as mitigation measures in Chapter 4: Setting and Baseline, Impacts, and Mitigation.

3.9 APPROVALS, PERMITS, AND CONSULTATIONS

Prior to undertaking demolition/deconstruction of structures, site preparation, or construction of improvements identified in this chapter, the ORA, City and/or Port may be required to obtain permits or approvals, or to engage in consultation with jurisdictional agencies. In addition, as subsequent redevelopment activities proceed, they may require additional permits, approvals, or consultations. Table 3-4 identifies potential discretionary regulatory requirements, and identifies agencies that may rely on the contents of this EIR to inform their discretionary decision-making process. This list may be modified from time to time, and the absence of an activity or an agency from the list does not preclude its use of this EIR for purposes of granting permits or approvals, or for engaging in consultation.

Table 3-4
Permit, Approval, or Consultation Processes that May Rely on the Contents of this EIR

Agency	Permit/Approval/Consultation Regulatory Trigger
Federal	
U.S. Army Corps of Engineers (Corps)	Section 404 (Clean Water Act) Permit Bay fill
	Section 10 (Rivers and Harbors Act) Construction in Waters of the U.S.
U.S. Fish & Wildlife Service (USFWS)	Section 7 (U.S. Endangered Species Act) Consultation for effects to special status species related to federally-permitted (Corps) action
National Marine Fisheries Service (NMFS)	Section 7 (U.S. Endangered Species Act) Consultation for effects to special status anadromous species related to federally-permitted (Corps) action
State/Regional	
California Department of Fish and Game (CDFG)	CEQA review Effects to state-protected species
S.F. Bay Conservation and Development Commission (BCDC)	Development permit Fill or excavation in the shoreline band Amendments to Seaport Plan Priority Port Uses
Caltrans	CEQA review Effects to State transportation systems
Regional Water Quality Control Board (RWQCB), Region 2	National Pollution Discharge Elimination System Permit (Waste Discharge Requirements [WDRs]) Effects to surface water quality from discharge of site runoff

Table 3-4
Permit, Approval, or Consultation Processes that May Rely on the Contents of this EIR

Agency	Permit/Approval/Consultation Regulatory Trigger
	General Permit
	Construction on site of 3 or more acres
	Clean Water Act 401 Certification for any Clean Water Act 404 permit
State Lands Commission (SLC)	Tidelands Trust Agreement
	Approve exchange of Tidelands Trust to place Trust on an area east of Maritime Street and remove Trust from area west of Maritime Street
California Department of Toxic Substances Control (DTSC)	Approve Remedial Action Plan (RAP) and accompanying Risk Management Plan (RMP), Consent Agreement, FOSET, oversee post-compliance remediation program
East Bay Regional Park District (EBRPD)	Accept property from Army
	Approve subsequent redevelopment activities
Bay Area Air Quality Management District (BAAQMD)	Grant demolition permits, stationary source permits
	Local
Oakland Base Reuse Authority (OBRA)	Adopt final Reuse Plan
	Continue Interim Leasing Program
	Approve acceptance of property from Army (including execution of necessary agreements)
	Obtain property from Reserves (including execution of necessary agreements)
	Approve transfer of property to ORA/City
	Approve a Finding of Suitability for Early Transfer, or FOSET (including execution of necessary agreements such as Consent Agreement and Environmental Services Cooperative Agreement)
	Secure environmental insurance for remediation program implementation
	Approve and execute Tidelands Trust Agreement for exchange of Trust between properties

Table 3-4
Permit, Approval, or Consultation Processes that May Rely on the Contents of this EIR

Agency	Permit/Approval/Consultation Regulatory Trigger
City of Oakland (City)	Amend Redevelopment Plan
	Amend General Plan
	Re-zone
	Approve amendment of Port area boundary
	Approve infrastructure improvements
	Issue demolition permits
	Issue miscellaneous land use approvals
Oakland Redevelopment Agency (ORA)	Amend Redevelopment Plan
	Approve acceptance of the OARB property from OBRA
	(including execution of necessary agreements)
	Approve transfer of property to the Port
	Approve infrastructure improvements
	Approve and execute Disposition and Development Agreement with Master Developer for the Gateway development area and/or 16th/Wood sub-district
	Implement redevelopment construction activities, including but not limited to infrastructure and remediation activities
	Approve subsequent redevelopment activities
Port of Oakland (Port)	Recommend amendment of Port area boundary
	Approve acceptance of property from OBRA (including execution of related agreements)
	Approve and execute Tidelands Trust Agreement for exchange of Trust between properties
	Waive reversionary rights to Gateway development area property
	Obtain property from the Reserves
	Approve infrastructure improvements
	Approve demolition permits
	Approve subsequent redevelopment activities

~ ~ ~
~

4. SETTING AND BASELINE, IMPACTS, AND MITIGATION

This chapter is organized into sections by environmental factor; 15 factors in total are evaluated. Each section first provides a brief summary then describes the study area analyzed as well as the regulatory setting applicable to that environmental factor. Each section then examines the regional and local environmental setting as well as the alternative baseline, if relevant. Finally, each section describes the impact analysis methodology, discloses specific impacts that would result from redevelopment as described in Chapter 3: Description, and recommends mitigation measures to mitigate significant impacts.

Normally, the "baseline," the physical context in which a lead agency determines environmental impacts of a proposed action, and the environmental setting are the same, and comprise those conditions existing at the time a lead agency issues a Notice of Preparation (NOP). Under specific conditions, a lead agency may select an alternative baseline to the setting.[1] When a lead agency is determining environmental impacts of implementing a reuse plan for a military base, the California Environmental Quality Act (CEQA, § 21083.8.1) allows the agency to make this determination in the context of the physical conditions that existed at the time the federal decision to close the base became final. Use of an alternative baseline allows a lead agency to determine impacts of reuse relative to activity levels of an operational—rather than a closed—military facility. CEQA does not allow use of an alternative baseline where it would limit the scope of review of impacts related to hazardous or toxic materials or wastes. Moreover, a lead agency that opts to use an alternative baseline is not specifically required by CEQA to use that baseline in determining impacts for all environmental factors under investigation.

Alternative Baseline

In this case, the NOP was issued in August 2001, which is the date of the environmental setting; Congress finalized the decision to close the Oakland Army Base (OARB) in September 1995, which is the date of the alternative baseline. It should be understood the alternative baseline applies only to the OARB sub-district, not the entire redevelopment project area, and only to the following topics:

- ***Traffic***—based on probable traffic trip generation by OARB in 1995 on a circulation system that includes the reconstructed Cypress Freeway (the Cypress Freeway was not completed until 1998);

- ***Air Quality***—based on available 1994 measurements for stationary source emissions and 1995 baseline traffic for mobile source emissions;

[1] These conditions require the lead agency to notify responsible and trustee agencies of its intention to consider an alternative baseline, to hold a public hearing on the matter, to state how the alternative baseline will be integrated into the reuse planning and environmental review processes, and to present in writing the reasons for its decision. The City has complied with these conditions, and evidence of such compliance is included in Appendix 1.

- ***Water Consumption***—based on actual OARB 1995 usage;
- ***Energy Consumption***—based on measured OARB 1995 demand;
- ***Noise***—based on estimates of noise-generating uses and activities occurring at OARB in 1995;
- ***Population and Employment***—based on total military and civilian personnel employment in 1995; and
- ***Schools***—based on the estimated number of school children living at the OARB and attending public schools in 1995.

For these environmental factors, the description of the environmental setting is followed by a description of alternative baseline conditions. For those environmental factors where an alternative baseline is used for the OARB, the baseline for analysis comprises the alternative baseline for the OARB sub-district plus the setting of the Maritime and 16th/Wood sub-districts. For all other environmental factors, the baseline for analysis is the setting at the time the NOP was issued.

Significance Criteria and Impacts

The City used criteria and thresholds to assist in making determinations of impact significance. The significance criteria used in this analysis were derived from the standard CEQA Initial Study checklist, as well as from standards adopted by regulatory and jurisdictional agencies for the purpose of environmental protection. Using these criteria in the context of the baseline, and considering available planning and scientific information, the City has made a determination of the significance of each impact using one of the three significance levels as defined below:

- ***Significant***—it can be stated with certainty that an established criterion or threshold would be clearly exceeded.
- ***Potentially significant***—an established criterion or threshold may be exceeded, but this conclusion cannot be stated conclusively.
- ***Less than significant***—it can be stated with certainty that an established criterion or threshold would clearly not be exceeded.

Mitigation

Mitigation measures are recommended for each significant or potentially significant impact, and the significance of the mitigated, or residual, impact is described. Adverse impact would, or might remain significant after implementation of feasible mitigation—residually significant impacts—are termed “unavoidable.”

In the detailed analysis of each potentially significant or significant impact of redevelopment, a brief mitigation statement is provided. Following the impact analysis is a more detailed description of each mitigation measure (in those cases where additional information is useful, or where mitigation comprises a detailed program). In the detailed discussion of mitigation measures, the work "should" or "may" indicates a preference or option for action, but not a requirement. The word "shall" indicates a required element of the mitigation measure.

~ ~ ~

~

4.1 CONSISTENCY WITH PLANS AND POLICIES

Redevelopment would result in benefits to achievement of the goals and objectives of study area plans and policies. Redevelopment would also result in one less than significant and one significant impact. With implementation of a measure recommended in this section, the significant impact would be avoided.

4.1.1 Study Area

The study area for plans and policies is the approximately 1,800-acre project area.

4.1.2 Regulatory Setting

This section identifies adopted plans and their associated goals, objectives, and policies relevant to planning of the proposed redevelopment program. Laws, regulations, ordinances, and plans and their non-planning applicability (*e.g.*, the Endangered Species Act) are identified and discussed in Sections 4.2 though 4.15 of this document.

Federal

There are no relevant federal plans or policies.

State/Regional

The U.S. Environmental Protection Agency: *State Implementation Plan;* the California Air Resources Board: *Clean Air Plan;* The Bay Area Air Quality Management District, Association of Bay Area Governments, and Metropolitan Transportation Commission: *Ozone Attainment Plan*. The study area is subject to major air quality planning programs required by both the federal Clean Air Act (CAA), last amended in 1990, and the California CAA of 1988. Both federal and state statutes provide for ambient air quality standards to protect public health, timetables for progressing toward achieving and maintaining ambient standards, and development of plans to guide the air quality improvement efforts of state and local agencies. The federal plan, referred to as the *State Implementation Plan* (SIP), must contain control strategies that demonstrate attainment with national ambient air quality standards by deadlines established in the federal CAA. The state plan, called the *Clean Air Plan* (CAP), must show satisfactory progress in attaining state ambient air quality standards. Deadlines are not fixed for attaining state standards. The SIP and CAP overlap and generally contain the same emissions control measures. Both plans rely on the combined emission control programs of the U.S. Environmental Protection Agency (EPA), California Air Resources Board (CARB), and the Bay Area Air Quality Management District (BAAQMD).

Neither the SIP nor CAP contain policies or standards regulating specific development projects. Rather, regional air quality goals are achieved primarily by imposing emission standards on

individual mobile sources that operate in the Bay Area, and by imposing emissions standards or operational limits or both on stationary sources. As plans are periodically revised, emissions forecasts and underlying information on growth are updated.

The *Ozone Attainment Plan* (the "Attainment Plan") is the regional plan for attaining ambient ozone standards in the Bay Area. The 1999 Attainment Plan was adopted by it three co-lead agencies, the BAAQMD, the Metropolitan Transportation Commission (MTC), and the Association of Bay Area Governments (ABAG), and submitted to the CARB in June 1999. CARB approved the plan in July 1999 and submitted it to the EPA. In March 2001, the EPA proposed to partially approve and partially disapprove the plan. In response, the three co-lead agencies are proposing to correct deficiencies in the 1999 plan by preparing a Revised 2001 Attainment Plan, which was adopted by the three co-lead agencies in October 2001, and submitted to the CARB and EPA for incorporation to the California SIP. At the time of its adoption, the goal of the 2001 Attainment Plan was to implement measures that would reduce ozone precursors by a total of 372 tons per day across the region. The Attainment Plan relies on the implementation of measures, rather than consistency with objectives and policies, to achieve its goal. Plan measures that would be a part of the redevelopment program are discussed in Sections 4.3: Transportation, and Circulation and 4.4: Air Quality.

The California State Lands Commission. The State Lands Commission (SLC) was established in 1938, with authority detailed in Division 6 of the California Public Resources Code. The SLC manages nearly four million acres of submerged land underlying the state's navigable and tidal waterways, including San Francisco Bay. These submerged lands are termed "sovereign lands." Sovereign lands are held in Public Trust, a concept of management for the public good[1], and must be used only for public purposes such as fishing, ecological preservation, scientific study, and water-dependent commerce and navigation.

In addition, the state granted certain tidal and submerged lands in trust to cities and counties to develop harbors in furtherance of state and national commerce. These submerged or historically submerged lands are termed "granted lands." Major California ports, including the Port of Oakland within the study area, as well as a portion of the Oakland Army Base, are located on granted lands. The SLC monitors these lands to ensure compliance with the terms of the statutory grant. These grants encourage development of tidelands and historic tidelands consistent with the public trust, while requiring grantees to re-invest revenues produced from these lands back into the lands from which such revenues are generated.

[1] Historically, the Public Trust Doctrine provided that public waterways were for "commerce, navigation, and fisheries." Later court rulings added hunting, fishing, swimming, and recreational boating, and in 1971 expanded them to include "preservation of those lands in their natural state," in order to protect scenic and wildlife habitat values. A 1983 California Supreme Court ruling (National Audubon Society v. Superior Court, 33 C3rd 419) held the state has an "affirmative duty to take the public trust into account" in making decisions affecting public trust resources, and also the duty of continuing supervision over these resources that allows and may require modification of such decisions.

The San Francisco Bay Conservation and Development Commission: *San Francisco Bay Plan*. While its jurisdiction is regional—San Francisco Bay—the BCDC is a state agency that generally performs functions equivalent to those performed by the California Coastal Commission in those portions of coastal California not adjacent to the San Francisco Bay.

The McAteer-Petris Act of 1965 establishes BCDC to ". . . prepare an enforceable plan to guide the future protection and use of San Francisco Bay and its shoreline." The outcome of that legislation, *The San Francisco Bay Plan* (the "Bay Plan"), was adopted by BCDC in 1968, and has been amended several times, most recently in April 2001 (BCDC 1968). The Bay Plan guides BCDC in its protection of the Bay and in its exercise of permit authority over development adjacent to the Bay. The Act directs BCDC to carry out its regulatory process in accord with Bay Plan guidance—comprising policies and maps—regarding protection of the Bay, its sloughs, estuaries, salt ponds, tidal marshes, managed wetlands, and other natural resources, as well as development of the Bay and shoreline to its highest potential while minimizing Bay fill. The Bay Plan specifies "justifiable filling" as that which provides substantial public benefit that could not be achieved as well without filling. The Bay Plan also has the objective of ensuring that Bay fill meets geologic safety requirements.

The Bay Plan defines five special land use designations called "priority uses" that are appropriate to be located at specific limited shoreline sites. The priority use designations are ports, water-related industry, airports, wildlife refuges, and water-related recreation. Therefore, if a site is designated a priority use area in the Bay Plan, it is reserved for that use. In this manner, BCDC exerts limited land use authority in priority use areas through the Bay Plan and its regulatory program.

In addition to these priority use areas under BCDC limited land use authority, all tidal areas of San Francisco Bay are subject to the BCDC regulatory program, and BCDC reviews and issues separate permits for filling, for dredging, and for shoreline development. Shoreline development is regulated by BCDC through its jurisdiction over a continuous 100-foot-wide "shoreline band" along the edge of the entire San Francisco Bay and related waters; the shoreline band extends 100 feet inland from the line of highest tidal action. See Section 4.2: Land Use, for additional detail.

The Bay Plan makes findings and promulgates policies that focus on two main topics: preservation and enhancement of the Bay as a natural resource, and development of the Bay and its shoreline. In addition to policies, the plan includes maps that illustrate how policies and priority land use designations apply within BCDC's jurisdiction.

The Bay Plan findings concerning ports in the Bay recognize the importance of maritime commerce to the Bay Area, and the necessity of keeping pace with changes in shipping technology, particularly the growth in containerized cargo handling. The findings recognize that necessary Bay fill for new terminals must be minimized, that port development will require

coordination with other shoreline land uses, and that local government must work to protect sufficient port lands to accommodate port-related uses. Bay Plan findings state that the *San Francisco Bay Area Seaport Plan* (BCDC and MTC [1982, as amended through 2001], see below) has been developed to coordinate the planning and development of port terminals in the Bay.

The findings and policies on shoreline development focus on physical design and provide guidelines for the BCDC Design Review Board, established in 1970. The board conducts detailed design analysis of proposed projects, with special attention to public access and related water-oriented development issues.

The Bay Conservation and Development Commission and Metropolitan Transportation Commission: *San Francisco Bay Area Seaport Plan*. The *San Francisco Bay Area Seaport Plan* (the "Seaport Plan") constitutes the maritime element of the MTC's *Regional Transportation Plan*, and is incorporated into the Bay Plan, where it forms the basis of the that plan's port policies. The Seaport Plan assists MTC to make funding decisions and to manage the metropolitan transportation system; BCDC uses the Seaport Plan to help guide its regulatory decisions on permit applications, consistency determinations, and related matters. The Seaport Plan promotes the following goals:

- ensure continuation of the San Francisco Bay port system as a major world port and contributor to the economic vitality of the San Francisco Bay region;
- maintain or improve the environmental quality of San Francisco Bay and its environs;
- provide for efficient use of finite physical and fiscal resources consumed in developing and operating marine terminals through 2020;
- provide for integrated and improved surface transportation facilities between San Francisco Bay ports and terminals and other regional transportation systems; and
- reserve sufficient shoreline areas to accommodate future growth in maritime cargo, thereby minimizing the need for new Bay fill for port development.

The Seaport Plan recognizes that justifiable fill is likely to occur along the Oakland waterfront, in order to effectively implement port priority uses discussed in these plans. To achieve necessary cargo handling capabilities, capacity, and efficiency to meet 2020 cargo throughput forecasts, the Seaport Plan assumes potential net fill in the study area as follows:

Facility	Potential Net Fill (Acres)
New Berth 21	29
Berths 55-58	0 to 30
Total net fill	29 to 59

Source: BCDC and MTC 1982, as amended in 2001: Table 3

The Seaport Plan assumes this is the minimum justifiable fill to achieve throughput goals.

Although the Seaport Plan allows for up to 30 acres of fill for Berths 55-58, that project actually resulted in a net increase in Bay surface of approximately 14.5 acres. On January 29, 2001, BCDC amended the Seaport Plan in the following major respects:

- deletion of approximately 174.4 acres of land from Port Priority Use designation, so that land could be used by the City for non-port purposes;
- addition of approximately 51 acres of land to the Port Priority Use designation primarily for port ancillary uses;
- reduction of Bay fill at Oakland to delete the Bay Bridge Site fill (110 acres) and the Army Terminal fill (17 acres);
- increase of Port of Oakland throughput projections for the year 2020 through increase of container terminal acreage and decrease in the number of projected berths from 26 to 19;
- relocation of the functions of the Port's existing Joint Intermodal Terminal to OARB property;
- addition of approximately 184 acres of OARB and Army Reserve Enclave property east of Maritime Street to Port Priority Use designation; and
- fill of approximately 29 acres for New Berth 21.

Long Term Management Strategy. The Long Term Management Strategy (LTMS) program was developed in 1990. The LTMS is a multi-agency (U.S. Army Corps of Engineers [Corps], EPA Region IX, Regional Water Quality Control Board [RWQCB], State Water Resources Control Board [SWRCB], and BCDC) regional organization with an objective to develop coordinated approaches to dredging programs, sediment studies, and cost sharing. The LTMS program outlines a program for the disposal of dredged material from San Francisco Bay over 50 years. Dredging and disposal of Bay sediments, including those generated by the construction and maintenance of maritime facilities are reviewed for consistency with the LTMS program.

The LTMS program arose out of the San Francisco Estuary Project (SFEP), which was established through the 1987 amendments to the Clean Water Act of 1987. The SFEP was developed as a five-year cooperative effort between the EPA and State of California to promote more effective management of the San Francisco-Delta Estuary and to restore and maintain the Estuary's water quality and natural resources. The result of the effort was a Comprehensive Conservation and Management Plan (CCMP) for the San Francisco Estuary (SFEP 1993). The CCMP addresses aquatic resources, wildlife, wetland management, water use, pollution prevention and reduction, dredging and waterway modification, land use, public involvement and education, and research and monitoring program areas. For each program area, goals, recommended approaches, objectives, and actions are provided. A preliminary implementation

strategy is included that suggests ways in which state and federal agencies can contribute to financing CCMP actions.

The Association of Bay Area Governments: *The Bay Trail Plan*. *The Bay Trail Plan* (ABAG 1989) proposes development of a regional hiking and bicycling trail around the perimeter of San Francisco and San Pablo bays. The Plan was prepared by ABAG pursuant to Senate Bill 100 (1987), which mandates the Bay Trail to:

- 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.

The Plan proposes an alignment for a 400-mile recreational "ring around the Bay." Three main elements make up the Bay Trail system:

- The "spine" trail is the main alignment, intended as a continuous recreational corridor encircling the Bay and linking the shoreline of all nine Bay Area counties. In some areas, constraints force the spine trail inland.
- Where the spine trail does not follow the shoreline, "spur" trails provide access from the spine to points of natural, historic, and cultural interest along the waterfront.
- "Connector" trails link the Bay Trail to inland recreation sites, residential neighborhoods and employment centers, or provide restricted access to environmentally sensitive areas. Some connector trails link the Bay Trail and the Ridge Trail, another regional trail network, which travels inland, mostly along the ridges of the Bay Area's hills.

Approximately one-third of the trail currently exists as either hiking-only paths, hiking and bicycling paths, or as on-street bicycle lanes. When complete, the Bay Trail will create connections between more than 90 parks and publicly accessible open-space areas around San Francisco and San Pablo bays. By providing access to a wide array of commercial ferries and public boat launches, the trail will establish connections to "water trails" that will enable outdoor enthusiasts to appreciate the Bay not only from the shoreline, but from the water as well.

While the trail will provide access to wetlands and other sensitive natural features along the Bay's shoreline, ABAG and its member agencies included policies in the Bay Trail Plan specifically to protect these areas. Existing Bay fill (primarily in the form of levees) provides shoreline trail access in many locations, and trail design policies require that trail design, construction, and use be appropriate to the surroundings.

The Bay Trail Plan contains policies to guide selections of the trail route and implementation of the trail system. Plan policies fall into five categories:

- **Trail alignment policies** reflect the goals of the Bay Trail program—to develop a continuous trail which highlights the wide variety of recreational and interpretive experiences offered by the diverse bay environment and is situated as close as feasible to the shoreline, within the constraints defined by other policies of the plan.

- **Trail design policies** underscore the importance of creating a trail which is accessible to the widest possible range of trail users and which is designed to respect the natural or built environments through which it passes. Minimum design guidelines for trail development are recommended for application by implementing agencies.

- **Environmental protection policies** underscore the importance of the San Francisco Bay's natural environment and define the relationship of the proposed trail to sensitive natural environments such as wetlands.

- **Transportation access policies** reflect the need for bicycle and pedestrian access on Bay Area toll bridges, in order to create a continuous trail and to permit cross-bay connections as alternative trail routes.

- **Implementation policies** define a structure for successful implementation of the Bay Trail, including mechanisms for continuing trail advocacy, oversight and management.

The East Bay Regional Park District: *Master Plan 1997*. The East Bay Regional Park District's (EBRPD) *Master Plan 1997* ("the Plan" [EBRPD 1996]) defines the vision and the mission of EBRPD, and sets EBRPD priorities for ten years. It explains EBRPD's responsibilities and promulgates policies and guidelines for achieving established standards of service in resource conservation, management, interpretation, public access, and recreation. The Plan maintains a balance between the need to protect resources and the recreational use of parklands for all to enjoy now and in the future. The Plan sets the following priorities for the next decade:

- Continue to preserve open space as well as natural and cultural resources in regional parklands.

- Complete the acquisition and facility development program of Measure AA (a 1988 bond act).

- Complete a system-wide plan that will include an inventory of resources, unit designations, and resource prescriptions.

- Complete key park and trail projects in the eastern part of the EBRPD's jurisdiction.

- Where possible, enhance facilities, services, and programs provided by other agencies.

- Complete the missing sections of the Bay Area Ridge Trail and the San Francisco Bay Trail.

- Actively seek sponsorships, encourage volunteer activities, and form other partnerships that improve the availability of services.

- Expand camping facilities and programs and develop new sites.

- Expand interpretive and recreational programs to reach more residents dwelling within EBRPD's jurisdiction.

- Encourage local communities, agencies and organizations to create opportunities for children, youth, and families to come to the regional parks.

The EBRPD's Master Plan (1996) does not identify proposed regional parks in the project area. Through the OARB conveyance process, however, EBRPD has requested land located at the westernmost tip of the Gateway peninsula, immediately south of the Bay Bridge, for use as a public park.

The Airport Land Use Commission of Alameda County: *Airport Land Use Policy Plan*. The Airport Land Use Commission (ALUC) is currently undertaking revision of the Airport Land Use Policy Plan (ALUPP, adopted in 1986), in part to remove former Naval Air Station (NAS) Alameda—closed as an airfield since 1996—and its associated planning areas from the jurisdiction of the ALUC. On December 8, 1999, the ALUC amended the ALUPP via resolution to remove all references to former NAS Alameda (ALUC 1999; Alameda County 2001). The ALUPP contains policies intended to provide guidelines to the ALUC for its review of proposed local agency actions (such as project approvals), to determine whether these actions are compatible with current and anticipated airport operations. In general, the most pressing ALUC concerns and important policies of the ALUPP regard physical obstacles to air navigation, exposure of persons on the ground to accidents, hazards to flight (smoke, glare, electrical interference, etc.), and noise. Because the project area is located within the General Referral Area, any subsequent redevelopment activity that includes elements 100 feet in height or more above grade, will be referred to the ALUC for a determination of consistency with the ALUPP.

California Regional Water Quality Control Board, San Francisco Bay Region: *Water Quality Control Plan*. The San Francisco RWQCB shares responsibility with the State Water Resources Control Board for implementation of the federal Clean Water Act (CWA) and the state Porter-Cologne Act. The RWQCB carries out its overall mission to protect surface water and ground water of the San Francisco Bay Region primarily by:

- addressing regional water quality concerns through its Water Quality Control Plan (the "Basin Plan") and triennial updates;

- preparing new or revised policies as necessary; and

- implementing and enforcing conditions of permits issued under the National Pollution Discharge Elimination System (NPDES) Permit Program or in Waste Discharge Requirements (WDRs).

The Basin Plan describes the legal, technical, and programmatic bases for water quality regulation in the region, and contains the following:

- a listing of beneficial uses of waters within its jurisdiction the RWQCB must protect;

- narrative and numerical Water Quality Objectives (WQOs) required to protect the designated beneficial uses; and
- strategies and time schedules for achieving the WQOs.

The Basin Plan is programmatic, and WQOs are intended to result in overall high water quality within entire water bodies, and do not generally apply to individual actions. Rather, the RWQCB enforces conditions through permits or WDRs tailored for an individual action. By ensuring that each project complies with conditions or WDRs, the RWQCB ensures that each WQO for a water body is achieved.

Local

The City of Oakland: *General Plan Land Use and Transportation Element*. The March 1998 update of the *Land Use and Transportation Element* (LUTE) of the Oakland General Plan provides a blueprint for the City's growth and development to year 2015. The LUTE identifies five distinct "showcase districts" representing the major regional economic generators located within the City: the Coliseum Area, Downtown, Seaport, Airport/Gateway, and Mixed Use Waterfront. A portion of the study area is located within the Seaport Showcase District, which generally encompasses the Maritime sub-district, and portions of the OARB and 16th/Wood sub-districts. The vision for the economic and development progress of each showcase district is grounded in one of three fundamental policy frameworks: Industry and Commerce, Downtown, and Waterfront. The Seaport Showcase District is subject to the policies of the Waterfront policy framework.

As described in Section 4.2: Land Use, the LUTE classifies land uses in the study area as either Business Mix, General Industrial/Transportation, or Park & Urban Open Space. Each of these LUTE land use classifications is also grounded in a specific policy framework.

Finally, the LUTE also identifies six distinct "planning areas" of the City, describes relatively current population, housing, and employment conditions for each planning area, and proposes improvement/implementation strategies for each area. The study area is entirely located within the West Oakland Planning Area. The LUTE identifies most of the OARB and the 16th/Wood sub-districts as slated for "growth and change," while it identifies a portion of the OARB sub-district and the entire Maritime sub-district as slated for "maintenance and enhancement." Strategies for the West Oakland Planning Area relevant to the study area include the following:

- Maintain and enhance a strong community character and identity.
- Define appropriate residential densities.
- Revitalize commercial and industrial investment.
- Foster City–Port cooperation and coordination.

- Increase public safety.
- Improve Wood and Pine streets.
- Position West Grand Avenue as the "direct" route into West Oakland.
- Improve Raimondi Park.
- Establish reuse options for the OARB.
- Develop parkland and public access at Middle Harbor and the Bay Bridge touchdown.
- Locate new Port-related trucking businesses outside of West Oakland.

The LUTE recognizes the OARB reuse process as a necessary action to fully achieve the City's vision for the Seaport Showcase District and the West Oakland Planning Area. The LUTE supports the success of the seaport, envisions its now current and future expansion within the study area, and seeks to minimize negative externalities of such expansion on the nearby West Oakland neighborhood (City of Oakland 1998a).

The LUTE was amended in July 1998 (Resolution No. 74403 C.M.S.) to add policies to implement the Alameda County Hazardous Waste Management Plan.

The City of Oakland: *Oakland Bicycle Plan.* In July 1999, the City Council adopted the Oakland Bicycle Plan. Among other things, the Bicycle Plan contains a series of recommendations for bicycle parking to be included in new developments; these recommendations are anticipated to be incorporated into the zoning regulations, currently under revision.

The City of Oakland: *General Plan Estuary Policy Plan Element.* The *Estuary Policy Plan* (the "Estuary Plan") is an element of the Oakland General Plan. The Estuary Plan addresses issues of shoreline accessibility and continuity, the quality and character of new development, and the relationship of the Oakland shoreline to surrounding districts and neighborhoods. The Plan includes objectives and policies intended to enhance the future of the area of Oakland located between Adeline Street, the Nimitz Freeway, 66th Avenue, and the Estuary shoreline. It calls for a system of open spaces and shoreline access that provides recreational opportunities, environmental enhancement, interpretive experiences, visual amenities, and important public gathering places.

The Estuary Plan identifies three distinct districts:

- the Jack London district, which extends from Adeline Street to Oak Street;
- the Oak-to-Ninth Avenue district, which extends from Oak Street to the Ninth Avenue Marine Terminal; and

- the San Antonio/Fruitvale district, which extends from 9th Avenue to 66th Avenue.

A one- by two-block area of the Maritime sub-district is located within the Jack London district. The relevant portion of the project area is bounded by Brush Street, 2nd Street, Martin Luther King, Jr. Way, and the Embarcadero.

The City of Oakland: *General Plan Open Space, Conservation, and Recreation Element*. The foundation of the Open Space, Conservation, and Recreation Element of the Oakland General Plan (the OSCAR), adopted in 1996, is a set of increasingly specific goals, objectives, policies, and actions. Goals are broad vision statements; objectives are more specific ends for pursuit; policies are guidance sufficiently specific to guide day-to-day decision making; and actions are very specific measures to be taken to implement policies. The OSCAR organizes a framework for evaluating resources and implementing policies and actions as follows:

I. Open Space
   1. Open Space Land Uses
   2. Shoreline and Creeks
   3. Open Space for Community Character

II. Conservation
   1. Earth Resources
   2. Water Resources
   3. Plant and Animal Resources
   4. Air Resources
   5. Energy Resources

III. Recreation
   1. Park Land Use
   2. Park Operations
   3. Human Resources
   4. Funding

The OSCAR defines 12 distinct planning areas, and sets forth a strategy for each that recommends specific priorities to be considered during decision making. The strategies are not binding, and they are flexible and fluid in nature, intended to change in response as future opportunities or constraints present themselves. The study area is located within two OSCAR planning areas: West Oakland and the Harbor. Relevant or potentially relevant recommended strategies include the following:

- Improve access to the shoreline, including construction of the Bay Trail, with spurs along Maritime Street and 7th Street/Middle Harbor Road. Create stronger links between the waterfront and West Oakland. Note that a spur trail along 7th Street and Middle Harbor Road between the Union Pacific (UP) rail overhead and the Middle Harbor Road/Maritime Street intersection is currently under construction as part of the Port of Oakland's Vision 2000 Program.

- Continue street planting efforts and other programs to "green" West Oakland.

- Improve the eastbound Bay Bridge "gateway" to Oakland (that land within the OARB sub-district immediately south of the Bay Bridge touchdown). Note that planning for reuse of the OARB has consistently included use of this area as a park and visual gateway to the City of Oakland.

- Explore possible use of finger piers and the Middle Harbor for shoreline access and recreation; pursue development of a small historic shoreline park at the Union Point (Western Pacific) mole. Note the entire shoreline of Middle Harbor, as well as the Inner Harbor Shoreline of the Western Pacific mole, are currently under construction as a regional shoreline park—the Middle Harbor Shoreline Park—as part of the Port of Oakland's Vision 2000 Program. The new park will include interpretive opportunities regarding cultural and historic resources.

- Establish visitor observation areas and promote public awareness of the economic importance of the Oakland shoreline. Note that an element of the new Middle Harbor Shoreline Park will be maritime interpretive opportunities.

The City of Oakland: *General Plan Historic Preservation Element*. The Historic Element of the General Plan was adopted in 1994 and amended in 1998. The element sets forth a historic preservation strategy that seeks to promote preservation of a wide range of properties and districts in a manner reasonably balanced with other concerns and consistent with other City goals and objectives. The Historic Element recognizes that Oakland is home to a rich array of significant older properties that set it apart from other California cities, and that preservation and enhancement of these properties could contribute positively to Oakland's economy affordable housing stock, image, and quality of life.

The Historic Element identifies two local landmarks within the 16th/Wood and Maritime sub-districts: the Southern Pacific Railroad (SPRR) Station at 16th and Wood streets (also known as the Amtrak Station), and the Southern Pacific mole westerly terminus at the end of 7th Street. Development affecting either of these resources would be subject to policies of the Historic Element. It also identifies the OARB Historic District and former Fleet and Industrial Supply, Oakland (FISCO) site (no longer extant) as Areas of Primary Importance.

The City of Oakland: *General Plan Housing Element*. The Housing Element (City of Oakland 1992) addresses three major goals:

- Ensure every Oakland family has the opportunity to live in a sound housing unit, large enough to accommodate its members at a reasonable cost relative to its income, and free from non-economic constraints on its freedom of selection.

- Provide for the housing needs of all economic segments, age groups, and household types.

- Ensure a reasonable balance of housing according to occupancy type, dwelling type, price, density, type of amenities, and location.

The City has developed policies (included in Appendix 4.1 of this document) that are a part of the Housing Element to address five major problems:

- substandard housing;
- overcrowding;
- problems of low- and moderate-income households;
- over-concentration of publicly-assisted housing; and
- discrimination in housing.

The City of Oakland: *Environmental Hazards Element.* This element defines, identifies, and discusses environmental hazards, structural hazards, and areas subject to these hazards (City of Oakland 1972). Environmental hazards are classifieds as geologic, fire, and flood. Structural hazards are classified as residences, commercial/industrial buildings, public buildings, and utility and transportation facilities. The environmental Hazards Elements included two goals:

- Minimize loss of life, injuries, and damage to property, of Oakland citizens resulting from natural disasters.
- Recognize natural environmental hazards in planning for the City's future development.

The City of Oakland: Municipal Code, Title 17: Planning, Chapter 17.01: General Provisions of Planning Code and General Plan. In accordance with Section 17.01.030 of the Planning Code of the Oakland Municipal Code (OMC), no activities or facilities may be established, substituted, expanded, constructed, altered, moved, painted, maintained, or otherwise changed, and no lot lines created or changed, except in conformity with the Oakland General Plan, or except as expressly provided by the Planning Code. The requirement for activities or facilities to conform with the Oakland Zoning Regulations (which are found at OMC §§ 17.07-17.154) is established by OMC 17.07.060. In accordance with Section 17.01.050, should an express conflict between the Oakland General Plan and the Zoning Regulations occur, the requirement for General Plan conformity supercedes the requirement for conformity with the Zoning Regulations. The Director of City Planning determines if a specific proposal conforms with the General Plan.

The Oakland City Planning Commission adopted Guidelines for Determining Project Conformity with the General Plan and Zoning Regulations (City of Oakland 1998b, as amended through 2001). These guidelines describe procedures for deciding if an action is consistent with the General Plan; they also describe procedures to follow when the General Plan and Zoning

Regulations conflict. Factors considered when determining conformity with the General Plan include the following[2]:

1. The relevant General Plan land use classification(s). Conformity of proposed uses with General Plan land use classifications is the primary measure of conformity.

2. The relevant Zoning district(s). Conformity of proposed uses with Zoning District designations is a secondary measure of conformity.

3. The activity(ies) and facility type(s). The City's Guidelines identify conforming activities and facilities for each General Plan land use classification.

4. The intensity (or density) of development. The City's Guidelines establish maximum densities for development in each General Plan land use classification. Maximum floor-to-area ratio and density (in principal units per net acre) are also given an assumed net-to-gross ratio, a maximum density in principal units per net acre, and a minimum square footage of site area per principal unit.

5. The possible combinations of conformity are as follows:

General Plan	Zoning/Subdivision Regulations: Permitted	Conditionally permitted	Not permitted
Clearly conforms	Permitted outright	CUP	Allowed w/ Interim CUP or re-zoning
GP silent, not clear on conformity	Permitted outright	CUP	Not allowed
Clearly does not conform	Not allowed	Not allowed	Not allowed

Express conflict between the General Plan and Zoning Regulations; General Plan prevails.
Source: City of Oakland 1998b, as amended through 2001.

Figure 3-6b (Chapter 3: Description) depicts General Plan land use classifications as proposed under redevelopment: Business Mix, General Industrial/Transportation, Parks & Urban Open Space, and Light Industrial 1 (the latter classification is specific to the Estuary Policy Plan area). With amendment of the General Plan as proposed under redevelopment, all land uses would clearly conform to the General Plan, or the General Plan is silent on their conformity.

[2] If a proposed action is located within the Port Area, the Port makes a determination of conformity, with input from the Planning Director (Resolution 74129, CMS, February 1998).

The Oakland zoning code is in revision, and a new zoning system in development. While some activities and facilities proposed under redevelopment would not conform to existing zoning, re-zoning of the area, currently underway, would be consistent with proposed redevelopment as presented in Chapter 3: Description. Should subsequent redevelopment activities be proposed before re-zoning is complete, each would be evaluated for its conformity with zoning. Should the subsequent activity not conform to current zoning, the activity would be modified to conform, the site would be re-zoned under the existing system, or a variance would be granted.

Maximum development intensities in the project area are as follows:

Land Use Classification	Floor-Area Ratio
Business Mix	4.0
General Industrial/Transportation	2.0
Urban Park & Open Space	Not Applicable
Light Industrial-1	2.0

Based on buildout projections as presented in Chapter 3: Description, redevelopment as proposed would conform to allowable development densities/intensities.

4.1.3 Regional Setting

See Regulatory Setting, above.

4.1.4 Local Setting

See Regulatory Setting, above.

4.1.5 Impact Analysis Methodology

This analysis identifies existing plans and their objectives, goals, and policies relevant to the redevelopment program. The analysis then evaluates whether the redevelopment program described in Chapter 3: Description is consistent with plans and policies intended to protect the environment. Relevant objectives, goals, and policies are included as Appendix 4.1.

In addition, pursuant to OMC 17.01.030, redevelopment as proposed in Chapter 3: Description, was evaluated to determine if it conforms with proposed General Plan land use classifications, density or intensity standards, and relevant General Plan policies. Because completion of the City's update to its zoning regulations (making them consistent with the General Plan) is expected to conclude in the near future, and the project area would be appropriately re-zoned at that time, the redevelopment program was not evaluated for its conformity with current zoning, but rather with the General Plan (with which the zoning must be consistent). Land use re-classification is a part of redevelopment as proposed, and the evaluation of potential

subsequent redevelopment activities shows they would conform to the proposed General Plan land use classifications, as well as the allowable density and intensity standard of those classifications. Regarding conformance with General Plan policies, Appendix 4.1 includes a listing of General Plan policies relevant to redevelopment as proposed. The evaluation of these polices and the program, as included in that appendix, shows that redevelopment would be consistent with the polices, objectives, and goals of the General Plan.

Significance Criteria

Redevelopment would have a significant impact on the environmental if it would:

- Fundamentally 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, and actually result in a physical change in the environment.

4.1.6 Impacts

Benefits

Redevelopment is not only consistent with, but would directly and positively achieve the intent of several plans and policies as follows:

- **The Bay Plan:** Redevelopment of the Gateway and Port development areas, creation of the waterfront park at the Gateway peninsula, and removal of contaminated storm sewers as proposed achieves the intent of Bay Plan policies regarding fish and wildlife, water quality, water-related industry, ports, recreation, and public access.

- **The Seaport Plan:** Redevelopment of the Port development area and Maritime sub-district as proposed achieves the intent of Seaport Plan policies regarding cargo forecasts, Port priority Use areas, marine terminals, and specific policies designated for the Port of Oakland.

- **The Bay Trail Plan:** Redevelopment of the OARB and Maritime sub-districts as proposed achieves the intent of Bay Trail Plan policies regarding trail alignment and transportation access.

- **The East Bay Regional Park District Master Plan:** Implementation of the Gateway park and public access features as proposed achieves the intent of Master Plan priorities regarding preservation of open space and natural and cultural resources in regional parklands; and completes the missing sections of the San Francisco Bay Trail.

- **The Basin Plan:** Removal or remediation of contaminated storm sewers located in the OARB sub-district achieves the mission of the RWQCB and Basin Plan to protect surface water of the San Francisco Bay Region.

- **The Oakland General Plan Land Use and Transportation Element:** Redevelopment as proposed achieves objectives and associated policies of the LUTE regarding the following: expansion and retention of the Oakland job base and economic strength; provision of adequate infrastructure; reduction of truck effects on local neighborhoods; encouragement of waterfront access; creation of a high-quality natural and built waterfront environment; promotion of the Port of Oakland; provision of commercial areas; construction of housing; and reduction or elimination of hazardous wastes. Although the proposed project is not expected to require new hazardous waste storage, treatment, or disposal facilities in the area, any such facilities shall comply with applicable requirements.

- **The Oakland Estuary Plan:**[3] Redevelopment of the Gateway development area as proposed, including public access and parkland, achieves objectives and associated policies of the Estuary Plan regarding the following: provide public activities oriented to the water; develop the Estuary area in a way that enhances Oakland's long-term economic development; create clear and continuous public access along the Estuary; punctuate the shoreline with a series of parks and larger open spaces; enhance natural areas along the waterfront; improve and clarify regional access to Oakland's waterfront; and improve pedestrian and bicycle circulation.

- **The Oakland General Plan Open Space, Conservation and Recreation Element:** Redevelopment as proposed would achieve objectives and associated policies of the OSCAR regarding the following: develop a trails system; increase public access to the waterfront; improve visual quality; develop civic open spaces; provide street trees; and protect and promote beneficial use of nearshore waters.

- **The Oakland General Plan Historic Preservation Element:** Restoration and preservation of the SPRR (Amtrak) Station and 16th Street Tower achieve goals and associated policies of the Historic Preservation Element regarding the following: the use of historic preservation to foster economic vitality and quality of life, and to preserve, protect, and enhance, perpetuate, use, and prevent unnecessary destruction or impairment of properties of special value or interest.

Impacts

Impact 4.1-1: Fill to create fastland for New Berth 21 plus a nominal portion of the adjacent Gateway development area, and potential minor fill for Gateway Park shoreline stabilization may conflict with Bay Plan objectives and policies.

Significance: Consistent with Bay and Seaport Plans, but resulting environmental impacts may be significant (see sections regarding traffic (4.3), air quality (4.4), biology (4.12), geology (4.13), and water quality (4.15).

Mitigation: Mitigation is not warranted.

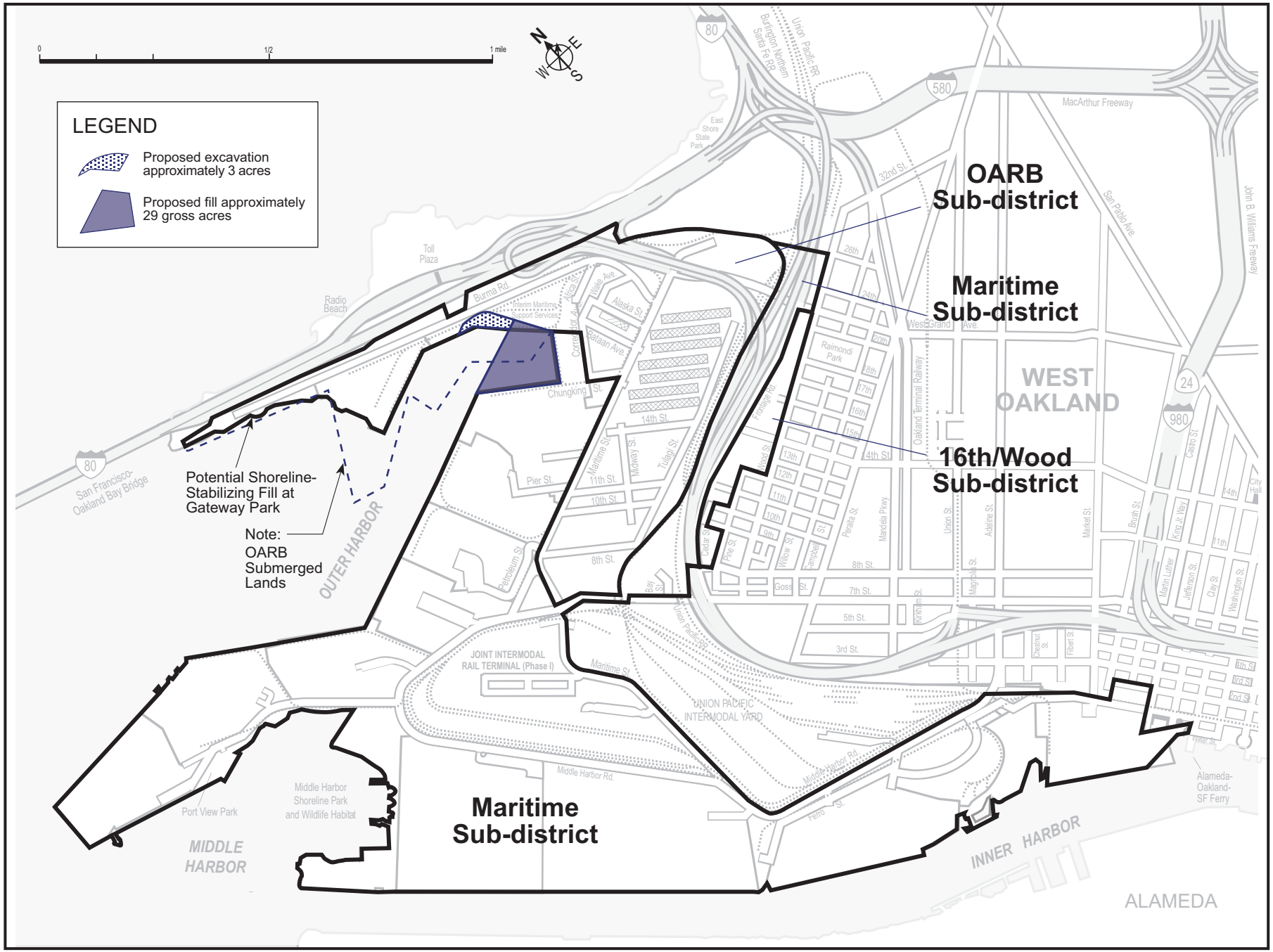
[3] While only a small portion of the project area is located within the Estuary Policy Plan Area—two blocks of the Maritime sub-district—the Gateway development area represents the first waterfront property controlled solely by the City. For this reason, the City may elect to apply policies of the Estuary Plan to the Gateway development area, and this analysis evaluated redevelopment for conformity with the Estuary Plan.

As illustrated by Figure 4.1-1, approximately 29 gross acres of solid and covered fill would be placed to create fastland for New Berth 21. Approximately 7 acres of the fill would be located in areas currently occupied by marginal wharves, which represent covered fill. A minor portion of this fill (less than one acre) would be located within the Gateway development area, and the remainder within the Port development area. Approximately 3 acres of excavation would occur to create the new berth, resulting in a net total fill of approximately 26 acres (both solid and covered fill). This proposed 26 acres of net fill represents a substantial reduction in the 153 acres of fill for marine terminals previously allowed under the Bay and Seaport plans for development of the Oakland Outer Harbor. Approximately 110 acres of previously allowed fill near the Bay Bridge and 17 acres of previously allowed fill at the Army Terminal would not occur. Therefore, redevelopment as currently proposed would result in a net reduction of approximately 127 acres of Bay fill.

Under high tide and storm conditions, the Outer Harbor shoreline of the Gateway peninsula is inundated to an access road that longitudinally traverses the site. In order to obtain the maximum useable site, reduce potential maintenance costs, avoid shoreline erosion, and increase the area of public access amenities, EBRPD may stabilize the Outer Harbor shoreline via revetment or other stabilizing means that would constitute Bay fill. Should EBRPD decide to stabilize the shoreline via fill, it could result in a shoreline fill of approximately 2,800 linear feet.

Bay Plan policies require that surface area and total volume of Bay water be kept as large as possible, and that filling should be allowed only for purposes of providing substantial benefits, and only if there is no reasonable alternative to filling. Policies regarding shoreline protection and erosion control state that such activities should be authorized if a project is necessary to protect the shoreline, the type of protection is appropriate to the site and erosion conditions, and the protection is properly designed. Because these fills would be the minimum necessary to achieve their purpose, and because no reasonable alternatives to the fills would accomplish their purpose, fill for New Berth 21 and a minor portion of the adjacent Gateway development area, and potential fill for the Gateway park shoreline do not fundamentally conflict with policies of the Bay Plan. (Sections 4.12: Biological Resources, and 4.15: Surface Water, include measures to mitigate physical impacts of Bay fill; analysis of construction traffic, air, and noise [Sections 4.3, 4.4, and 4.5, respectively] take into account impacts of Bay fill construction.)

Even for the minimum allowable fill consistent with Bay Plan policies, BCDC requires compliance with permit conditions compensating for the loss of Bay volume and surface area. When and if the Port of Oakland, the EBRPD, or proponents of other subsequent redevelopment activities propose fill that complies with objectives and policies of the Bay Plan, and yet would reduce the volume of surface area of Bay waters, they may be required to compensate for that reduction in accordance with permit conditions established by BCDC prior to construction of the fill. The Port of Oakland's Vision 2000 Berths 55-58 Project resulted in a net increase in Bay surface of approximately 14.5 acres (per BCDC permit 7-99, as amended through April 26, 2000), and a net increase in Bay volume of approximately 1.6 million cubic



OARB Area Redevelopment EIR

Figure 4.1-1 Proposed Excavation and Bay Fill

April 2002

g. borchard & associates

yards. Permitting agencies may consider these net increases when imposing conditions on Bay fill for the Port's New Berth 21 action.

Impact 4.1-2: Proposed land uses in a portion of the 16th/Wood sub-district would be fundamentally inconsistent with Seaport and Bay plan Port Priority Use designations.

Significance: Significant

Mitigation 4.1-1: Amend the Bay and Seaport plans to eliminate, where necessary, Port Priority Use designations within the 16th/Wood sub-district.

Residual Significance: Less than significant

The Bay and Seaport plans as amended through 2001 designate a portion of the 16th/Wood sub-district as Port Priority Use. Such a designation requires land uses that are directly supportive of maritime activities. The Priority Use designation encompasses land between I-880, Wood Street, West Grand Avenue, and 16th Street. The redevelopment program proposes live/work, office, and ancillary retail in this area. These uses are not considered Port Priority uses, and are fundamentally inconsistent with that designation. This inconsistency is considered a significant impact. With implementation of Mitigation Measure 4.1-1, the inconsistency would be eliminated, and the residual impact would be less than significant.

~ ~ ~

Impact 4.1-3: Loss of all structures contributing to a historic district, and loss of the district itself may conflict with Oakland General Plan Historic Preservation Element goals and policies.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

As discussed in detail in Section 4.6: Cultural Resources, all structures of the OARB Historic District would be demolished to allow redevelopment of the Gateway and Port development areas of the OARB sub-district. Goals of the General Plan require that unnecessary loss of such resources not occur, and that such resources be used to foster economic vitality and enhance the quality of life in Oakland. In addition, certain Historic Preservation Element policies state that preservation and adaptive reuse of historic resources should occur to the extent consistent with other Oakland General Plan policies. Preservation and/or adaptive reuse of historic resources at the OARB sub-district is partially or fundamentally inconsistent with the following General Plan Policies:

- LUTE Policy I/C.1: Attract new business.
- LUTE Policy I/C.4: Invest in economically distressed areas of Oakland.
- LUTE Objective I/C5: Maximize economic utility, employment generation, and citywide benefit of closed military facilities.
- LUTE Objective T1: Provide adequate land for needs of rail, shipping, etc.
- LUTE Policy T1.1: Support the Port's efforts to as a primary port of call for the West Coast.
- Hazards Element: Employ the most current seismic design criteria in construction.

As they apply to redevelopment of the OARB sub-district to its full, safe land use and economic potential, the policies of the Hazards Element and the LUTE have the potential to compete with policies of the Historic Preservation Element. Language contained in policies of the Historic Preservation Element recognize this tension regarding preservation and adaptive reuse, and therefore indicate consistency with policies of the Historic Preservation Element should occur to the extent such consistency does not create inconsistencies with other General Plan policies. For this reason, although loss of historic resources in the OARB sub-district appears to be inconsistent with policies of the Historic Preservation Element, this analysis concludes it does not constitute a fundamental conflict, and the impact is considered less than significant. Note that Sections 4.6: Cultural Resources, and 4.11: Aesthetics, acknowledge the loss of structures to be a significant impact, and recommends measures to mitigate the physical impacts to historic resources, but not to levels that are less than significant.

~ ~ ~

4.1.7 Mitigation

Implementation of the following mitigation measure shall avoid the impact of redevelopment related to plan consistency.

Mitigation 4.1-1: Amend the Bay and Seaport plans to eliminate, where necessary, Port Priority Use designations within the 16th/Wood sub-district.

This measure applies to Impact 4.1-2.

When plans for the Port's 15 acres of AMS uses are finalized, the City and Port shall make application to BCDC to amend the plans to remove Port Priority designation from some or all of the 16th/Wood sub-district. The City and Port shall demonstrate to BCDC that 2020 throughput projections can be achieved without use of this area for Port Priority uses.

~ ~ ~

~

4.2 LAND USE

Redevelopment would result in benefits to study area land use, as well as one potentially significant impact related to land use compatibility. With implementation of measures recommended in this section, this impact would be mitigated to a level that is less than significant.

4.2.1 Study Area

The study area for land use is the approximately 1,800-acre project area, plus adjacent and nearby land uses that may affect or be affected by redevelopment.

The Oakland Army Base (OARB) area project area is located within the corporate limits of the City of Oakland. It is also within the land use jurisdiction of several entities, as illustrated by Figure 4.2-1. Some land use jurisdictional boundaries would be reconfigured as a part of redevelopment.

4.2.2 Regulatory Setting

The following identifies relevant land use regulations, laws, and documents. Specific relevant policies of planning and land use documents are discussed in Section 4.1: Consistency with Plans and Policies.

Federal

There are no relevant federal laws, regulations, or policies regarding land use.

State/Regional

California Constitution. Article XI, Section 7 of the California State Constitution is the primary authority for cities and counties to regulate land use. California State Planning and Land Use Law (Government Code § 65000 *et seq.*) sets forth minimum standards to be observed in local land use regulatory practices, reserving in cities and counties the maximum degree of control over such matters.

The state mandates local land use permitting agencies to have general plans (Government Code § 65000 *et seq.*). The general plan has been likened to a "constitution," governing development in the jurisdiction. There are few regional requirements for plan consistency between counties and cities. The general plan land use element delineates the general distribution, location, and extent of local development patterns and land use. See discussion of the City of Oakland's jurisdiction, below.

Section 4.1: Consistency with Plans and Policies, describes the land use authority of two state agencies, BCDC and the California SLC, in the study area.

Airport Land Use Commission of Alameda County. The ALUC exerts authority over in-county development to ensure its compatibility with existing and planned air transportation operations. In December 1999, the ALUC amended the *Airport Land Use Policy Plan* via resolution to remove reference to the nearby former Naval Air Station (NAS) Alameda (ALUC 1999; Alameda County 2001). See Section 4.1: Consistency with Plans and Policies, for full discussion of the Airport Land Use Policy Plan.

The East Bay Regional Park District. The EBRPD is charged with developing and operating a regional recreation/park/public access system for the East Bay. The EBRPD's Master Plan (1996) does not identify proposed regional parks in the project area. However, EBRPD has requested land located at the westernmost tip of the Bay Bridge touchdown peninsula for use as a public park. See Section 4.1: Consistency with Plans and Policies, for full discussion of EBRPD's Master Plan.

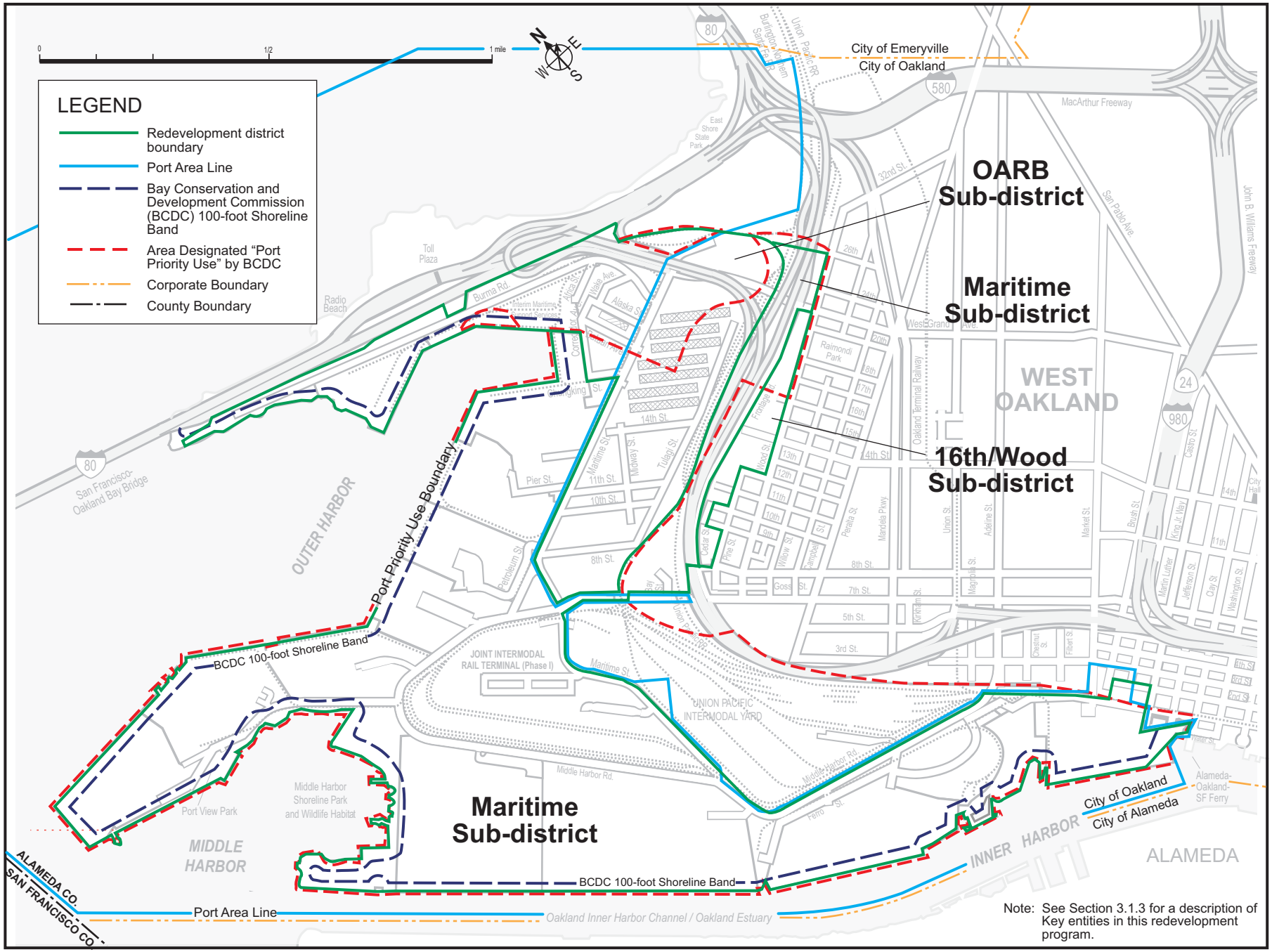
Local

The OARB, entirely located within the project area, is currently under concurrent federal (U.S. Army) and City jurisdiction. A portion of the project area is located within the current Port of Oakland area boundary, and as such, is not subject to City of Oakland zoning under the City Charter; however, activities on Port land within the City of Oakland must demonstrate conformance with the City's General Plan.

City of Oakland. The most relevant local land use document is the City of Oakland's General Plan—in particular, the Land Use and Transportation Element (1998a) (LUTE). The project area is located entirely within the West Oakland Planning Area of the LUTE. The project area is identified as an area slated for growth and change; with reuse of OARB and the Amtrak (formerly Southern Pacific Railroad [SPRR]) station site and key elements of the overall West Oakland improvement strategy (City of Oakland 1998a).

The LUTE further describes the structure of Oakland as follows:

- Five distinct "Showcase Districts" represent the major regional economic generators located within the City.
- Major "City Corridors" are thoroughfares whose original purpose was to link areas of the City, prior to establishment of the regional freeway system.
- Numerous "Neighborhoods and Activity Centers" are the focus of commerce, civic activity, and community identity throughout the City.
- Nine "Transit Oriented Districts" are intended to take advantage of major region-serving public transportation hubs—the eight Oakland Bay Area Rapid Transit (BART) stations and the Eastmont Town Center Alameda County Transit (AC Transit) hub.



OARB Area Redevelopment EIR

Figure 4.2-1 Study Area Jurisdictions

April 2002

g. borchard & associates

placeholder for backside of color figure

A portion of the project area is located within the Seaport Showcase District. A relatively short segment of West Grand Avenue, an east-west trending City Corridor, traverses the northern portion of the project area. The West Oakland Prescott Neighborhood is adjacent to the 16th/Wood sub-district. The West Oakland BART station, a Transit-Oriented District, is located north of the southern portion of the project area; the City is planning a transit village for that area.

A key portion of the LUTE is the land use diagram that illustrates potential future development in Oakland. The land use diagram depicts 15 different land use classifications that represent the type and intensity of allowable future development. Each classification establishes allowable intensity and/or density maximums, and each is additionally described in terms of intent, as well as desired character and uses.

The Oakland Planning Code (Title 17 of the Oakland Municipal Code) identifies 37 different zones and associated regulations that define all or some of the following for each zone:

- permitted, conditionally permitted, and prohibited activities and facilities;
- design review for specific facilities;
- special regulations or performance standards for specific facilities or activities;
- parameters for signs, frontage, building height, and yard size;
- buffering and landscaping requirements; and
- other miscellaneous provisions.

The Planning Code also identifies 10 "combining" zones. These zones are intended to address specific issues (*e.g.*, preserving valuable resources; ensuring adequate transitions between adjacent residential and industrial zones, etc.), and which, as the name implies, are combined with existing zoning to impose additional requirements in specific areas of the City.

4.2.3 Regional Setting

The region under consideration is the 3,825-acre West Oakland Planning Area of the Oakland General Plan. The approximately 3,800-acre region of interest, including the project area, is located in western Alameda County, within and along the shoreline of San Francisco Bay, in the northwestern portion of the City of Oakland. The region is bounded by I-580 to the north, the Oakland Estuary to the south, I-980 and approximately Martin Luther King Way to the east, and San Francisco Bay to the west.

Existing Land Uses

The entire region under consideration is urbanized, and although specific parcels may be vacant or underdeveloped, they are surrounded by urban development. Land uses of the region reflect its proximity to the waterfront, and historically included ship-building and associated worker

residences and industrial support, and rail yards, as well as substantial acreage dedicated to waterfront military and port facilities. Currently, light industrial, industrial, transportation, and other non-residential uses intermix with older residential uses. Many areas are blighted where older housing intermixes with or is adjacent to historically industrial uses (Hausrath Economics Group [HEG] 2000).

Planned Land Uses

Estimated acreages of planned land uses in the year 2015 are presented in Table 4.2-1.

Planned land use in the region of consideration is predominately General Industry/Transportation, and Business Mix, with substantial Mixed Housing Residential. Note that the vast majority of planned General Industry/Transportation uses within the region under consideration are located within the study area.

Table 4.2-1
Projected 2015 Regional Land Uses

Land Use Classification [a]	Acreage	Percent of Plan Area
Mixed Housing Residential	590	15.4
Urban Residential	170	4.4
Neighborhood Center Mixed Use	50	1.3
Community Commercial	95	2.5
Housing and Business Mix	40	1.1
Regional Commercial	70	1.8
Business Mix	795	20.8
General Industry/Transportation	1,655	43.3
Institutional	40	1.1
Resource Conservation	140	3.7
Parks & Urban Open Space	180	4.6
Total	**3,825**	**100.0**

Source: City of Oakland 1998a

Note:
[a] See Appendix 4.2 for a description of land use classifications

4.2.4 Local Setting

Existing Land Uses

Figures 4.11-3a through 4.11-3d (Section 4.11: Aesthetics) primarily document typical study area visual conditions, and also document land uses. Land use across the study area is oriented toward transportation facilities, and industry that requires or desires ready access to excellent transportation facilities. This includes the OARB, whose proximity to the Bay was critical to its mission to transport troops and military provisions. Compared to the region under consideration, study area land uses are overwhelmingly general industry/transportation or uses supporting general industry/transportation. In addition, the study area contains approximately seven acres of public park and open space, and another 30 acres of park under construction. Other than the 20 Phoenix loft live/work units, which are considered commercial uses under City of Oakland zoning, there are no residential uses in the study area. The following description of land use in the study area is excerpted or modified from *Report to the City Council: Oakland Army Base Redevelopment Project* (HEG 2000).

OARB Sub-District. As its name indicates, this sub-district generally comprises the OARB. An irregularly shaped facility, OARB is roughly bounded by San Francisco Bay and the industrial Port of Oakland to the west, I-80 and the industrial main East Bay Municipal Utility District Waste Water Treatment Plant to the north, I-880 to the east, and 7th Street and industrial Port

and Union Pacific facilities to the south. While some vacant or underdeveloped parcels exist—most notably the Subaru lot, the Baldwin Yard, and the Gateway peninsula[1]—the majority of the OARB is developed, with floor-area ratios exceeding 50 percent in some areas.

Formerly known as the Oakland Army Terminal, OARB was first commissioned in 1941 as a port and trans-shipment facility. During World War II, it served as a major cargo port and warehousing facility. Many existing improvements at OARB were originally constructed during this period of intensive use. Currently, the OBRA operates an interim leasing program that places tenants at the OARB during the interim base reuse planning period, when the Base is no longer in use by the military, but is not yet redeveloped for its permanent non-military uses. Interim leases expire at various future dates. The Port is a major subleasor under this program.

Maritime Street, a wide boulevard that provides truck access to the freeway system, bisects the OARB. Portions of the Base to the west of Maritime Street were developed for rail and marine transportation (berthing, loading and unloading of cargo, storage), and continue to serve that purpose under the interim leasing program. In addition, the main OARB administration building (Building No. 1) is located west of Maritime Street; this facility is currently vacant. East of Maritime Street, interim leasing uses include transportation (trucking, warehousing, etc.), office (military, public, private), commercial (restaurant, health club, etc.), light industrial (woodworking facility, mobile recycling, etc.), and community services. Community services include offices and classrooms for the Head Start program, the Oakland Military Institute College Preparatory Academy (currently, approximately 150 7th grade students); a church, office and/or warehouse space for several community service groups, a seasonal (cold-weather) supplemental homeless shelter, food bank, and two baseball fields used by local little league teams. There are no occupied residences in the OARB sub-district.

This sub-district west of existing Maritime Street is currently subject to provisions of the Public Trust, including land use authority of the SLC (see above, under Regulatory Setting). In addition, the Baldwin Yard site and the Port development area are designated Port Priority Use areas in the Bay and Seaport plans, and are subject to the limited land use authority of BCDC.

Maritime Sub-District. The Maritime sub-district encompasses much of the area to the west and south of OARB. It includes 11 existing marine terminals and associated infrastructure—large cargo cranes, administration facilities, truck entry/exit gates, and large areas for container storage—along the Oakland Outer and Inner harbors. It also includes the approximately 4.5-acre Port View Park located along the shoreline of Middle Harbor. Finally, this area includes the Port of Oakland's new Vision 2000 Maritime improvements near the Inner and Middle harbors, including approximately 270 acres of marine terminals and associated infrastructure, a 35 acre waterfront park, the Joint Intermodal Terminal (JIT) railyard, and reconfigured area roadways and bicycle/pedestrian facilities. The majority of this sub-district is highly industrialized. There

[1] Several small buildings are located at the Gateway peninsula: a Caltrans building and an East Bay Municipal Utilities District (EBMUD) structure, which houses a dechlorination station.

are no residential communities in the Maritime sub-district, although the Phoenix Lofts, a 20-unit development, is located at 2nd and Brush streets, just within the extreme southeast boundary of this sub-district.

The industrial Amtrak maintenance facility is located on Bay Street on a triangular-shaped parcel bounded by OARB to the northwest, I-880 to the northeast, and 7th Street to the south. The Davis substation, a major electric distribution facility, is located immediately north of 7th street, and is bounded to the northwest by Maritime Street, and to the northeast by 7th Street Extension.

This sub-district west of existing Maritime Street is currently subject to provisions of the Public Trust, including land use authority of the SLC (see above, under Regulatory Setting). In addition, nearly the entire sub-district is designated Port Priority Use in the Bay and Seaport plans, subject to the limited land use authority of BCDC.

16th/Wood Sub-District. The 16th/Wood sub-district is located east of the eastern boundary of the OARB. This long, narrow sub-district is adjacent to I-880. The historic industrial and transportation hub of Oakland was located in the westernmost portion of the City, and this sub-district represents the eastern portion of that hub. The relocation of I-880 after the Loma Prieta earthquake of 1989 isolated this "slice" of industrial and transportation uses east of the freeway from the remainder of similar uses located west of the freeway. In addition to I-880, existing linear railroad tracks of the Desert railyard also separate the 16th/Wood sub-district from the Maritime sub-district.

A large portion of the 16th/Wood sub-district, former rail and industrial use, is currently not in use. This includes the Southern Pacific Railroad (Amtrak) station site, a historic landmark located at 16th and Wood streets. The Phoenix Ironworks site, a former manufacturing facility located in the southern portion of the sub-district, is now vacant. Some industrial and transportation uses remain in portions of the sub-district, including recycling, container storage, warehousing and distribution, and other miscellaneous business and light industrial uses. No residential communities or occupied residences are located in the 16th/Wood sub-district. Residences are located directly adjacent to and across Wood Street from the southern portion of the vacant Phoenix Ironworks site.

Planned Land Uses of the Oakland General Plan

The current LUTE identifies planned land uses for the study area as depicted on Figure 3-6a (Chapter 3: Description). As illustrated, the majority of the study area is classified General Industry and Transportation, generally related to Port operations. The OARB east of existing Maritime Street and the Subaru site, as well as the entire 16th/Wood sub-district, are designated Business Mix. The tip of the Gateway peninsula and Middle Harbor shoreline are designated Park & Urban Open Space.

Zoning

Although those portions of the study area within the Port Area line are not subject to zoning under the City Charter, City zoning maps nevertheless include these areas as indicated. The entire study area is zoned industrial—M-20 (Light Industrial), M-30 (General Industrial), or M-40 (Heavy Industrial). From 20th Street to 8th Street, the majority of the 16th/Wood sub-district is additionally classified as S-16 (Industrial-Residential Transition Combining zone). Regulations of the S-16 combining zone restrict industrial densities, activities, and facilities to reduce effects of industrial land uses on abutting or nearby residential uses. Depending on the underlying General Plan land use classification, S-16 zoning may allow live-work land uses.

4.2.5 Impact Analysis Methodology

Impact analysis related to land use is straightforward, and limited to the criteria described below.

Significance Criteria

Redevelopment would have a significant impact on the environment if it would:

- Physically divide an established community; or
- Result in a fundamental conflict between adjacent or nearby land uses.

Not all criteria above apply to redevelopment as proposed. A small permanent residential population is located on the boundary of the Maritime sub-district. Redevelopment would not divide or otherwise affect that population. No substantial permanent population exists that could be directly divided by development.

4.2.6 Impacts

As part of proposed redevelopment, the SLC is expected to transfer the obligations of the Public (Tidelands) Trust from the Gateway development area to the Port development area. This would allow the City to develop the Gateway area in non-Trust uses as set forth in the Reuse Plan, and would obligate the Port to develop the Port development area in land uses consistent with the Trust and with Port operations.

With transfer of property to the Port from the ORA, the Port and City would adjust the Port Area boundary line. The Port Area line delineates those lands under Port land use control.

Benefits

Redevelopment is intended to result in more vibrant and logical land uses in the study area, and to eliminate current land use conflicts. This would be a substantial benefit to the local area, as well as to the entire City of Oakland.

Redevelopment proposes the land use classifications and zoning designations described in Chapter 3: Description, and illustrated by Figure 3-6b. The majority of the Gateway development area would be classified Business Mix, with some Park & Urban Open Space. This would result

in a vibrant business/commercial mixed use, as well as opportunities for waterfront public access consistent with district-wide redevelopment. The Port development area and the entire Maritime sub-district would be classified General Industrial/Transportation and zoned industrial, consistent with the industrial Oakland waterfront, BCDC Port Priority Use designation, and SLC public trust obligations. The 16th/Wood sub-district would be classified Business Mix. It would be zoned as appropriate, at the time the City undertakes City-wide revision of its zoning regulations. The majority of the sub-district is zoned with the S-16 combining overlay. This combining zoning classification is intended to create a transition between non-residential and residential uses.

Impacts

Impact 4.2-1: Under proposed redevelopment, dissimilar land uses may be located proximate to one another.

Significance: Potentially significant (Gateway and Port development areas) Less than significant (16th/Wood Sub-district)

Mitigation 4.2-1: The City shall ensure that Gateway development area redevelopment activities adjacent to Port of Oakland industrial maritime facilities are designed to minimize any land use incompatibilities to the extent feasible.

Mitigation 4.2-2: If any land use incompatibility is subsequently identified, the Port of Oakland shall use its best efforts, consistent with meeting cargo throughput demand, to locate maritime activities that could result in land use incompatibilities as far away from the property boundary as feasible.

Mitigation 4.2-3: The City and Port shall coordinate to implement Mitigation Measures 4.2-1 and 4.2-2; if despite these efforts, subsequent land use incompatibilities are identified, the Port and City shall jointly develop, implement, and fund on a fair share basis additional strategies to reduce incompatibilities.

Residual Significance: Less than significant

The Gateway development area is entirely separated from incompatible residential land uses located to the southeast by the elevated I-880 freeway. Due to its industrial nature and potential for odors, the EBMUD Main WWTP, located east of the Gateway development area, represents a potential incompatibility with people-attracting land uses. That portion of the Gateway development area slated for the greatest people-attracting uses (Office, R&D, the Gateway Park) is separated from the WWTP by elevated West Grand Avenue. The portion of the Gateway development area above Grand Avenue nearest the EBMUD WWTP would include industrial-type land uses such as Ancillary Maritime Support at the Baldwin Yard, and

Warehouse/Distribution or Light Industrial at the Subaru site. These land uses are more industrial in nature and less people-attracting than those proposed for the Gateway development area below West Grand Avenue. In addition, due to their industrial nature, the sensitivity of these uses to potential occasional odor events is low. Based on prevailing wind patterns, the Gateway development area is located upwind from the WWTP. While odor incidents may occasionally occur at the Gateway development area, such incidents are not expected to occur with such frequency that odors would result in a fundamental land use incompatibility, and the impact is considered less than significant. See Section 4.3: Air Quality, regarding impacts to air quality related to odors.

Under redevelopment, the Port development area would include a railyard on the site of the existing, but non-operating Knight railyard, as well as on the site of former Army warehouses. The Port's new railyard would be larger and more active than the former Knight railyard. This new railyard, an industrial use, would be separated from incompatible residential uses located in West Oakland to the east and southeast by the elevated I-880 freeway and existing rail uses. The new railyard is not expected to result in a fundamental land use incompatibility, and the impact is considered less than significant. The southeasternmost portion of the Maritime sub-district includes and is adjacent to non-industrial uses; however, this portion of the sub-district is built out, and redevelopment is not expected to result in substantial changes to land use. The northeasternmost portion of the Maritime sub-district is expected to be developed as maritime-related industrial. This land use is in keeping with the current industrial nature of development located immediately above West Grand Avenue and adjacent to I-880.

The types of land uses planned for the Gateway and the Port development areas are distinctly different—the former is proposed to be a mix of business and office uses, and the latter would be entirely heavy industry. In some instances these dissimilar uses would be separated and buffered from one another by major infrastructure. For example, Maritime Street would separate a major industrial rail facility from the Gateway development area. However, at the interface of the Gateway development area and the Port development area near New Berth 21, potential exists for heavy industrial maritime land uses to be located immediately adjacent to dissimilar job training, Office, R&D, or Light Industrial uses. The Port maintains that this situation is similar to the Howard Terminal, which is immediately adjacent to the Jack London Square development and which has not experienced land use conflicts. However, because occurrence of this impact depends on site-specific design not currently defined, the impact is considered potentially significant. With implementation of Mitigation Measures 4.2-1, 4.2-2 and 4.2-3, the potential impact would be avoided or minimized, and the residual impact is considered less than significant.

The 16th/Wood sub-district may include new light industrial, office, some commercial, and live-work land uses proximate to existing residential land uses. This area is and is expected to remain zoned S-16, or an equivalent classification specifically intended to provide appropriate transitions between non-residential and nearby residential land uses. Therefore, redevelopment

of this sub-district is not expected to result in fundamental land use incompatibilities, and the impact is considered less than significant.

In addition to the impacts discussed above, impacts related to nuisances that could contribute to land use incompatibilities are also discussed in Section 4.4: Air Quality, and Section 4.5: Noise.

❖ ❖ ❖

4.2.7 Mitigation

Implementation of the following mitigation measures will avoid, minimize, reduce, rectify, or compensate for significant impacts of redevelopment. Both measures described below require the City and Port to work cooperatively at the boundary of their jurisdictions to achieve a satisfactory outcome.

Mitigation 4.2-1: The City shall ensure that Gateway development area redevelopment activities adjacent to Port of Oakland industrial maritime facilities are designed to minimize any land use incompatibilities to the extent feasible.

This measure applies to Impact 4.2-1.

Design of Gateway development area activities adjacent to Port activities at New Berth 21 shall be designed to avoid or minimize land use incompatibilities through such measures as, the placement of least sensitive elements (such as parking, waste collection, storage, etc.) toward Port facilities. The City shall take compatibility of uses into consideration during planning and design review.

~ ~ ~

Mitigation 4.2-2: If any land use incompatibility is subsequently identified, the Port of Oakland shall use its best efforts, consistent with meeting cargo throughput demand, to locate maritime activities that could result in land use incompatibilities as far away from the property boundary as feasible.

This measure applies to Impact 4.2-1.

The Port of Oakland shall design its New Berth 21 facility to avoid or minimize land use incompatibilities by locating to the extent feasible the most noisy, most polluting, and least attractive of its elements away from the Gateway/Port development area boundary.

❖ ❖ ❖

Mitigation 4.2-3: The City and Port shall coordinate to implement Mitigation Measures 4.2-1 and 4.2-2; if despite these efforts, subsequent land use incompatibilities are identified, the Port

and City shall jointly develop, implement, and fund on a fair share basis additional strategies to reduce incompatibilities.

This measure applies to Impact 4.2-1.

Strategies to reduce incompatibility may include and are not limited to the following:

- setbacks from the property line;
- landscape buffering; and
- fencing or walls.

❖ ❖ ❖
❖

4.3 TRANSPORTATION AND TRAFFIC

Redevelopment, which includes the realignment and extension of Maritime Street, including the Loop Road, would provide benefits, including reducing hazards to bicyclists and pedestrians, providing 105 acres of ancillary maritime support to relieve nearby communities from truck traffic and parking, and reducing delays on Maritime Street south of 7th Street due to the removal of two railroad/highway grade crossings.

Redevelopment would also result in less than significant, potentially significant, and significant impacts to the transportation system. With the implementation of measures recommended in this section, most of the potentially significant and significant impacts would be mitigated to a level that is less than significant. No feasible mitigation measures have been identified that would reduce freeway impacts to a level that is less than significant.

4.3.1 Study Area

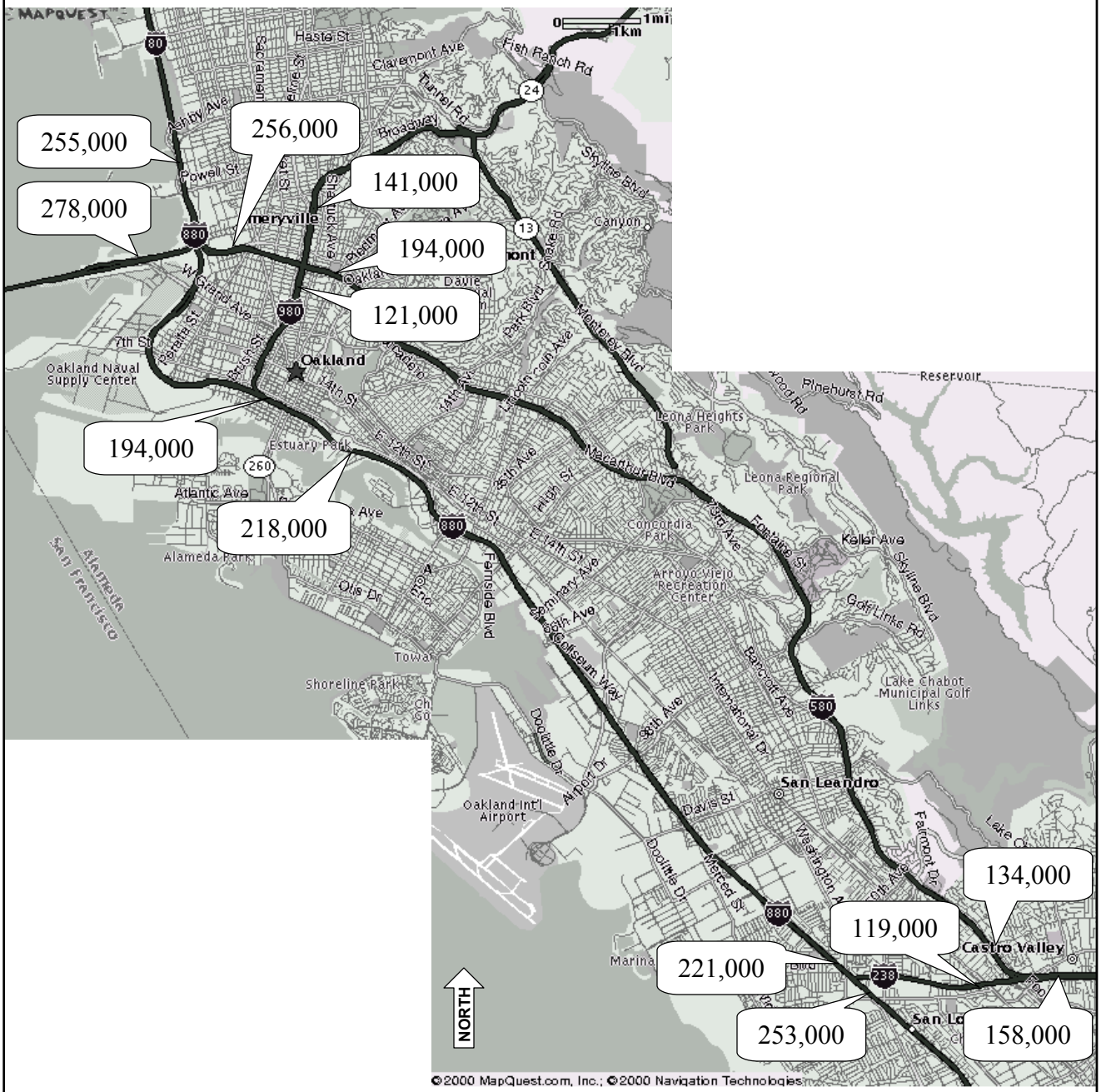
The redevelopment project area is located near the hub of the Bay Area freeway system, is well served by local roadways, and has access to public transit and rail service. The project area is located within an important recreation and commercial shipping area.

Figure 4.3-1 depicts the study area for the transportation analysis. This area was selected to encompass areas within the regional transportation network that could be potentially affected by traffic generated by redevelopment. The study area also includes local access routes expected to serve at least fifty peak hour trips generated by redevelopment during peak commute hours. The local study area includes freeways, major city arterial roads and local access routes within the cities of Oakland, Emeryville, Berkeley, and Alameda. The study area includes freeways in the East Bay from the Alameda/Contra Costa County line in the north to San Lorenzo and Castro Valley. Those freeways are I-880, I-80, I-580, I-980, I-238, and State Route (SR) 24.

4.3.2 Regulatory Setting

Federal

The Federal Highway Administration. The Federal Highway Administration (FHWA) is the agency of the U.S. Department of Transportation (DOT) responsible for the federally-funded roadway system, including the interstate highway network and portions of the primary state highway network. FHWA funding is provided through the Transportation Equity Act for the 21st Century (TEA-21 Public Law 105-178, as amended by Title IX of Public Law 105-206). This act can be used to fund local transportation improvement projects, such as projects to improve the efficiency of existing roadways, traffic signal coordination, bikeways, and transit system upgrades.



Source: Caltrans 2001

Source of Base Map: Dowling Associates, Inc.
Source of Data: Caltrans 1999

g. borchard & associates

OARB Area Redevelopment EIR

Figure 4.3-1 Average Weekday Study Area Traffic

April 2002

U.S. Coast Guard. The Ports and Waterways Safety Act of 1972 (33 USC §§ 1221 *et seq.*) authorizes the U.S. Coast Guard (USCG) to establish, operate, and maintain vessel traffic services for ports, harbors, and other waters subject to congested vessel traffic. As a result, in 1972 the Coast Guard established the Vessel Transportation Service (VTS) for San Francisco Bay and designated traffic lanes for inbound and outbound vessel traffic, specified separation zones between vessel traffic lanes, and set up rules to govern vessels entering and leaving ports. The VTS, which is located on Yerba Buena Island, controls marine traffic throughout the Bay Area. Although some small and private vessels are not required to coordinate their movements by contacting the VTS, the Coast Guard monitors all commercial, Navy, and private marine traffic within San Francisco Bay and local coastal waters.

State/Regional

The California Department of Transportation. Caltrans is responsible for planning, design, construction, and maintenance of all state highways. Caltrans jurisdictional interest extends to improvements to roadways at the interchange ramps serving area freeways. Any federally funded transportation improvements would be subject to review by Caltrans staff and the California Transportation Commission.

The California Public Utilities Commission. The California Public Utilities Commission (PUC) is responsible for regulating train operations, and has jurisdiction over operations at railroad/highway crossings.

The Metropolitan Transportation Commission. Metropolitan Transportation Commission (MTC) is the regional organization responsible for prioritizing transportation projects in a Regional Transportation Improvement Program (RTIP) for federal and state funding. The process is based on evaluating each project for need, feasibility, and adherence to TEA-21 policies and the local Congestion Management Program (CMP). The CMP requires each jurisdiction to identify existing and future transportation facilities that would operate below an acceptable service level and provide mitigation where future growth would degrade that service level.

The Metropolitan Transportation System (MTS) is the focus of MTC's regional transportation planning, management and investment decisions. The MTS is the multi-modal transportation system of regional importance — those facilities that are crucial to the freight and passenger mobility needs of the nine county San Francisco Bay Area. The MTS was first defined in the 1991 Regional Transportation Plan (RTP), and was updated in 1994, 1998, and 2001.

Definition of the MTS hinges on a functional rather than a purely geographic definition of regional significance. For the MTS, a facility is considered important if it improves access to activities crucial to mobility as well as the social or economic health of the Bay Area. Therefore, links that weave parts of the Bay Area together by crossing county or city lines are critical to the MTS concept. In addition, any link that accesses major Bay Area activity centers, regardless of the trip's length or origin, is also important to the region as a whole, and is included in the MTS.

The Alameda County Congestion Management Agency. The Alameda County Congestion Management Agency (CMA) is responsible for ensuring local government conformance with the CMP: a seven-year program aimed at reducing traffic congestion. The CMA has review responsibility for proposed development actions that require an EIR and are expected to generate 100 or more p.m. peak-hour trips. The CMA reviews the adequacy of certain California Environmental Quality Act (CEQA) transportation impact analyses and measures proposed to mitigate significant impacts that fall within the criteria of their Land Use Analysis Program. The CMA maintains a Countywide Transportation Model, and has approval authority for the use of any local or subarea transportation models.

Local

The City of Oakland. The City has designated certain streets near the Port as truck routes and container routes. Fully loaded containers on specialized chassis, with axle weights higher than typically allowed on other public streets, are allowed to operate with special permits along container routes. Container routes include certain harbor area and industrial area streets. The City of Oakland has also developed a plan for truck prohibitions in West Oakland, as depicted by Figure 4.3-2. Under a Memorandum of Understanding (MOU) between the City of Oakland and the Port of Oakland, executed July 1, 1993, the City is responsible for enforcement of traffic laws in the vicinity of the Port, including truck route compliance and parking restrictions (City of Oakland and Port of Oakland 1993). The Port funds two police officer positions to enforce these laws in the West Oakland neighborhood.

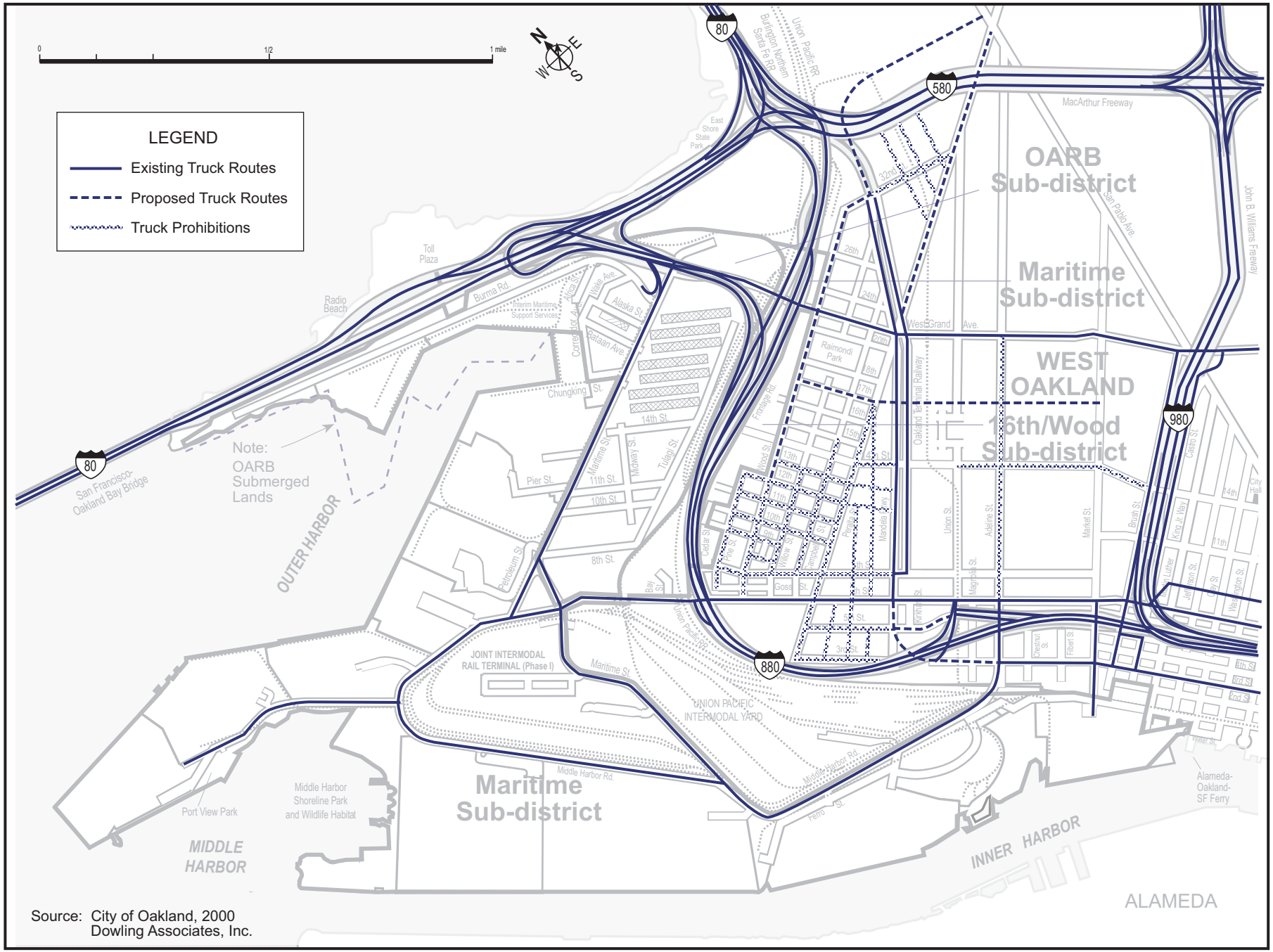
4.3.3 Regional Setting

This section describes the regional transportation setting for ground transportation and vessel transportation.

Ground Transportation

The Regional Highway System. ***I-880*** is an eight-lane freeway that serves West Alameda County, the South Bay and southern peninsula, and San Jose. Access from the redevelopment project area to I-880 is provided from ramps at Oak, Broadway, and Jackson Streets. The portion of I-880 that formerly served the redevelopment project area collapsed during the 1989 Loma Prieta earthquake. A new six-lane I-880 connection from I-980 to I-80 was completed in 1998. I-880 connects to west I-80 at the Bay Bridge Toll Plaza. Interchange ramps connect I-880 to Maritime, 7th, Union, Adeline, and Market streets. A connection to I-80 east is provided at the north end of a frontage road that extends from 7th Street to West Grand Avenue.

I-80 is an eight- to ten-lane freeway serving San Francisco and the West Bay as well as East Bay destinations in West Contra Costa County, Sacramento, and points north and east. I-80 is connected to the redevelopment project area by freeway ramps that terminate at the West Grand Avenue/I-880 Frontage Road intersection. I-80 east has recently been widened to



Source: City of Oakland, 2000
Dowling Associates, Inc.

OARB Area Redevelopment EIR

Figure 4.3-2 Truck Routes and Prohibitions

April 2002

g. borchard & associates

provide High Occupancy Vehicle (HOV) lanes and improved ramp connections to I-580 and the Bay Bridge. I-80, north of the OARB, carries approximately 260,000 vehicles daily to San Francisco.

I-580 is an eight-lane freeway serving Northern Alameda County, Livermore, Stockton, Marin County north and I-5 south. Access to the redevelopment project area is provided via the West Grand Avenue/I-80 ramps. The City of Oakland has placed a heavy truck (over 4.5 tons) restriction on I-580 between Grand and 106th avenues. Truck traffic to and from the redevelopment project area must use alternative roadways. I-580 carries approximately 194,000 vehicles daily east of I-980. East of I-238, I-580 carries approximately 158,000 vehicles daily.

I-980 provides access to the Oakland downtown area. I-980 has six to eight lanes and an average daily traffic volume of 191,000 vehicles. I-980 becomes State Route 24 (SR-24) at the northern end, providing access to Contra Costa County via the Caldecott Tunnel, and provides a direct connection between I-580 and I-880.

I-238 is a four-lane freeway that connects I-580 to I-880 through unincorporated San Lorenzo. I-238 provides the primary truck link between the redevelopment project area and I-580 east to the Tri-Valley and Central Valley and carries approximately 118,000 vehicles daily. I-238 is planned to be widened to eight lanes.

SR-24 is an eight-lane freeway that connects the East Bay area with central and east Contra Costa County. SR-24 extends from I-980 to I-680 through the Caldecott tunnel and carries approximately 150,000 vehicles daily just west of the Caldecott Tunnel.

The following discussion of regional freeway conditions was taken from the 2000 Level of Service Monitoring Report prepared by the CMA (2000). The CMA monitors congestion on freeways in the region by measuring the average travel speed during the p.m. peak period (4:00 to 6:00 p.m.). Freeway traffic conditions are then described in terms of level of service (LOS), a standard measure for traffic operations defined by the average number of seconds of delay per vehicle, with LOS A representing free-flow conditions and LOS F representing gridlocked conditions.[1]

According to the CMA, traffic speeds of 49 miles per hour (mph) or higher on the freeway indicate LOS A through C. At LOS D, traffic operating conditions become unstable and speeds can drop as low as 41 mph. At LOS E, there are virtually no usable gaps in the traffic stream and speeds can drop as low as 30 mph. Below 30 mph, at LOS F, stop-and-go traffic operations often occur.

As shown on Table 4.3-1, in 2000 during the p.m. peak, traffic congestion occurs on most routes leading away from major employment centers in the study area. I-80 operates at LOS F eastbound from the Bay Bridge to the I-80/I-580 split, and is congested westbound approaching

[1] Appendix 4.3 includes definitions of LOS.

the I-80/I-580 split. I-880 northbound is congested south of I-238, and I-238 is congested in the westbound direction from I-580 to I-880. I-580 eastbound is congested east of I-238, but operates well between I-80 and I-238. I-980 operates at LOS D or better. Eastbound SR-24 operates at LOS E from I-580 to the Caldecott Tunnel.

Table 4.3-1
Freeway Operations In 2000

Freeway Segment	A.M. Peak Hour[a]		P.M. Peak Hour	
	LOS	Speed (mph)	LOS	Speed (mph)
I-80 at the Bay Bridge				
Eastbound	-	-	F	22.1
Westbound	F	4.7	F	26.3
I-80 between I-880 and I-580				
Eastbound	-	-	F	23.0
Westbound	F	16.1	F	9.9
I-80 East of I-80/I-580 Split				
Eastbound	-	-	E	37.0
Westbound	F	24	D	43.4
I-880 South of I-980				
Northbound	-	-	C	49.3
Southbound	-	-	E	40.3
I-880 North of I-238				
Northbound	-	-	B	55.6
Southbound	-	-	D	44.0
I-880 South of I-238				
Northbound	-	-	B	56.5
Southbound	F	15.9	F	24.0
I-238				
Eastbound	-	-	C	48.9
Westbound	F	18.0	F	24.4
I-580 East of I-238				
Eastbound	-	-	D	47.4
Westbound	-	-	F	24.0
I-580 West of I-238				
Eastbound	-	-	A	64.1
Westbound	-	-	A	69.3
I-580 East of I-980/SR-24				
Eastbound	-	-	C	54.5
Westbound	-	-	C	53.9
I-580 West of I-980/SR-24				
Eastbound	-	-	A	64.0
Westbound	-	-	B	58.7
I-980				
Northbound	-	-	C	52.1
Southbound	-	-	D	47.7
SR-24 East of I-580				
Eastbound	-	-	E	33.4
Westbound	-	-	B	57.2

Source: ACCMA 2000 LOS Monitoring Report.
Note: [a] Missing values (designated with a dash "-") were not reported in the reference document.

During the a.m. peak period (7:00 to 9:00 a.m.), bottlenecks occur on many of the freeways leading to the major employment centers in and near the transportation study area. SR-24 is

congested at its southbound connection to I-580. Congestion regularly occurs on westbound I-80 at the I-580 split and on the approach to the Bay Bridge toll plaza. I-238 is congested westbound from I-580 to I-880. On I-580, slowing occurs regularly in both directions between I-80 and I-980. I-980 is congested southbound from the 12th Street off-ramps to I-880 (Caltrans 1993).

Vessel Transportation

The vessel transportation analysis focuses on commercial vessels.

West of the Golden Gate Bridge in the Gulf of the Farallones, vessel approach lanes to the entrance of San Francisco Bay have been established from the north, west, and south. Each approach lane is composed of a one-mile-wide inbound traffic lane and a one-mile-wide outbound traffic lane with a one-mile-wide separation between the traffic lanes. Outside these lanes, the U.S. Navy designated areas for submarine operations within which barge operations are precluded. The approach lanes lead to an offshore light station with a rotating beacon that marks the beginning of the main channel to the Golden Gate Bridge. The beacon, which is located 10 miles west of Point Bonita, is in the center of a precautionary area where all ships leaving and entering the port converge. This is the area where many ships take on or discharge San Francisco Bar Pilots.

Piloting in and out of the Bay and adjacent waterways is compulsory for all vessels of foreign registry and U.S. vessels under enrollment not having a federally licensed pilot on board. San Francisco Bar Pilots provide these services for vessel movements to and from all terminals in the Bay and tributaries to the Bay, including the Carquinez Strait.

Within San Francisco Bay, the USCG has established Regulated Navigation Areas (RNAs), which increase navigational safety by organizing traffic flow patterns; reducing meeting, crossing, and overtaking situations between large vessels in constricted channels; and limiting vessel speed. The RNAs, which were established in 1993 with input from the Harbor Safety Committee, modified the previous voluntary traffic routing measures to better conform to International Maritime Organization (IMO) traffic routing standards. The 1993 modifications added a Golden Gate precautionary area, a deep water traffic lane separation zone north of Harding Rock, and an expanded Central Bay precautionary area. It also eliminated the former traffic lanes in the North Ship Channel and the San Pablo Strait.

RNAs apply to "large vessels" (defined as power-driven vessels of 1,600 or more gross tons, or tugs with a tow of 1,600 or more gross tons). When navigating within the RNAs, large vessels follow specific guidelines. They must have their engines ready for immediate maneuver, must operate their engines in a control mode and on fuel that allows for an immediate response to any engine order, and must not exceed a speed of 15 knots through the water.

According to records of the Marine Exchange, (ME), approximately 1,810 vessels called at Port of Oakland facilities in 2000 to 2001. Of these, approximately 1,735 were container vessels, and the remainder bulk and auto carriers, or unclassified vessels (Marine Exchange 2001).

4.3.4 Local Setting

This section describes the local transportation setting for ground transportation and vessel transportation.

Ground Transportation

The Local Roadway System. Local vehicular access to the project area is provided by West Grand Avenue, Maritime Street, Middle Harbor Road, and 7th Street, and Wood Street, as depicted in Figure 4.3-3. West Grand Avenue is a six-lane arterial with a raised center median and numerous signalized intersections from Mandela Parkway in West Oakland to the Oakland north-central business district. West Grand Avenue has recently been re-connected to the Cypress Freeway system at Maritime Street and at a new elevated intersection with the Cypress Freeway frontage road. Access to I-80 west and I-580 east is provided at the Maritime Street intersection and access to I-80 east and I-580 west is provided at the frontage road.

Maritime Street is a four-lane arterial with a center two-way left-turn lane. It is heavily used by trucks and other traffic accessing the OARB, the Port's Outer Harbor terminal, and the Union Pacific (UP) railyard. It is a primary access route to the Port of Oakland. On its north end Maritime Street is connected to the Cypress Freeway system at its intersection with West Grand Avenue, where freeway ramps provide access to I-80 west and I-580 east. On its south end, the rail tracks leading to the Joint Intermodal Terminal (JIT) cross Maritime Street just south of 7th Street and just north of Middle Harbor Road. This portion of Maritime Street is subject to train blockages when trains enter or exit the JIT.

Middle Harbor Road, an extension of Adeline Street, is a four-lane arterial with a center two-way left-turn lane. At its eastern end, a bridge structure, known as the Adeline Street Overpass, carries the roadway across the UP railroad tracks. From Adeline Street to Maritime Street, Middle Harbor Road is a dedicated City street. From Maritime Street to 7th Street, Middle Harbor Road passes between Berths 55-59 and the JIT, and provides an alternate route around the segment of Maritime Street that is subject to train blockages. Middle Harbor Road is heavily used by trucks and other traffic accessing the Port of Oakland. It provides the primary access to I-880 and I-980 from the Port.

7th Street is a public four-lane arterial that provides access to the Matson and Trapac marine terminals, Port View Park, and the new MHSP. 7th Street also serves local and cross-town traffic for West Oakland between Middle Harbor Road and I-980/I-880. 7th Street passes beneath I-880 and then parallels the UP railroad tracks. Freeway ramps connect 7th Street to I-880 south. A frontage road connects 7th Street to points north.

Wood Street is a two lane residential street at the eastern border of the redevelopment project area. Wood Street provides a connection from 7th Street to the 16th/Wood sub-district through a residential area of West Oakland. Through truck traffic is prohibited on the southern portion of Wood Street, and speed bumps have been installed to control speeds. North of the 16th/Wood sub-district, Wood Street passes under the elevated portion of West Grand Avenue.

Level of Service (LOS) Analysis. The efficiency of traffic operations at study area intersections was evaluated for existing and baseline conditions. Forty-five intersections, identified as having the greatest potential for redevelopment traffic impacts, were selected for study (Figure 4.3-3). LOS at study area intersections was analyzed for the a.m. and p.m. peak hours, using methodologies described in the Highway Capacity Manual (Transportation Research Board 1998).[2] The LOS for signalized and unsignalized intersections is defined in terms of delay, which is a measure of driver discomfort, frustration, and lost travel time.

Delay is a complex measure and is dependent upon a number of variables, including the number of vehicles in the traffic stream. For signalized intersections, delay is also dependent on the quality of signal progression, the signal cycle length, and the "green" ratio for each approach or lane group. For intersections with one or two stop signs, delay is dependent on the number of gaps available in the uncontrolled traffic stream.

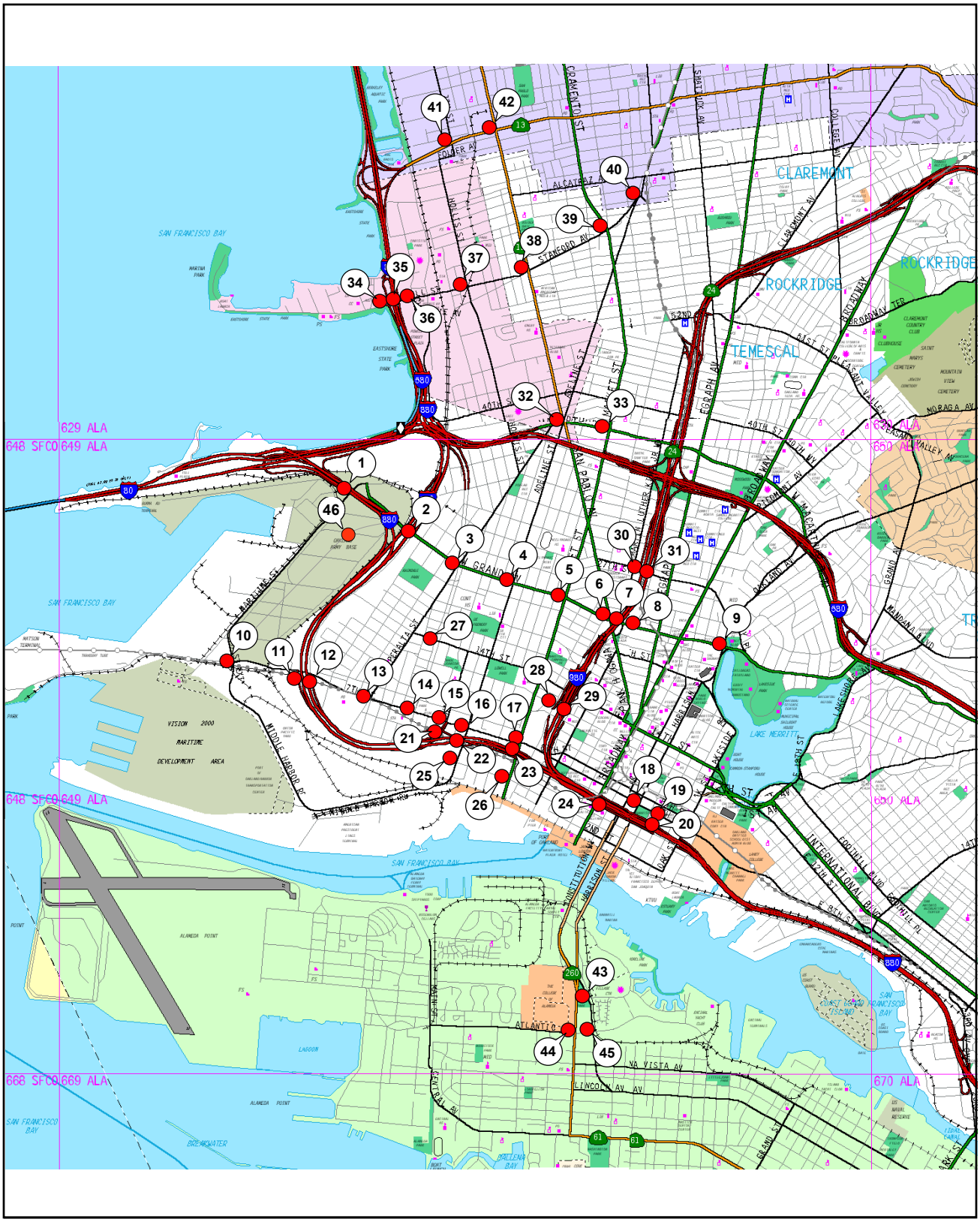
All the intersections, except two are controlled by traffic signals. The 3rd/Adeline Street intersection has a traffic signal that displays flashing red signal indications in all directions. This intersection functions as an all-way stop controlled intersection. The 3rd/Market Street intersection is controlled by stop signs facing Market Street traffic.

Existing a.m. and p.m. peak-hour traffic turning movement counts were collected at almost all of the study intersections within the last three years (the a.m. peak hour turning movement count at the Constitution Way/Atlantic Avenue intersection was counted in 1998). Turning movement data in the study area were collected from the Fall of 2000 through Spring of 2001.

Traffic Conditions, Setting. The existing levels of service at local study area intersections were determined for the a.m. and p.m. peak hours and are provided in Table 4.3-2. Detailed LOS calculation worksheets are available on file with the City of Oakland. All intersections operate at or better than the City of Oakland's LOS standard (LOS D outside of downtown and LOS E within downtown).[3]

[2] This version of the Highway Capacity Manual was prepared in 1997 and is commonly referred to as the 1997 Highway Capacity Manual.

[3] Worksheets are available for review at 250 Frank Ogawa Plaza, Suite 3330, during normal business hours.



Source of Base Map: Dowling Associates, Inc.

Note: Intersection No. 46 (Realigned Maritime Street and the Gateway Development Area access road) does not currently exist. It will be created as part of redevelopment.

g. borchard & associates

OARB Area Redevelopment EIR

Figure 4.3-3 Traffic Study Intersections

April 2002

Traffic Conditions, Alternative Baseline. A traffic operations analysis was performed to establish a baseline for the analysis of transportation impacts. Baseline conditions were developed to assess the level of service at study area intersections if OARB were still functioning at its 1995 level of operations, before the Base was slated for closure.

Table 4.3-2
Existing Intersection Operations, 2001

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay [a]	LOS	Delay [a]
West Grand Avenue/Maritime Street	C	34.0	C	29.6
West Grand Avenue/I-880 Frontage Road	C	30.3	D	35.4
West Grand Avenue/Mandela Parkway	A	9.6	B	10.7
West Grand Avenue/Adeline Street	B	11.1	B	10.3
West Grand Avenue/Market Street	A	10.0	B	10.6
West Grand Avenue/San Pablo Avenue	B	11.4	B	11.6
West Grand Avenue/MLK Jr. Way [b]	B	13.7	B	17.0
West Grand Avenue/Northgate Avenue [b]	C	23.8	C	21.8
West Grand Avenue/Harrison Street [b]	C	24.2	C	23.2
7th Street/Maritime Street	C	29.7	C	33.3
7th Street/I-880 Southbound Ramp	A	5.2	A	7.8
7th Street/I-880 Northbound Ramp	C	29.2	C	30.5
7th Street/Peralta Street	A	8.6	A	8.7
7th Street/Mandela Parkway	B	14.8	B	16.7
7th Street/Union Street	A	9.0	B	11.9
7th Street/Adeline Street	B	10.7	A	9.5
7th Street/Market Street	B	15.0	C	20.8
7th Street/Harrison Street [b]	B	10.5	B	10.8
7th Street/Jackson Street [b]	C	32.6	C	21.1
6th Street/Jackson Street [b]	B	10.4	B	11.7
5th Street/Union Street/I-880 Ramps	C	31.5	C	27.1
5th Street/Adeline Street	C	30.4	C	29.1
I-880 Off Ramp/Market Street	B	19.5	C	22.8
5th Street/Broadway [b]	C	20.9	C	29.3
3rd Street/Adeline Street	B	11.3	B	11.8
3rd Street/Market Street	B	13.9	B	13.3
14th Street/Mandela Parkway	A	8.5	A	8.4
12th Street/Brush Street [b]	C	30.4	C	22.4
12th Street/Castro Street [b]	B	15.5	B	19.1
27th Street/SR 24-580 SB Off-Ramp	B	11.8	B	15.9
27th Street/SR 24-580 NB On-Ramp	A	9.5	C	20.4
West MacArthur Blvd/Adeline Street	B	18.3	B	19.8
West MacArthur Blvd/Market Street	B	15.8	B	17.3
Powell Street/I-80 Frontage Road	C	21.3	C	22.4
Powell Street/I-80 NB Ramps	C	25.2	D	43.9
Powell Street/Christie Street	C	29.9	C	30.5

Table 4.3-2
Existing Intersection Operations, 2001

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay [a]	LOS	Delay [a]
Powell Street/Hollis Street	C	22.7	C	31.1
Powell Street/San Pablo Avenue	C	31.8	C	34.3
Stanford Avenue/Market Street	C	28.6	C	31.6
Stanford Avenue/MLK Jr. Way	B	12.5	D	46.4
Ashby Avenue/7th Street	C	33.7	D	48.6
Ashby Avenue/San Pablo Avenue	C	29.8	C	32.2
Marina Village/Constitution Way	C	20.6	C	22.0
Atlantic Avenue/Webster Street	C	31.5	C	28.6
Atlantic Avenue/Constitution Way	C	22.3	C	20.7

Source: Dowling Associates 2002.
Notes: [a] Delay in seconds per vehicle.
[b] Defined as a downtown intersection.

In 1995, there were 2,044 employees at the OARB (U.S. Army Corps of Engineers [Corps] 2001), 714 more than the 1,330 employees at the end of 2000 (OBRA 2001). The traffic generated by these 714 additional employees were added to existing traffic volumes to develop the alternative baseline for the transportation impact analysis. Additional trips generated by OARB employees in 1995 are shown in Table 4.3-3.

Table 4.3-3
OARB Trip Generation, 1995 and 2001

			Trips Generated						
				AM Peak Hour			PM Peak Hour		
Year	Land Use Category	Employees	Daily	In	Out	Total	In	Out	Total
1995	Warehousing	2,044	5,378	590	229	819	334	620	954
2001	Warehousing	1,330	3,896	397	155	552	224	417	641
Difference between 1995 and 2001		714	1,482	192	75	267	109	203	313

Source: Institute of Transportation Engineers 1997.

The additional trips generated by employees that were on the base in 1995 were added to existing traffic volumes based on the distribution of traffic derived from the Alameda County Congestion Management Agency Countywide Transportation Model. The Countywide Model incorporates a representation of land use and demographic characteristics of the nine-county Bay Area, which allows it to produce travel demand forecasts that incorporate influences of regional travel demand on the transportation network in Alameda County. The distribution of OARB trips is shown in Table 4.3-4. The analysis showed that about half of the trips attributed to the OARB alternative baseline would be to or from the area outside the local study area and half would be within the local study area.

The additional trips generated by OARB employees in 1995 were added to existing traffic volumes using the TRAFFIX impact analysis software package. Levels of service for study area intersections for baseline conditions were determined for the a.m. and p.m. peak hours, and are provided in Table 4.3-5. For baseline conditions, all intersections operate at or above the LOS D standard as do the intersections for existing conditions.

Table 4.3-4
OARB Trip Distribution, 2001

Route	Trip Distribution
Outside Local Study Area	
I-80 West	10%
I-80 East	14%
SR 24	9%
I-580 East	7%
I-880 South	11%
Within Local Study Area	
Oakland/San Leandro	
SR 24	3%
I-580 East	13%
I-880 South	4%
Grand E. of I-80	17%
7th Street	1%
MacArthur Blvd	3%
Emeryville/Berkeley	
I-80 Frontage Road	1%
San Pablo Avenue	1%
Ashby Avenue	1%
Powell Street	1%
Alameda	
Constitution Way	2%
Webster Street	2%
Total	100.0%

Source: Alameda Countywide Model 2002.

Table 4.3-5
Intersection Operations for Baseline Conditions[a], 1995

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay [b]	LOS	Delay [b]
West Grand Avenue/Maritime Street	D	37.1	C	32.6
West Grand Avenue/I-880 Frontage Road	C	30.7	D	37.3
West Grand Avenue/Mandela Parkway	A	9.6	B	10.6
West Grand Avenue/Adeline Street	B	11.5	B	10.6
West Grand Avenue/Market Street	A	9.9	B	10.6
West Grand Avenue/San Pablo Avenue	B	11.5	B	11.6

Table 4.3-5
Intersection Operations for Baseline Conditions[a], 1995

Intersection	A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay [b]	LOS	Delay [b]
West Grand Avenue/MLK Jr. Way [c]	B	13.7	B	16.9
West Grand Avenue/Northgate Avenue [c]	C	23.9	C	21.8
West Grand Avenue/Harrison Street [c]	C	24.2	C	23.3
7th Street/Maritime Street	C	30.4	C	33.6
7th Street/I-880 Southbound Ramp	A	5.2	A	7.5
7th Street/I-880 Northbound Ramp	C	29.3	C	30.6
7th Street/Peralta Street	A	8.5	A	8.7
7th Street/Mandela Parkway	B	14.8	B	16.7
7th Street/Union Street	A	9.0	B	11.9
7th Street/Adeline Street	B	10.7	A	9.5
7th Street/Market Street	B	15.0	C	20.8
7th Street/Harrison Street [c]	B	10.5	B	10.8
7th Street/Jackson Street [c]	C	33.6	C	21.3
6th Street/Jackson Street [c]	B	10.4	B	11.7
5th Street/Union Street/I-880 Ramps	C	31.5	C	27.2
5th Street/Adeline Street	C	30.4	C	29.1
I-880 Off Ramp/Market Street	B	19.5	C	22.8
5th Street/Broadway [c]	C	20.9	C	29.4
3rd Street/Adeline Street	B	11.3	B	11.8
3rd Street/Market Street	B	13.9	B	13.3
14th Street/Mandela Parkway	A	8.5	A	8.4
12th Street/Crush Street [c]	C	30.4	C	22.4
12th Street/Castro Street [c]	B	15.5	B	19.1
27th Street/SR 24-580 SB Off-Ramp	B	11.8	B	15.9
27th Street/SR 24-580 NB On-Ramp	A	9.5	C	20.5
West MacArthur Blvd/Adeline Street	B	18.4	B	19.9
West MacArthur Blvd/Market Street	B	15.8	B	17.3
Powell Street/I-80 Frontage Road	C	21.3	C	22.4
Powell Street/I-80 NB Ramps	C	25.2	D	44.1
Powell Street/Christie Street	C	29.9	C	30.5
Powell Street/Hollis Street	C	22.7	C	31.1
Powell Street/San Pablo Avenue	C	31.8	C	34.4
Stanford Avenue/Market St	C	28.6	C	31.6
Stanford Avenue/MLK Jr. Way	B	12.5	D	46.4
Ashby Avenue/7th Street	C	33.7	D	48.6
Ashby Avenue/San Pablo Avenue	C	29.8	C	32.3
Marina Village/Constitution Way	C	20.6	C	21.9
Atlantic Avenue/Webster Street	C	31.5	C	28.6
Atlantic Avenue/Constitution Way	C	22.3	C	20.7

Source: Dowling Associates 2002.

Notes: [a] Baseline conditions reflect 2001 traffic levels, adjusted to account for 1995 Traffic Generation at the OARB.

[b] Delay in seconds per vehicle

[c] Defined as a downtown intersection.

Vehicle Types. Traffic in and near the project area consists of two primary components: passenger car traffic generated by commuters and local residents, and heavy trucks. Heavy trucks have a substantially greater proportional influence on traffic operations than passenger cars. To determine the relative number of passenger cars and trucks in the redevelopment project area, vehicle classification counts were conducted at three locations:

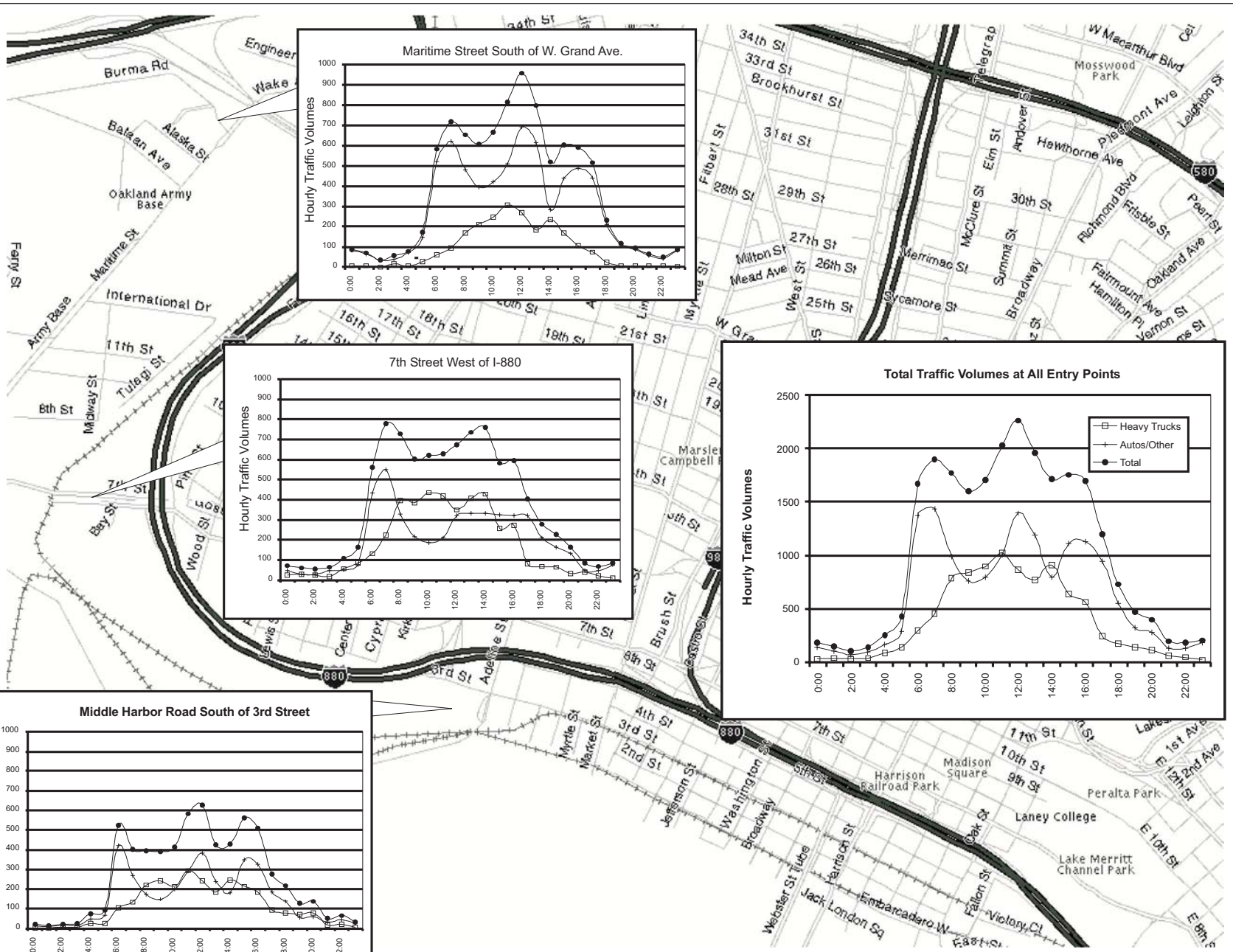
- Maritime Street south of West Grand Avenue;
- 7th Street west of I-880; and
- Middle Harbor Road south of 3rd Street.

These locations show traffic conditions, respectively, at the northern, central, and southern areas of the Port. Variations in auto, truck, and total traffic volumes throughout the weekday for the three locations listed above are shown in Figure 4.3-4. The figure shows that automobile traffic in the redevelopment project area peaks between 7:00 and 8:00 a.m., at the noon hour, and between 3:00 and 4:00 p.m. Truck traffic peaks between 11:00 a.m. and 12:00 noon.

Railroads. Burlington Northern Santa Fe (BNSF) has its major Northern California railyard in Richmond but also has rail access to the Oakland Outer Harbor area. BNSF has an agreement to use the UP rail line between Richmond and Oakland, where BNSF maintains a small yard facility near 34th and Wood streets. Oversize and heavy loads (like earthmoving equipment on railroad flatcars) can be routed from Richmond to the Wood Street Yard via the UP mainline and then interchanged with the Oakland Terminal Railroad (OTR) for the final movement to marine terminals in the Port. The JIT was recently constructed by the Port in the area bounded by 7th Street, Maritime Street, and Middle Harbor Road in order to expand the existing intermodal cargo handling capabilities at the Port and to allow the BNSF to operate effectively at the Port. From the Bay Area, most of BNSF's priority freight is shipped east to other points in the United States via Stockton, California, and Flagstaff, Arizona.

UP serves the Bay Area on trackage to the east via Stockton and the Sierra Nevada to Salt Lake City, Utah, and points east. UP currently operates an intermodal terminal along Inner Harbor, providing a direct transfer point for containers moving between ships and trains. Currently, most of the Oakland-related UP train traffic travels via Salt Lake City, where UP's primary lines to Southern California, the Pacific Northwest, and the Midwest converge. In 1996, UP purchased SP. In this acquisition, UP acquired three routes for moving freight to and from the Bay Area and the former SP West Oakland Intermodal Railyard on the northeastern side of the Port. The northern route has two tracks and crosses the Carquinez Strait at Benicia en route to the Sacramento area for connections to the Pacific Northwest, Midwest, and Gulf of Mexico.

OTR is an offshoot of the East Bay's former interurban Key Line Transit system that is jointly owned by UP and BNSF. OTR is a local switching railroad that shuttles rail cars between the UP, BNSF, and the Port of Oakland marine terminals. In addition to these interchange



OARB Area Redevelopment EIR

Figure 4.3-4 Traffic Volumes at Harbor Area Access Points

April 2002

g. borchard & associates

movements, OTR also serves a few industries located along its street trackage through West Oakland. OTR operates on segments of tracks that pass through the OARB. OTR typically operates in the evening, but crews and trains can operate at any time, depending on demand.

Bicycle and Pedestrian Facilities. Bicycle and pedestrian access through the redevelopment project area, particularly to the waterfront, has recently been improved. The Bay Trail has been extended to the east as part of the Port's Vision 2000 Maritime Development Program. Caltrans is required to construct a portion of the Bay Trail between Shellmound Street in Emeryville and the Bay Bridge as mitigation for its I-880 relocation project. The remainder of the Bay Trail through the redevelopment project area will be constructed as part of redevelopment. Sidewalks and pedestrian signals have been installed and provide adequate pedestrian access through most of the redevelopment area that is open to the public. The public access facilities in the redevelopment project area are discussed in detail in Section 4.10, Recreation and Public Access.

Public Transit. Transit service in the study area is provided primarily by the Alameda-Contra Costa Transit District (AC Transit), Bay Area Rapid Transit (BART), the Oakland-Alameda Ferry, and Amtrak.

AC Transit provides bus service to residents and visitors along the east shore of the San Francisco Bay Area with an extensive network of local transit lines (Dowling Associates and GBA 1998). AC Transit Route 13 provides local service between the Oakland-Piedmont City Limits, Lake Merritt and OARB through downtown Oakland. The route generally follows Lakeshore, 14th, Mandela, 7th, and Maritime Streets. Weekday service is provided about every 15 minutes during peak periods and 30 minutes other times from 5:30 a.m. to 7:00 p.m. There is no weekend service.

Route 62 connects West Oakland with Fruitvale BART via downtown Oakland. The route alignment generally follows Wood, Peralta, 7th, 12th, 8th, 31st, 23rd, and East 14th streets. Weekday service is provided about every 15 minutes during peak and midday periods, and every 30 minutes after 7:00 p.m. On weekends, buses operate every 20 to 30 minutes between 5:30 a.m. and midnight.

Route B provides Transbay service for the redevelopment project area with a bus stop on West Grand Avenue at Mandela Parkway. Westbound service is provided in the morning and eastbound service is provided during the evening peak commute period. No service is provided in the off-peak direction.

The BART system provides the West Oakland area with direct links to San Francisco and the metropolitan areas of Contra Costa and Alameda counties. BART operates between 4:00 a.m. and 1:30 a.m. Monday through Friday; 6:00 a.m. to 1:30 a.m. on Saturdays; and 8:00 a.m. to 1:30 a.m. on Sundays and major holidays. The West Oakland and 12th Street BART stations are the two BART stations closest to the project area. The West Oakland BART station is located

approximately 2 miles east of the Port's maritime area at the intersection of Mandela Parkway and 7th Street (Dowling Associates and GBA 1998).

The Oakland-Alameda Ferry provides ferry service between Oakland and San Francisco. This service was initiated in October of 1989 after the Loma Prieta earthquake damaged the Bay Bridge. During the 1997 BART strike, the ferry served as a reliever for displaced transit riders. The MTC, the City of Alameda, and the Port of Oakland continue to plan routes for and fund the ferry service. Three of the five ferry boats in service are 28 knot, high speed catamarans. The other two are 693-passenger boats that travel at roughly 16 knots.

Ferry terminals are located along the Inner Harbor. On weekdays, the four ferries currently make 15 trips between Oakland, Alameda, and San Francisco. Westbound, the ferries operate between 6:00 a.m. and 8:55 p.m. Eastbound, the service runs between 6:30 a.m. and 8:55 p.m. Additional service from Oakland and Alameda is provided for Giants games during the baseball season. For weekday night and weekend games, these ferries go directly to PacBell Park. For weekday games, the ferries go to the Ferry Building on the San Francisco side, and passengers transfer to the streetcar for access to the park.

Amtrak uses UP's northern route through the project area to operate three daily round-trip "Capitol" and four daily "San Joaquin" passenger trains between the Bay Area and Sacramento and the Central Valley. An Amtrak maintenance facility is located in the study area near the 7th Street/Maritime Street intersection.

Parking. The Port provides subsidized parking to independent truck owner/operators within the Port area at the former UP roundhouse site. The purpose of this parking area is to reduce tractor and trailer parking in West Oakland. Truck parking space is leased at a cost of $50 per chassis and $75 per truck-trailer combination per month.

4.3.5 Impact Analysis Methodology

For the analysis of transportation impacts, the following sub-areas of the redevelopment project area were considered:

- The Gateway development area — the City of Oakland's northern portion of the OARB sub-district;
- The Port area — the Port of Oakland's southern portion of the OARB sub-district plus the Maritime sub-district; and
- The 16th/Wood area — the 16th/Wood sub-district.

The methodology for determining the impacts of redevelopment was based on the analytical procedures described in the previous section. The analysis of traffic operations at intersections was performed using the 1997 Highway Capacity Manual methodologies. For freeways, the

analysis was performed using the methodologies described in the 1984 Highway Capacity Manual, as required by the Alameda County CMA.

The traffic impacts of redevelopment were determined by comparing existing plus redevelopment traffic conditions against alternative baseline traffic conditions for the OARB only. Existing plus redevelopment traffic conditions were established by adding redevelopment traffic volumes to existing traffic volumes. Alternative baseline traffic conditions were established by adding traffic generated by the difference between the number of employees on the OARB in 1995 and the number of employees currently on the base, as previously described.

Trip Generation

Trip generation for redevelopment is based upon information in Trip Generation, Sixth Edition (Institute of Transportation Engineers 1997). The trip generation for redevelopment is shown in Table 4.3-6. Redevelopment would generate approximately 45,600 daily automobile trips.[4] The Gateway development area would generate 45 percent, the Port development area would generate 23 percent, and the 16th/Wood area would generate 32 percent of the total daily redevelopment project area trips.

Table 4.3-6
Redevelopment Project Area Trip Generation When Completed

			Trips Generated						
				AM Peak Hour			PM Peak Hour		
Land Use	**Amount[a]**		**Daily**	**In**	**Out**	**Total**	**In**	**Out**	**Total**
Gateway Development Area									
Office, R&D[b]	376	KSF	3,670	472	64	536	85	416	501
Office, R&D[c]	577	KSF	5,099	663	90	754	123	603	726
Light Industrial	444	KSF	3,214	384	52	436	57	416	473
Community/Civic (JATC)[d]	50	KSF	349	40	6	46	6	43	49
Office	600	KSF	5,255	684	93	778	128	624	752
Park	29	Acres	232	7	2	9	8	11	19
Maritime Support (with trucks)	15	Acres	561	21	31	52	21	23	44
Warehouse and Distribution	300	KSF	1,453	146	32	178	40	128	168
Subtotal Gateway Development Area			19,832[e]	2,417	371	2,789	468	2,264	2,732
Port Area									
Marine Terminals									
Proposed Employment	2,599	Emp.	10,630	894	146	1,040	192	769	962
Approved Employment	2,047	Emp.	8,372	704	115	819	151	606	757
New Employment	552	Emp.	2,258	190	31	221	41	163	204
New Intermodal Trucks[f]	202	Acres	3,182	153	163	316	34	79	113
New Off-site Trucks[f]	202	Acres	2,876	138	147	285	31	71	102
Rail Terminal[g]									
Proposed New Intermodal Facility	188	Emp.	867	70	11	81	14	54	68

[4] All trips discussed in this document are reported as the equivalent number of passenger car trips. Each truck trip generated by redevelopment is considered as the equivalent of two passenger car trips. The total number of daily truck trips generated by redevelopment would be 3,029 – the equivalent of 6,058 automobile trips.

Table 4.3-6
Redevelopment Project Area Trip Generation When Completed

Land Use	Amount[a]		Trips Generated						
				AM Peak Hour			PM Peak Hour		
			Daily	In	Out	Total	In	Out	Total
Approved JIT	208	Emp.	959	77	13	89	15	60	75
Change in Employment	-20	Emp.	-92	-7	-1	-9	-1	-6	-7
Maritime Support									
Maritime Support Center	75	Acres	1,383	52	77	129	51	57	108
North of West Grand (with trucks)[f]	15	Acres	561	21	31	52	21	23	44
Subtotal Port Area			10,168	546	449	995	176	388	564
16th/Wood Area									
North Subarea[h]									
Office[c]	1,426	KSF	10,216	1,364	186	1,550	285	1,393	1,678
Live Work	252	Units	1,428	18	88	106	88	44	132
Light Industrial	120	KSF	836	97	13	110	14	103	118
Park	1	Acre	8	0	0	0	0	1	1
South Subarea									
Live/Work	123	Units	776	10	50	60	49	24	73
Light Industrial	185	KSF	1,289	150	20	170	22	160	181
Subtotal 16th/Wood Area			14,554	1,640	358	1,998	459	1,724	2,182
Total			44,554	4,603	1,178	5,781	1,102	4,376	5,478

Sources: Institute of Transportation Engineers 1997 and Port of Oakland 1998

Notes:

[a] KSF = thousand square feet; Emp. = employees

[b] Office, R&D was treated as general office for the purpose of trip generation.

[c] Office supporting ancillary retail space was included as office space.

[d] JATC was treated as light industrial space for the purpose of trip generation.

[e] In addition to the trucks associated with Maritime Support, the trip generation rates for Gateway development area and 16th/Wood area include an approximately 1% and 0.6% component of heavy duty trucks, respectively, as assumed in the traffic model.

[f] Truck trips are reported as the equivalent number of passenger cars (1 truck = 2 cars).

[g] No new non-intermodal traffic would be generated due to changes in the size of rail terminal facilities.

[h] Negligible peak hour traffic is expected to result from development of 11,000 sq. ft. of event and common space at the Amtrak Station, and that space is not included in the 16th/Wood land use amounts.

Separate components of redevelopment were treated as separate land uses for the purpose of trip generation.

For the purpose of determining the number of trips that would be generated by redevelopment, the office/R&D land use category described for the Gateway development area was considered as office space. Office development typically generates a slightly higher number of trips than R&D development, so the treatment of the combined category as office space would result in a conservative assessment of traffic impacts. The ancillary retail spaces located in the Gateway development area and the 16th/Wood area were treated as office space because the retail would serve the offices. The ITE trip generation rates for offices include office buildings with a variety of tenant services including service retail facilities.

The community service (JATC) function contained in the Gateway development area was treated as light industrial development for the purpose of determining the number of trips that would be generated. JATC provides job training in the building trades.

The number of trips generated in the Port area was determined based on the difference between the trips that would be generated by previously approved Port development and the trips that would be generated after redevelopment. Truck trips for the Port area are reported in terms of the equivalent number of passenger cars. One truck was considered the equivalent of two passenger cars as recommended in the Highway Capacity Manual (Transportation Research Board 1995 and 1998). The conversion of truck trips to passenger car equivalents was performed to represent the relative amount of roadway capacity consumed by heavy trucks relative to cars.

New intermodal truck trips travel between the marine terminals and the rail terminals and remain entirely within the Port area. Intermodal truck trips generated by redevelopment would comprise 7 percent of the total redevelopment trips and 31 percent of Port area trips (in terms of passenger car equivalents). New Port area truck trips to and from locations outside the redevelopment project area would constitute 6 percent of total redevelopment trips and 28 percent of total Port area trips in terms of passenger car equivalents.

The number of rail terminal trips is a function of the length of loading track. The New Intermodal Facility would have slightly less loading track than the JIT, resulting in a slight relative reduction of employee related traffic. The changes proposed in the rail facilities would not affect the number of truck trips associated with the railyards. The intermodal traffic at the railyards would be a function of the amount of marine terminal capacity as long as there is enough capacity at the rail terminals to accommodate the demand. Likewise, the amount of non-intermodal truck traffic at the rail yards is a function of local market demand and would not change as long as there is sufficient railyard capacity. The New Intermodal Facility, in combination with the UP West Oakland intermodal railyard, would provide adequate railyard capacity to accommodate expected demand for the foreseeable future.

Trip Distribution

The distribution of redevelopment project area trips was performed separately for each of the redevelopment sub-areas based on the distribution of traffic derived from the Alameda County Congestion Management Agency Countywide Transportation Model. The distribution of truck traffic at the Port area marine terminals and railyards was derived from a 1993 truck survey conducted by the Port of Oakland (Port of Oakland 1993). The distribution of redevelopment traffic is shown in Table 4.3-7 and Figures 4.3-5 and 4.3-6. Less than one percent of Port area truck traffic is expected to use the portion of I-580 with heavy truck restrictions, and local roadways in Emeryville, Berkeley, and Alameda.

Table 4.3-7
Distribution of Redevelopment Trips

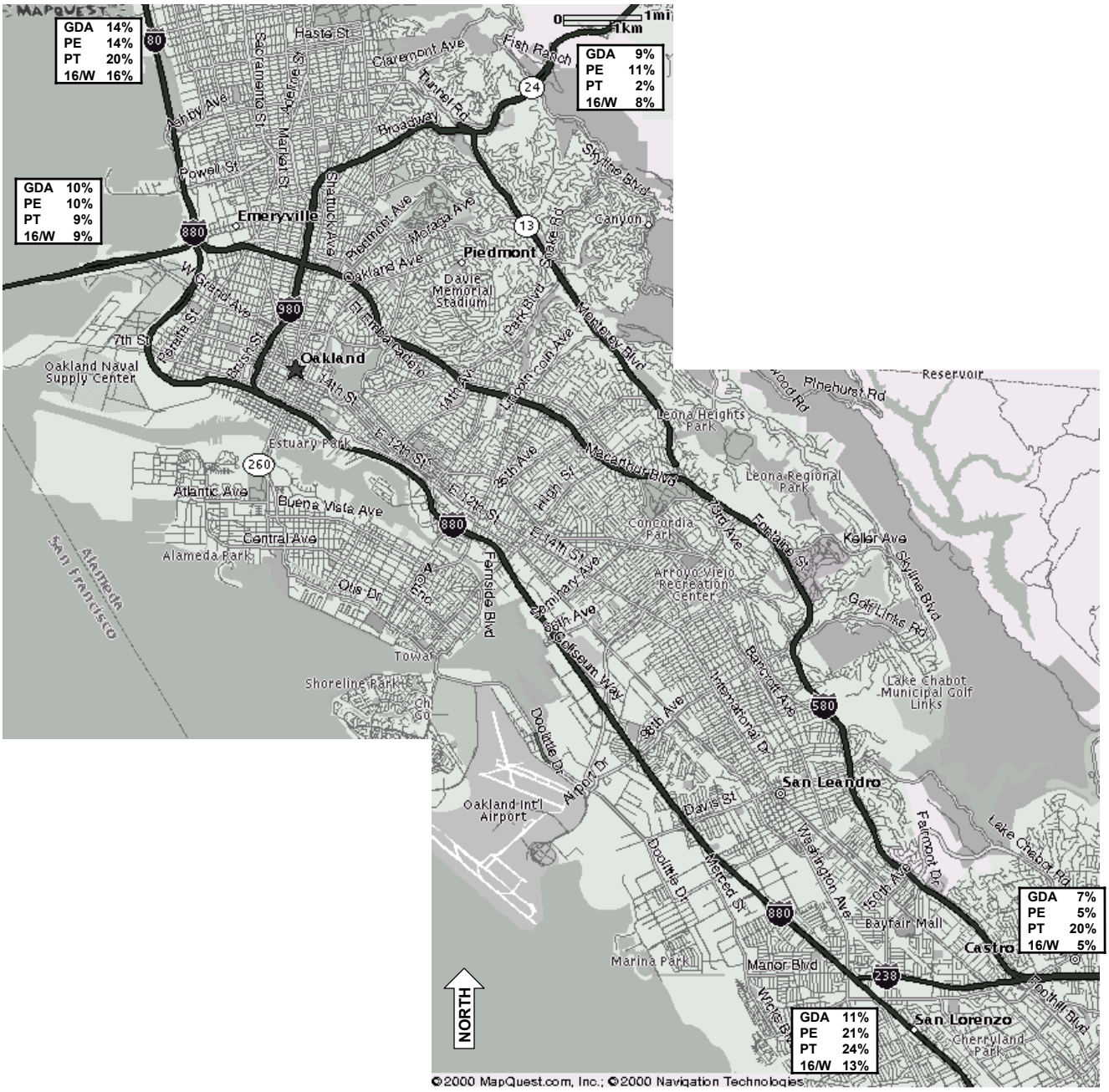
Route	Gateway Development Area	Port Area		16th/Wood Area
		Employees	Trucks	
Origin or Destination Outside Local Study Area				
I-80 West	10%	10%	9%	9%
I-80 East	14%	14%	20%	16%
SR 24	9%	11%	2%	8%
I-580 East	7%	5%	20%	5%
I-880 South	11%	21%	24%	13%
Origin or Destination Within Local Study Area				
Oakland/San Leandro				
SR 24	3%	5%	2%	3%
I-580 East	13%	8%		6%
I-880 South	4%	6%	8%	5%
Grand E. of I-80	17%	6%	10%	16%
7th Street	1%	4%	3%	9%
MacArthur Blvd	3%	2%	2%	2%
Emeryville/Berkeley				
I-80 Frontage Road	1%	1%		1%
San Pablo Avenue	1%	1%		1%
Ashby Avenue	1%	1%		1%
Powell Street	1%	1%		1%
Alameda				
Constitution Way	2%	2%		2%
Webster Street	2%	2%		2%
Total	100%	100%	100%	100%

Sources: Alameda Countywide Model 2002.
Port of Oakland 1993.

Significance Criteria

Redevelopment would have a significant effect on the environment if it would:

- Cause an increase in traffic which is substantial in relation to the existing or future baseline 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 ratio on roads, or congestion at intersections), or change the condition of an existing street (i.e., street closures, changing direction of travel) in a manner that would substantially impact access or traffic load and capacity of the street system. Specifically, redevelopment would have a significant effect on the environment if it would:



Sources: Alameda Countywide Model 2002
Port of Oakland 1993

Note: See Figure 4.3-6 for trips distributed within the local study area.

LEGEND

GDA	=	Gateway Development Area
PE	=	Port Employees
PT	=	Port Trucks
16/W	=	16th/Wood Sub-District

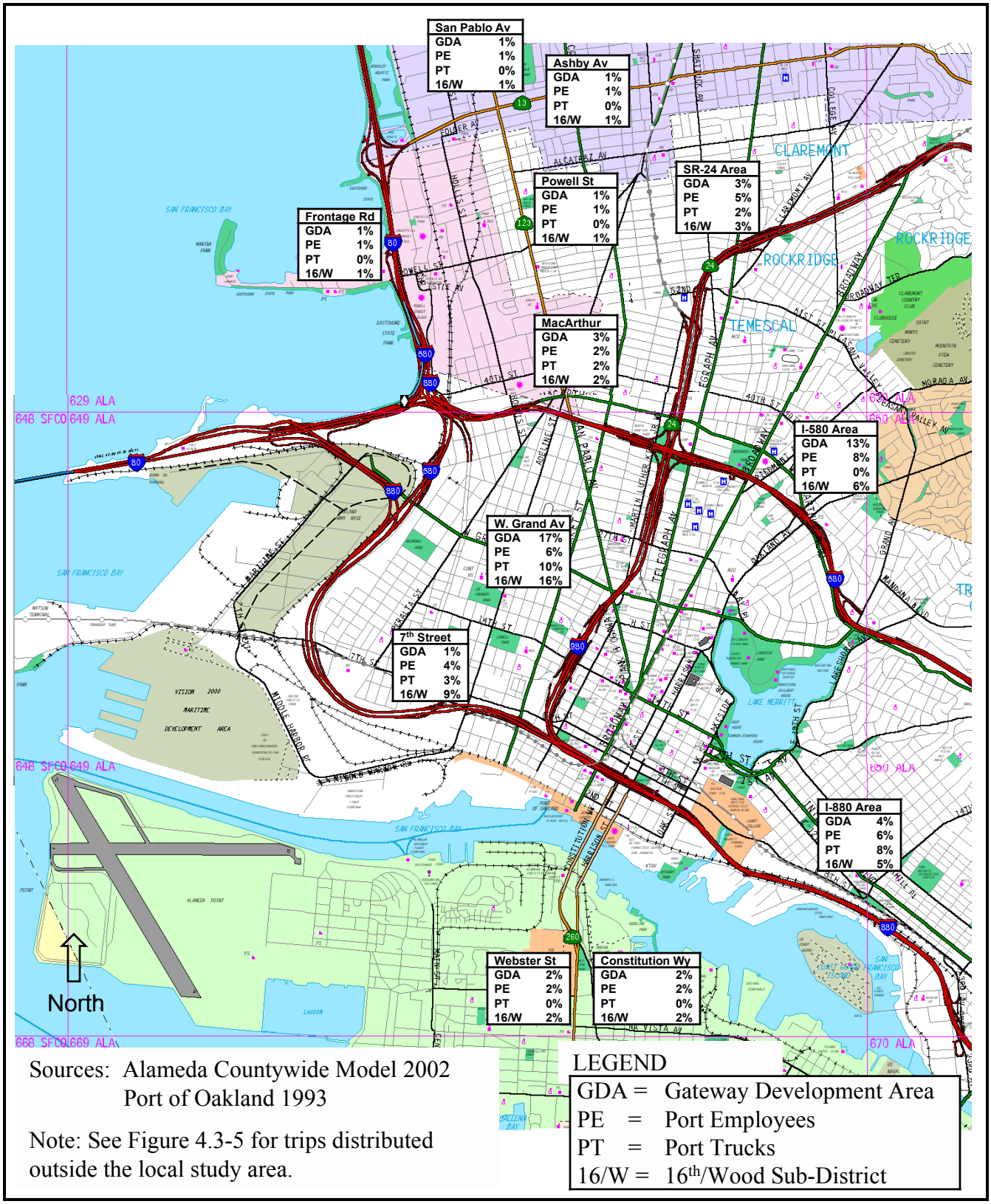
Source: Dowling Associates, Inc.

OARB Area Redevelopment EIR

Figure 4.3-5 Redevelopment Trip Distribution (Outside the Local Study Area)

April 2002

g. borchard & associates



Sources: Alameda Countywide Model 2002
Port of Oakland 1993

Note: See Figure 4.3-5 for trips distributed outside the local study area.

LEGEND

GDA = Gateway Development Area
PE = Port Employees
PT = Port Trucks
16/W = 16th/Wood Sub-District

Source: Dowling Associates, Inc.

OARB Area Redevelopment EIR

Figure 4.3-6 Redevelopment Trip Distribution (Within the Local Study Area)

April 2002

g. borchard & associates

- Cause the existing or future baseline LOS to degrade to worse than LOS D (*i.e.*, E) at a signalized intersection which is located outside the Downtown[5] area;

- Cause the existing or future baseline LOS to degrade to worse than LOS E (*i.e.*, F) at a signalized intersection which is located within the Downtown area;

- Cause the total intersection average vehicle delay to increase by four (4) or more seconds, or degrade to worse than LOS E (*i.e.*, F) at a signalized intersection outside the Downtown area where the existing or future baseline level of service is LOS E;

- Cause an increase in the average delay for any of the critical movements of six (6) seconds or more, or degrade to worse than LOS E (*i.e.*, F) at a signalized intersection for all areas where the existing or future baseline level of service is LOS E;

- At a signalized intersection for all areas where the existing or future baseline LOS is F, cause:

  (a) The total intersection average vehicle delay to increase by two (2) or more seconds,

  (b) An increase in average delay for any of the critical movements of four (4) seconds or more, or

  (c) The volume-to-capacity ("V/C") ratio exceeds three (3) percent (but only if the delay values cannot be measured accurately);

- Add ten (10) or more vehicles and after project completion satisfy the Caltrans peak hour volume warrant at an unsignalized intersection for all areas;

- Make a considerable contribution to cumulative impacts (a project's contribution to cumulative impacts is considered "considerable" when redevelopment contributes five (5) percent or more of the cumulative traffic increase as measured by the difference between existing and cumulative [with project] conditions.) See Chapter 5: Cumulative Impacts.

- Cause a roadway segment on the Metropolitan Transportation System (MTS) to operate at LOS F or increase the V/C ratio by more than three (3) percent for a roadway segment that would operate at LOS F without redevelopment[6];

---

[5] Downtown is defined in the Land Use Transportation Element of the General Plan (page 67) as the area generally bounded by West Grand Avenue to the north, Lake Merritt and Channel Park to the east, the Oakland Estuary to the south and I-980/Brush Street to the west.

[6] LOS and delay are based on the *Highway Capacity Manual*, Transportation Research Board, National Research Council, 1985, as required by the Alameda County CMA.

- 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;

- Substantially increase traffic hazards to motor vehicles, bicycles, or pedestrians due to a design feature that does not comply with Caltrans design standards (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment or large trucks on neighborhood-serving streets);

- Result in less than two emergency access routes for streets exceeding 1,000 feet in length;

- Result in inadequate parking capacity or increase the number and incidence of large vehicles parking within surrounding communities or on streets not designated for such uses. Inadequate parking capacity would result in a parking demand (both project-generated and project-displaced) that would not be met by the project's proposed parking supply or by the existing parking supply within a reasonable walking distance of the project site. Project-displaced parking results from the project's removal of standard on-street parking and legally required off-street parking (non-public parking which is legally required);

- Fundamentally conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks);

- Generate added transit ridership that would:

  – Increase the average ridership on AC Transit lines by three (3) percent or more where the average load factor with the project in place would exceed 125 percent over a peak thirty minute period;

  – Increase the peak hour average ridership on BART by three (3) percent or more where the passenger volume would exceed the standing capacity of BART trains;

  – Increase the peak hour average ridership at a BART station by three (3) percent where average waiting time at fare gates would exceed one minute; or

- Cause unreasonable delays to commercial vessels plying their trade.

Not all criteria listed above apply to proposed redevelopment. Redevelopment would not 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.

4.3.6 Impacts

Benefits

Redevelopment would substantially reduce hazards to bicyclists and pedestrians in the redevelopment project area. Redevelopment and implementation of Caltrans public access

commitments would include a Class I multi-use trail within the right-of-way of the Gateway development area access road, connecting Maritime Street to the spur trail Caltrans has committed to fund from the vicinity of the MacArthur Maze to the Gateway peninsula. As part of the realignment of Maritime Street, the Class I spine trail would be extended southward from the new access road to the existing Bay Trial spur along 7th Street.

Redevelopment would provide 105 acres of ancillary maritime support within the redevelopment project area. Ancillary maritime support may include truck parking, container freight stations, container storage, repair and related activities, customs, and agricultural inspection facilities, or other uses. To the extent that truck parking, container freight handling, and container storage would be accommodated near the Port, relief from truck traffic and parking would be provided for nearby areas with incompatible land uses.

Redevelopment would reduce delays on Maritime Street caused by trains entering and leaving the JIT. The replacement of the JIT with the New Intermodal Facility would result in the removal of two gate controlled railroad/highway crossings on Maritime Street. Rail access to the New Intermodal Facility would be via a grade separation across 7th Street, which would not impede motor vehicle traffic.

Impact 4.3-1: Redevelopment would cause the level of service to degrade to worse than LOS D at three intersections located outside the Downtown area:

- West Grand Avenue/Maritime Street
- West Grand Avenue/I-880 Frontage Road
- 7th/Maritime Street

Significance: Significant

Mitigation 4.3-1: ***West Grand Avenue/Maritime Street.*** As part of the design for the realignment of Maritime Street, the Port shall also provide modifications to the West Grand Avenue/Maritime Street intersection.

Mitigation 4.3-2: ***West Grand Avenue/I-880 Frontage Road.*** Project area developers shall fund, on a fair-share basis, modifications to the West Grand Avenue/I-880 Frontage Road intersection.

Mitigation 4.3-3: ***7th/Maritime Street.*** As part of the design for the realignment of Maritime Street, the Port shall also provide modifications to the 7th/Maritime Street intersection.

Residual Significance: Less than significant

Redevelopment would generate 5,800 trips during the a.m. peak hour and 5,500 trips during the p.m. peak hour. Redevelopment traffic would cause the level of service to degrade to worse

than LOS D at the three intersections listed above. The impact is considered to be significant. With implementation of Mitigation Measures 4.3-1, 4.3-2, and 4.3-3 the impact would be substantially reduced, and the residual impact would be less than significant.

The impact of redevelopment on study area intersections is summarized in Table 4.3-8. The reduction of those impacts by the proposed mitigation measures is shown in Table 4.3-9.

Table 4.3-8
Intersections Operations for Redevelopment

Intersection	1995 Baseline Peak Hour				Existing Plus Redevelopment, 2025 Peak Hour			
	A.M.		P.M.		A.M.		P.M.	
	LOS	Delay [a]	LOS	Delay [a]	LOS	Delay [a]	LOS	Delay [a]
West Grand Avenue/Maritime Street	D	37.1	C	32.6	***F***	***298.1***	***F***	***262.6***
West Grand Avenue/I-880 Frontage Road	C	30.7	D	37.3	***E***	***79.6***	***F***	***171.1***
West Grand Avenue/Mandela Parkway	A	9.6	B	10.6	B	17.4	C	31.3
West Grand Avenue/Adeline Street	B	11.5	B	10.6	B	13.9	B	15.4
West Grand Avenue/Market Street	A	9.9	B	10.6	B	10.4	A	10.0
West Grand Avenue/San Pablo Av	B	11.5	B	11.6	B	12.5	B	12.5
West Grand Avenue/MLK Jr. Way [b]	B	13.7	B	16.9	B	11.7	B	15.0
West Grand Avenue/Northgate Avenue [b]	C	23.9	C	21.8	C	25.2	C	25.0
West Grand Avenue/Harrison Street [b]	C	24.2	C	23.3	C	25.9	C	24.7
7th Street/Maritime Street	C	30.4	C	33.6	***F***	***126.8***	***E***	***78.5***
7th Street/I-880 Southbound Ramp	A	5.2	A	7.5	A	5.3	B	14.0
7th Street/I-880 Northbound Ramp	C	29.3	C	30.6	D	43.1	C	33.0
7th Street/Peralta Street	A	8.5	A	8.7	A	7.9	A	7.8
7th Street/Mandela Parkway	B	14.8	B	16.7	B	14.5	B	15.6
7th Street/Union Street	A	9.0	B	11.9	A	8.6	B	11.2
7th Street/Adeline Street	B	10.7	A	9.5	B	10.7	B	12.0
7th Street/Market Street	B	15.0	C	20.8	C	20.7	C	20.6
7th Street/Harrison Street [b]	B	10.5	B	10.8	B	10.8	B	10.9
7th Street/Jackson Street [b]	C	33.6	C	21.3	E	61.5	C	23.8
6th Street/Jackson Street [b]	B	10.4	B	11.7	B	10.4	B	11.7
5th Street/Union Street/I-880 Ramps	C	31.5	C	27.2	C	33.0	C	27.2
5th Street/Adeline Street	C	30.4	C	29.1	C	32.8	C	30.8
I-880 Off Ramp/Market Street	B	19.5	C	22.8	C	20.3	C	22.6
5th Street/Broadway [b]	C	20.9	C	29.4	C	21.2	C	34.4
3rd Street/Adeline Street (unsignalized) [c]	B	11.3	B	11.8	B	13.3	B	13.1
3rd Street/Market Street(unsignalized) [c]	B	13.9	B	13.3	C	15.8	B	14.1
14th Street/Mandela Parkway	A	8.5	A	8.4	A	9.4	A	8.2
12th Street/Brush Street [b]	C	30.4	C	22.4	C	31.9	C	22.4
12th Street/Castro Street [b]	B	15.5	B	19.1	B	15.5	B	19.1
27th Street/SR 24-580 SB Off-Ramp	B	11.8	B	15.9	B	11.5	B	16.3
27th Street/SR 24-580 NB On-Ramp	A	9.5	C	20.5	B	10.1	C	26.1
West MacArthur Blvd/Adeline Street	B	18.4	B	19.9	C	21.0	C	23.1
West MacArthur Blvd/Market Street	B	15.8	B	17.3	B	15.9	B	17.1

Table 4.3-8
Intersections Operations for Redevelopment

Intersection	1995 Baseline Peak Hour				Existing Plus Redevelopment, 2025 Peak Hour			
	A.M.		P.M.		A.M.		P.M.	
	LOS	Delay [a]	LOS	Delay [a]	LOS	Delay [a]	LOS	Delay [a]
Powell Street/I-80 Frontage Road	C	21.3	C	22.4	C	21.3	C	22.4
Powell Street/I-80 NB Ramps	C	25.2	D	44.1	C	25.5	D	48.4
Powell Street/Christie Street	C	29.9	C	30.5	C	29.9	C	30.5
Powell Street/Hollis Street	C	22.7	C	31.1	C	22.6	C	31.6
Powell Street/San Pablo Av	C	31.8	C	34.4	C	32.5	C	34.9
Stanford Avenue/Market Street	C	28.6	C	31.6	C	28.7	C	32.4
Stanford Avenue/MLK Jr. Way	B	12.5	D	46.4	B	12.5	D	46.4
Ashby Avenue/7th Street	C	33.7	D	48.6	C	34.5	D	49.5
Ashby Avenue/San Pablo Av	C	29.8	C	32.3	C	30.8	C	33.7
Marina Village/Constitution Way	C	20.6	C	21.9	C	20.3	C	26.6
Atlantic Avenue/Webster Street	C	31.5	C	28.6	C	32.5	C	28.7
Atlantic Avenue/Constitution Way	C	22.3	C	20.7	C	21.8	C	20.3
Loop Road/GDA Spine Road	-	-	-	-	B	18.1	C	21.4

Source: Dowling Associates 2002.

Notes: Significant impacts of redevelopment are shown in ***Boldface Italics***.
[a] Delay in seconds per vehicle.
[b] Defined as a downtown intersection.

Table 4.3-9
Operations at Impacted Intersections After Mitigation

Intersection	Existing Plus Redevelopment Peak Hour				Redevelopment with Mitigation Peak Hour			
	A.M.		P.M.		A.M.		P.M.	
	LOS	Delay[a]	LOS	Delay[a]	LOS	Delay[a]	LOS	Delay[a]
West Grand Avenue/Maritime Street	F	298.1	F	262.6	D	54.4	D	41.5
West Grand Avenue/I-880 Frontage Road	E	79.6	F	171.1	D	45.8	D	52.3
7th Street/Maritime Street	F	126.8	E	78.5	D	53.1	C	31.9

Source: Dowling Associates 2002.

Notes: Significant impacts of redevelopment are shown in ***Boldface Italics***.
[a] Delay in seconds per vehicle.
[b] Defined as a downtown intersection.
[c] Significant impacts at unsignalized intersections are based on signal warrants – not delay.

~ ~ ~

Impact 4.3-2: Redevelopment would cause some roadway segments on the MTS to operate at LOS F and increase the V/C ratio by more than three percent on segments that would operate at LOS F without redevelopment.

Significance: Significant

Mitigation 4.3-4: The City and Port shall jointly create and maintain a transit access plan(s) for the redevelopment project area designed to reduce demand for single-occupant, peak hour trips, and to increase access to transit opportunities. Major project area developers[7] shall fund on a fair share basis the plan(s).

Residual Significance: Significant and unavoidable

Redevelopment would add substantial traffic to roadway segments on the MTS. Redevelopment would cause the following freeway segments on the MTS to operate at LOS F or increase the V/C ratio by more than three (3) percent for segments that would operate at LOS F without redevelopment:

- I-80 east of the I-80/I-580 split
- I-880 connector to I-80 east
- I-880 from 7th Street to the segment south of I-238
- I-580 east and west of I-980/SR-24
- SR-24 east of I-580

The impact is considered significant. Implementation of Mitigation Measure 4.3-4 would reduce traffic demand on the MTS, but the residual impact to existing congested freeway segments would remain significant, and the impact is considered unavoidable. Mitigation Measure 4.4-5, intended to primarily mitigate air quality impacts, would also reduce traffic impacts, but not to a level that is less than significant. No feasible mitigation measures have been identified that would reduce freeway impacts to a level that is less than significant. Increasing freeway capacity by adding lanes would not be feasible because of high cost, negative impacts to air quality, and other factors. Moreover, adding lanes is inconsistent with the policies of the responsible regional agencies.

Other roadway segments on the MTS were evaluated as part of the CMP analysis prepared to satisfy requirements of the Alameda County CMA. No roadway segments were shown to be significantly impacted in that analysis. The CMP analysis showed that the Posey-Webster Tubes would operate at LOS F during the a.m. and p.m. peak hours with or without redevelopment. Traffic from redevelopment would represent 1.1 percent of total traffic at the Posey-Webster Tubes during the a.m. peak hour and less than 1 percent during the p.m. peak hour.

Analysis tables for freeway segments and the CMP analysis are included in Appendix 4.3.

~ ~ ~

[7] A "major" developer is defined as a City, Port, or private developer of more than 20,000 square feet of employment-generating space, or facilities generating more than 100 jobs.

Impact 4.3-3: Redevelopment could result in traffic hazards to motor vehicles, bicycles, or pedestrians due to inadequate design features or incompatible uses.

Significance: Potentially significant

Mitigation 4.3-5: Redevelopment elements shall be designed in accordance with standard design practice and shall be subject to review and approval of the City or Port design engineer.

Mitigation 4.3-6: The Port shall fund signage designating through transport truck prohibitions through the interior of the Gateway development area.

Mitigation 4.3-7: The City and the Port shall continue to work together and shall create a truck management plan designed to reduce the effects of transport trucks on local streets. The City and Port shall fund on a fair share basis implementation of this plan.

Residual Significance: Less than significant

The redevelopment project area will have a variety of land uses that would attract a range of travelers, including bicyclists and pedestrians accessing the park land along the waterfront, commuter vehicles traveling to and from employment centers within the project area, and Port-related trucks. This mix of unlike travel modes combined with increased traffic could increase hazards. Because occurrence of this impact depends on site-specific design not currently defined, the impact is considered potentially significant. With implementation of Mitigation Measures 4.3-5, 4.3-6, and 4.3-7, the impact would be minimized, and the residual impact would be less than significant.

~ ~ ~

Impact 4.3-4: Due to site constraints, it may not be possible to provide two emergency access routes to the western portion of the Gateway development area, which would be in excess of 1,000 feet from the nearest major arterial.

Significance: Potentially significant

Mitigation 4.3-8: Construct an emergency vehicle access to the western portion of the Gateway development area or provide an emergency service program and emergency evacuation plan using waterborne vessels.

Residual Significance: Less than significant

Final site plans for the Gateway development area have not been developed, and it is not currently known if a second access to the western portion of that area would be provided. Because occurrence of this impact depends on site-specific design not currently defined, the impact is considered potentially significant. With implementation of Mitigation Measure 4.3-8, the impact would be minimized, and the residual impact would be less than significant.

~ ~ ~

Impact 4.3-5: Redevelopment could fundamentally conflict with adopted policies, plans, or programs supporting alternative transportation (*e.g.*, bus turnouts, bicycle racks).

Significance: Potentially significant

Mitigation 4.3-9: Redevelopment plans shall conform to City of Oakland or Port development standards with facilities that support transportation alternatives to the single-occupant automobile.

Mitigation: Measure 4.3-4, described above.

Residual Significance: Less than significant

Final site plans for the redevelopment project area have not been developed, and it is not known if redevelopment would conflict with adopted policies, plans, or programs supporting alternative transportation. Because occurrence of this impact depends on site-specific designs not currently defined, the impact is considered potentially significant. With implementation of Mitigation Measures 4.3-4 and 4.3-9, the impact would be minimized, and the residual impact would be less than significant.

~ ~ ~

Impact 4.3-6: Redevelopment could result in an inadequate parking supply at the Gateway development area, the 16th/Wood sub-district, or for trucks serving the Port of Oakland.

Significance: Potentially significant

Mitigation 4.3-10: The number of parking spaces provided in the project area shall comply with City code or Port requirements and/or with recommendations of a developer funded parking demand analysis.

Mitigation 4.3-11: During both construction and operation, the Port shall provide truck parking within the Port development area or Maritime sub-district, at a reasonable cost to truck operators and provide advance information to operators where the parking is located.

Residual Significance: Less than significant

Subsequent redevelopment activities have not been designed. Because occurrence of this impact depends on site-specific design not currently defined, the impact is considered potentially significant. With implementation of Mitigation Measures 4.3-10 and 4.3-11, the impact would be avoided or minimized, and the residual impact would be less than significant.

~ ~ ~

Impact 4.3-7: Redevelopment would increase the average ridership on AC Transit lines by more than 3 percent on transit lines serving the redevelopment project area, but the average load factor with the project in place would not exceed 125 percent over a peak 30-minute period.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

Redevelopment would increase transit ridership on existing AC transit routes serving the redevelopment project area. The demand for transit service would be highly directional — predominantly toward the redevelopment project area during the morning peak hour and away from the development project area during the evening peak hour. A summary of transit ridership is shown in Table 4.3-10. Although redevelopment would essentially double the AC Transit ridership between the redevelopment project area and downtown, there is enough capacity on the AC Transit routes to accommodate the additional demand. Because the average load factor with redevelopment in place would not exceed 125 percent over a 30-minute period, the impact is considered less than significant.

Table 4.3-10
AC Transit Riders

			Existing		Redevelopment (New Riders)[a,b]		Total with Redevelopment		Load Factor with Redevelopment	
Route	Direction	Capacity	AM	PM	AM	PM	AM	PM	AM	PM
13	Eastbound	94	47	18	9	54	56	72	60%	77%
13	Westbound	94	27	40	58	11	85	51	91%	55%
62	Northbound	94	19	21	37	10	56	31	59%	33%
62	Southbound	94	15	37	8	39	23	76	24%	80%

Sources: AC Transit 1998 Boarding & Alighting Survey 1998 and Alameda Countywide Model 2002.
Notes:
[a] The table includes AC Transit riders between the redevelopment project area and downtown during peak 30-minute periods.
[b] Approximately 4.5 percent of redevelopment trips would use AC Transit.

~ ~ ~

Impact 4.3-8: Redevelopment would increase passenger volume exceeding the standing capacity of BART trains, but would not increase peak hour average ridership 3 percent.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

The number of BART riders during both the morning and evening peak commute hour is approximately 19,500 at the West Oakland BART station. Redevelopment would add about 410 peak hour trips to BART during the peak hours — 2.1 percent of existing ridership. BART is currently studying system-wide capacity issues and will be adjusting service to match demand. A preliminary assessment by BART staff suggests that the capacity impact of redevelopment would be minimal (BART 2002). Because redevelopment would not increase peak hour average ridership three percent on BART, the impact is considered less than significant.

~ ~ ~

Impact 4.3-9: Redevelopment would increase the peak hour average ridership at the West Oakland BART station by 3 percent where average waiting time at fare gates could exceed 1 minute.

Significance: Potentially significant

Mitigation 4.3-12: The City and Port shall provide detailed information regarding redevelopment to BART to enable BART to conduct a comprehensive fare gate capacity assessment at the West Oakland BART station. Pending the results of this assessment, the City and the Port may need to participate in funding the cost of adding one or more fare gates at the West Oakland BART station.

Residual Significance: Less than significant

Approximately 1,010 BART riders enter or exit the West Oakland BART station during both the morning and evening peak commute hour. Redevelopment would add about 410 peak hour riders to the West Oakland BART station during the peak hours — 41 percent of existing ridership. Most of the BART users added by redevelopment would exit the station during the morning peak and enter the station during the evening peak commuter period — in the opposite direction of the current peak demand, as shown in Table 4.3-11. There are five fare gates at the station — two for entering, two for exiting passengers, and one reversible gate that serves the peak direction of passenger flow. BART staff has indicated that delays are sometimes a problem for the peak direction at the station. Redevelopment would increase demand for the peak direction of flow at the fare gates by about seven percent. Because it is possible redevelopment could result in an average waiting time exceeding one minute at the West

Oakland BART station fare gates, the impact would be considered potentially significant. With the implementation of Mitigation Measure 4.3-13, the impact would be minimized, and the residual impact is considered less than significant.

Table 4.3-11
BART Riders at the West Oakland Station

Direction	Existing		Redevelopment (New Riders)[a]		Total with Redevelopment	
	AM	PM	AM	PM	AM	PM
Boarding	914	209	61	333	975	542
Leaving	99	805	340	77	439	882
Total	**1,013**	**1,014**	**401**	**410**	**1,414**	**1,424**

Source: BART Data Acquisition System 2002.
Note: [a] Approximately 8 percent of redevelopment trips would use BART.

~ ~ ~

Impact 4.3-10: Construction of New Berth 21 could cause minor delays to commercial vessels plying their trade.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

Dredging equipment would be present in Outer Harbor for a short period of time. The equipment would operate along the east bank of the Outer Harbor channel at its far end out of the way of most vessel traffic. Dredging equipment would be highly visible, and would be well marked in accordance with U.S. Coast Guard regulations. It is estimated that the vast majority of the fill material required for construction of New Berth 21 would arrive by barge, probably from maintenance dredging or from the Bay Bridge reconstruction project. There is a potential for very minor delays to commercial vessels because ferries, work-boats, and other vessels generating powerful wakes would have to slow when passing barges or dredges being transported to and from the work site. However, the delays would not be frequent and would be within normally accepted practices for a busy port complex. The construction of New Berth 21 would not cause unreasonable delays to commercial vehicles plying their trade, and the impact would be less than significant.

~ ~ ~

Impact 4.3-11: Remediation, demolition/deconstruction, and construction activities within the redevelopment project area would utilize a significant number of trucks and could cause significant circulation impacts on the street system.

Significance: Potentially significant

Mitigation 4.3-13: Prior to commencing hazardous materials or hazardous waste remediation, demolition, or construction activities, a Traffic Control Plan (TCP) shall be implemented to control peak hours trips to the extent feasible, assure the safety on the street system and assure that transportation activities are protective of human health, safety, and the environment.

Residual Significance: Less than significant

Construction and/or remediation would generate haul, delivery, and employee trips. Construction and remediation generally involve large diesel transport trucks. For traffic impacts, transport trucks are considered equivalent to two passenger cars. Remediation vehicles include those transporting both hazardous materials and hazardous waste. These trips may substantially degrade LOS on area roadways and the impact is considered potentially significant. Because occurrence of this impact depends on details of construction/remediation timing and the exact amount and location of related traffic not currently developed, the impact is considered potentially significant. With implementation of Mitigation Measure 4.3-13, the impact would be substantially reduced, and the residual impact would be less than significant.

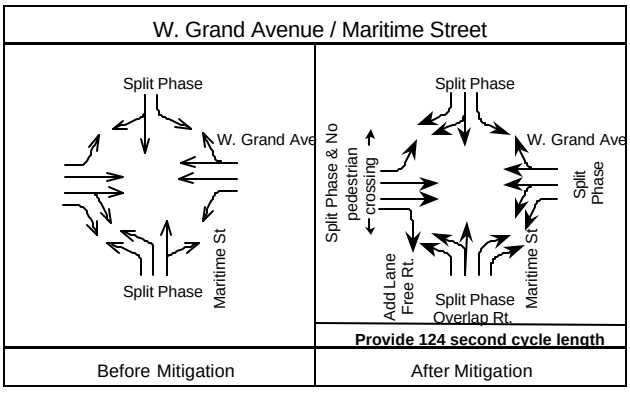
~ ~ ~

4.3.7 Mitigation

Implementation of the following mitigation measures will avoid, minimize, reduce, rectify, or compensate for significant impacts of redevelopment.

Mitigation 4.3-1: ***West Grand Avenue/Maritime Street.*** As part of the design for the realignment of Maritime Street, the Port shall also provide modifications to the West Grand Avenue/Maritime Street intersection.

This measure applies to Impact 4.3-1 and Cumulative Impact 5.3-1.



The following modifications shall be made at the West Grand Avenue/Maritime Street intersection:

1. Revise northbound Maritime Street lanes to provide:

    a. 1 left turn lane
    b. 1 combination left-through lane
    c. 2 right turn lanes with overlap signal phasing (green arrow)

2. Revise southbound Maritime Street (formerly Wake Avenue) lanes to provide:

   a. 1 left turn lane
   b. 1 combination through-right lane
   c. 1 right-turn lane

3. Revise eastbound West Grand Avenue exit ramp to provide:

   a. 1 left turn lane
   b. 2 through lanes
   c. 1 right turn lane with a receiving third southbound lane south of the intersection (free right)

4. Revise westbound West Grand Avenue to provide:

   a. 1 left turn lane
   b. 1 combination left-through lane
   c. 1 combination through-right lane

5. Provide split signal phasing for east and westbound traffic movements on West Grand Avenue

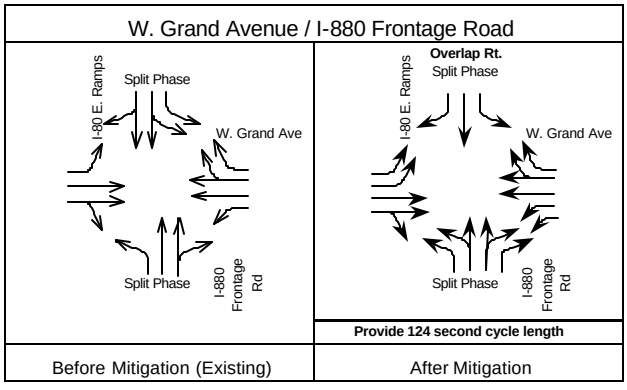
6. Increase the traffic signal cycle length to 124 seconds.

~ ~ ~

Mitigation 4.3-2: *West Grand Avenue/I-880 Frontage Road.* Project area developers shall fund, on a fair share basis, modifications to the West Grand Avenue/I-880 Frontage Road intersection.

This measure applies to Impact 4.3-1 and Cumulative Impact 5.3-1.

The following modifications shall be made at the West Grand Avenue/I-880 Frontage Road intersection:



1. Revise the northbound Frontage Road lanes to provide:

   a. 1 left-turn lane
   b. 1 combination left-through lane
   c. 1 combination through-right lane

d. 1 right-turn lane

2. Revise the southbound I-80 East Ramp lanes to provide:

   a. 1 left-turn lane
   b. 1 through lane
   c. 1 right-turn lane with overlap signal phasing (green arrow)

3. Revise the eastbound West Grand Avenue lanes to provide:

   a. 2 left-turn lanes
   b. 1 through lane
   c. 1 combination through-right lane

4. Revise the westbound West Grand Avenue lanes to provide:

   a. 2 left-through lanes
   b. 1 through lane
   c. 1 combination through-right lane
   d. 1 right-turn lane

5. Increase the traffic signal cycle length to 124 seconds.

~ ~ ~

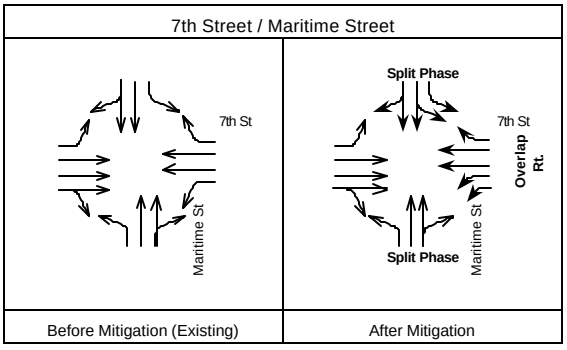
Mitigation 4.3-3: *7th/Maritime Street.* As part of the design for realignment of Maritime Street, the Port shall also provide modifications to the 7th/Maritime Street intersection.

This measure applies to Impact 4.3-1 and Cumulative Impact 5.3-1.

The following modifications shall be made at the 7th /Maritime Street intersection:

1. Revise the southbound Maritime Street lanes to provide:

   a. 1 left-turn lane
   b. 1 combination left-through lane
   c. 1 combination through-right lane



2. Revise the westbound 7th Street lanes to provide:

   a. 2 left-turn lanes

b. 2 through lanes
c. 1 right-turn lane with overlap signal phasing (green arrow)

3. Provide split signal phasing for the north and southbound traffic movements on Middle Harbor Road.

~ ~ ~

Mitigation 4.3-4: The City and Port shall jointly create and maintain a transit access plan(s) for the redevelopment project area designed to reduce demand for single-occupant, peak hour trips, and to increase access to transit opportunities. Major project area developers shall fund on a fair share basis the plan(s).

This measure applies to Impact 4.3-2 and Cumulative Impact 5.3-2.

The Transit Access Plan shall be funded on a fair-share basis by major project area developers, defined as developers of more than 20,000 square feet of employment-generating space, or developers who would generate more than 100 job opportunities.

The City shall establish a Transportation Enhancement Association or other similar funding mechanism whereby developers will contribute their fair share to the Transit Access Plan. The plan shall include transportation demand management strategies designed to reduce peak hour trip generation, including but not limited to the following:

- Fund a transit coordinator to assist employers and employees in the project area;
- Transit user subsidies including the bulk purchase of transit passes;
- Implementation of a parking cash-out program. A parking cash-out program is an employer-funded program in which an employer offers to provide a cash allowance to an employee equivalent to the parking subsidy that the employer would otherwise pay to provide the employee with a parking space. The ACCMA estimates that such programs reduce employee commute traffic by five percent from previous non-monetary incentive-based programs and reduced parking utilization by an estimated three percent;
- Flex-time schedules;
- Telecommuting;
- Utilization of site design standards that would benefit transit, pedestrians, and bicyclists;
- Preferential parking for carpools and vanpools;
- Rideshare matching programs;

- Guaranteed Ride Home program (provides carpool and vanpool participants with a vehicle in an emergency or if they cannot leave at their usual times; and

- Funding for City and/or Port monitoring of the programs.

The plan shall include strategies designed to promote transit use and increase availability of transit opportunities within the project area, including, but not limited to the following:

- Coordination with AC Transit to provide expanded bus service with no greater than 30 minute peak commute hour headways to major employment centers.

- Coordination with BART to provide shuttle service with no greater than 15 minute peak commute hour headways between the West Oakland BART station and major employment centers

- Provision of employer incentives to use alternative transit modes, such as "Flash" passes or transit reimbursements

These measures shall be coordinated with BAAQMD and CAP Transportation Control Measures (TCMs) implemented under Mitigation Measure 4.4-5.

The Transit Access Plan shall be funded at a level that would enable the goal of a 15 percent reduction in single-occupancy, peak hour ridership.

~ ~ ~

Mitigation 4.3-5: Redevelopment elements shall be designed in accordance with standard design practice and shall be subject to review and approval of the City or Port design engineer.

This measure applies to Impact 4.3-3 and Cumulative Impact 5.3-3.

Through design review, the City and/or Port, as applicable, shall ensure the design of roadways, bicycle and pedestrian facilities, parking lots, and other transportation features comply with design standards and disallow design proposals that likely to result in traffic hazards. Any mitigation or redevelopment features that may directly affect Caltrans facilities shall be submitted for review by that agency.

~ ~ ~

Mitigation 4.3-6: The Port shall fund signage designating through transport truck prohibitions through the interior of the Gateway development area.

This measure applies to Impact 4.3-3.

Realigned Maritime Street (the "loop road") would be designed and constructed for use by heavy trucks destined to and from the Port area. An internal Gateway development area access road will connect realigned Maritime Street to existing Maritime Street and could potentially provide a shortcut to West Grand Avenue for truck operators. To reduce the use of this road as a shortcut, the Port shall fund signage that shall be installed to clearly notify truck operators that through traffic is prohibited along the access road and existing Maritime Street. Should truck operators not comply, the Port shall continue to fund, and may also increase funding for an enforcement program to ensure compliance, particularly after the new streets are opened to traffic.

~ ~ ~

Mitigation 4.3-7: The City and the Port shall continue to work together to create a truck management plan designed to reduce the effects of transport trucks on local streets. The City and Port shall fund on a fair share basis, implementation of this plan.

This measure applies to Impact 4.3-3.

The truck management plan may include, and is not limited to, the following elements:

- Analyze truck traffic in West Oakland;
- Traffic calming strategies on streets not designated as truck routes designed to discourage truck through travel;
- Truck driver education programs;
- Expanded signage, including truck prohibitions on streets not designated as truck routes;
- Traffic signal timing improvements;
- Explore the feasibility of truck access to Frontage Road;
- Roadway and terminal gate design elements to prevent truck queues from impeding the flow of traffic on public streets; and
- Continue Port funding of two police officers to enforce truck traffic prohibitions on local streets.

~ ~ ~

Mitigation 4.3-8: Construct an emergency vehicle access to the western portion of the Gateway development area, or provide an emergency service program and emergency evacuation program using waterborne vessels.

This measure applies to Impact 4.3-4 and Cumulative Impact 5.3-4.

Should a second emergency access by land not be possible to the western portion of the Gateway development area, the City shall provide redundant emergency access to this area by

vessel. The area is currently served by fire boat out of the Jack London Square Fire Station. The City may elect to equip that fire boat with first response medical emergency personnel as well as limited hazardous materials response personnel and equipment (see also Mitigation Measure 4.9-1). Major developers shall fund these improvements on a fair share basis.

~ ~ ~

Mitigation 4.3-9: Redevelopment plans shall conform to City of Oakland or Port development standards with facilities that support transportation alternatives to the single-occupant automobile.

This measure applies to Impact 4.3-5.

Facilities that support transportation alternatives to the single-occupant automobile may include, and are not limited to, bus turnouts, bicycle racks, on-site showers, on-site lockers, and pedestrian and bicycle ways.

~ ~ ~

Mitigation 4.3-10: The number of parking spaces provided in the project area shall comply with City Code or Port requirements, and/or with recommendations of a parking demand analysis.

This measure applies to Impact 4.3-6 and Cumulative Impact 5.3-5.

Through project review, the City and/or Port shall ensure an adequate supply of parking spaces will be provided. Major redevelopment project area developers shall fund on a fair share basis a project area-wide, or potentially a sub-area specific parking demand study that shall take into consideration the TDM programs and policies developed through Mitigation Measure 4.3-4.

~ ~ ~

Mitigation 4.3-11: During both construction and operation, the Port shall provide truck parking within the Port development area or Maritime sub-district, at a reasonable cost to truck operators and provide advance information to truck operators where the parking is located.

This measure applies to Impact 4.3-6 and Cumulative Impact 5.3-5.

The Port shall continue its current program of providing sufficient facilities for independent truck operators parking outside the marine terminal gates and outside the West Oakland community. It is important to maintain accessible areas for use by truckers at the Port during construction as well as after redevelopment to minimize impacts on adjacent neighborhoods.

The Port currently provides subsidized parking to independent truck owner/operators to reduce tractor and trailer parking in West Oakland. Truck parking space is leased at a cost of $50 per chassis and $75 per truck-trailer combination per month. The Port also provides advance

information to truck operators regarding locations available for independent truck operator parking during development of permanent ancillary maritime support facilities. This measure requires the Port maintain such programs at a reasonable cost to independent truck operators so they will be encouraged to use on-site Port-area parking facilities.

~ ~ ~

Mitigation 4.3-12: The City and Port shall provide detailed information regarding redevelopment to BART to enable BART to conduct a comprehensive fare gate capacity assessment at the West Oakland BART station. Pending the results of this assessment, the City and the Port may need to participate in funding the cost of adding one or more fare gates at the West Oakland BART station.

This measure applies to Impact 4.3-9 and Cumulative Impacts 5.3-6 and 5.3-8.

BART staff's preliminary assessment is that no new fare gates would be required, but the City and Port should coordinate with BART to confirm this is the case. Uncongested fare gates are required to encourage BART ridership.

~ ~ ~

Mitigation 4.3-13: Prior to commencing hazardous materials or hazardous waste remediation, demolition, or construction activities, a Traffic Control Plan (TCP) shall be implemented to control peak hours trips to the extent feasible, assure the safety on the street system and assure that transportation activities are protective of human health, safety, and the environment.

This measure applies to Impact 4.3-11.

Construction and remediation TCPs shall be designed and implemented to reduce to the maximum feasible extent traffic and safety impacts to regional and local roadways.

The TCP shall address items including but not limited to: truck routes, street closures, parking for workers and staff, access to the project area and land closures or parking restrictions that may require coordination with and/or approval by the City, the Port and/or Caltrans. The TCP shall be submitted to the City Traffic Engineering and Planning divisions or the Port, as appropriate, for review and approval prior to the issuance of any building, demolition or grading permits. The City and the Port shall coordinate their respective approvals to maximize the effectiveness of the TCP measures. DTSC would have ongoing authority under its Remedial Action Plan/Remedial Monitoring Plan oversight and the Hazardous Substances Account Act to regulate remediation transportation activities, which must be protective of human health, safety and the environment.

Remediation and demolition/construction traffic shall be restricted to designated truck routes within the City, and the TCP shall include a signage program for all truck routes serving the site during remediation or demolition/construction. A signage program details the location and type

of truck route signs that would be installed during remediation and demolition/construction to direct trucks to and from the project area. Truck access points for entry and exit should be included in the TCP. In addition, as determined by City of Port staff, the developer shall be responsible for repairing any damage to the pavement that is caused by remediation or demolition/construction vehicles for restoring pavement to pre-construction conditions.

Remediation and demolition/construction-related trips will be restricted to daytime hours, unless expressly permitted by the City or the Port, and to the extent feasible, trips will be minimized during the a.m. and p.m. peak hours.

The TCP shall identify locations for construction/remediation staging. Remediation staging areas are anticipated to be located near construction areas, since remediation will be largely coordinated with redevelopment. In addition, the TCP shall identify and provide off-street parking for remediation and demolition/construction staff to the extent possible throughout all phases of redevelopment. If there is insufficient parking available within walking distance of the site for workers, the developer shall provide a shuttle bus or other appropriate system to transfer workers between the satellite parking areas and remediation or demolition/construction site.

The TCP shall also include measures to control dust, requirements to cover all loads to control odors, and provisions for emergency response procedures, health and safety driver education, and accident notification.

~ ~ ~
~

4.4 AIR QUALITY

Redevelopment would result in less than significant, potentially significant, and significant impacts to air quality. With implementation of measures recommended in this section, some of the potentially significant impacts would be mitigated to a level that is less than significant. Other potentially significant impacts would be reduced, but not to a level that is less than significant. These impacts are considered adverse and unavoidable.

4.4.1 Study Area

The study area for air quality is the San Francisco Bay Area Air Basin. The air basin encompasses all or part of nine counties surrounding San Francisco Bay: all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties; and portions of Solano and Sonoma counties.

4.4.2 Regulatory Setting

Federal

The study area is subject to major air quality planning programs required by the federal Clean Air Act (CAA), last amended in 1990 (42 United States Code [USC] 7401 *et seq.*). The CAA provides for ambient air quality standards to protect public health (see discussion regarding national and state standards, below), timetables for progressing toward achieving and maintaining ambient standards, and the development of an implementation plan to guide air quality improvement efforts of state and local agencies. The plan, which is referred to as the State Implementation Plan (SIP), must contain control strategies that demonstrate attainment with national ambient air quality standards by deadlines established in the federal CAA.

The U.S. Environmental Protection Agency oversees state and local implementation of federal CAA requirements. In addition, the EPA sets emission standards for many mobile sources, such as new on-road motor vehicles, including transport trucks, that are sold outside California. The EPA also sets emission standards for various classes of new off-road mobile sources, including locomotives, that are sold throughout the country. The EPA is also working with the International Maritime Organization to initiate the process of setting international standards to lower emissions from new marine vessels that operate under that organization's protocol. Finally, the EPA is working with the California Air Resources Board (CARB) to set standards for new marine engines used in vessels operating solely in California coastal waters.

State and Regional

Similar to the CAA, the California Clean Air Act (CCAA) of 1988 (California Health and Safety Code § 39600 *et seq.*) promulgates health-protective ambient air quality standards, and establishes a plan-based program intended to achieve and maintain those standards. The state plan is called the Clean Air Plan (CAP). The CAP must show satisfactory progress in attaining state ambient air quality standards. Deadlines are not fixed for attaining state standards.

Both the federal SIP and the state CAP rely on the combined emission control programs of the EPA, CARB, and the Bay Area Air Quality Management District (BAAQMD).

Under California law, the responsibility to carry out air pollution control programs is split between the CARB and local or regional air pollution control agencies. In the study area, the BAAQMD regulates stationary sources, and can require stationary sources to obtain permits, and can impose emission limits, set fuel or material specifications, or establish operational limits to reduce air emissions.

The CARB shares the regulation of mobile sources with the EPA, and has authority to set emission standards for on-road motor vehicles and for some classes of off-road mobile sources that are sold in California. The emission standards most relevant to redevelopment as proposed are those related to automobiles, light- and medium-duty trucks, and California heavy-duty truck engines. The CARB also regulates vehicle fuels, with the intent to reduce emissions, and has set emission reduction performance requirements for gasoline (California reformulated gasoline), and limited the sulfur and aromatic content of diesel fuel to make it burn cleaner. The CARB also sets the standards used to pass or fail vehicles in smog check and heavy-duty truck inspection programs.

Federal, state, and regional control programs above are directed primarily toward criteria pollutants—the pollutants for which ambient air quality standards exist. Programs are also in place to reduce public exposure to other pollutants, such as those that present a potential hazard to public health. These are termed "hazardous air pollutants" (HAPs) in federal law and "toxic air contaminants" (TACs) in California law. TACs are pollutants ". . . which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health" (BAAQMD 1997). Federal and state programs are currently directed toward reducing TAC emissions from stationary sources. Unlike criteria pollutants, TACs do not have ambient standards; however, BAAQMD regulates new or expanding stationary sources of TACs.

National and State Ambient Air Quality Standards. The CAA and CCAA promulgate, respectively, national and state ambient air quality standards for carbon monoxide (CO), ozone (O_3), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter 10 microns or less in diameter (PM_{10}), and (federal standard only) particulate matter 2.5 microns or less in diameter ($PM_{2.5}$).[1] Ambient standards specify the concentration of pollutants to which the public may be exposed without adverse health effects. Individuals vary widely in their sensitivity to air

[1] Other pollutants (*e.g.*, lead) also have ambient standards, but they are not discussed in this document because emissions of these pollutants from redevelopment are expected to be minimal.

1

Table 4.4-1
State and Federal Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]		Bay Area State Status/ Classification	Bay Area National Status/ Classification[f]
		Concentrations[c]	Primary[c, d]	Secondary[c, e]		
Photochemical Oxidants[g]	8-hour	--	0.08 ppm	Same as	Nonattainment	Not Designated/
	1-hour[h]	0.09 ppm	0.12 ppm	Primary		None
Carbon Monoxide (CO)	8-hour	9.0 ppm	9 ppm	Same as	Attainment/None	Attainment/
	1-hour	20.0 ppm	35 ppm	Primary		Maintenance
Nitrogen Dioxide (NO_2)	Annual Mean	--	0.053 ppm	Same as	Attainment/None	Attainment/None
	1-hour	0.25 ppm	--	Primary		
Sulfur Dioxide (SO_2)	Annual Mean	--	0.03 ppm	--	Attainment/None	Attainment/None
	24-hour	0.04 ppm	0.14 ppm	--		
	3-hour	--	--	0.5 ppm		
	1-hour	0.25 ppm	--	--		
Particulate Matter (PM_{10})	Annual Mean	--	50 µg/m^3	Same as	Nonattainment/	Attainment/None
	Annual Geometric Mean	30 µg/m^3	--	Primary	None	
	24-hour	50 µg/m^3	150 µg/m^3	--		
				Same as Primary		
Fine Particulate Matter ($PM_{2.5}$)	Annual Mean	--	15 µg/m^3	Same as	Not Designated/	Not Designated/
	24-hour	--	65 µg/m^3	Primary	None	None

Source: BAAQMD CEQA Guidelines 1996, with updated information on pollutant attainment status from the Internet site w w w \BAAQMD.Gov\planning\resmod\baas.htm.

Notes: ppm = parts per million, µg/m^3 = micrograms per cubic meter; ---- = Not applicable

[a] California standards, other than CO, SO_2 (1-hour), and $PM_{2.5}$, are values that are not to be equaled or violated. The CO, SO_2 (1-hour), and $PM_{2.5}$ standards are not to be violated.

[b] National standards, other than O_3, the 24-hour $PM_{2.5}$, the PM_{10}, and those standards based on annual averages, are not to be exceeded more than once a year. The 1-hour O_3 standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one. The 8-hour O_3 standard is attained when the 3-year average of the annual fourth highest daily maximum concentration is less than 0.08 ppm. The 24-hour PM_{10} standard is attained when the 99th percentile of 24-hour PM_{10} concentrations in a year, averaged over 3 years, at the population-oriented monitoring site with the highest measured values in the area, is below 150 µg/m^3. The 24-hour $PM_{2.5}$ standard is attained when the 98th percentile of 24-hour $PM_{2.5}$ concentrations in a year, averaged over 3 years, at the population-oriented monitoring site with the highest measured values in the area, is below 65 µg/m^3. The annual average $PM_{2.5}$ standard is attained when the 3-year average of the annual arithmetic mean $PM_{2.5}$ concentrations, from single- or multiple-community–oriented monitors is less than or equal to 15 µg/m^3.

[c] All measurements of air quality are to be corrected to a reference temperature of 25° C and a reference pressure of 760 mm of mercury (Hg) (1013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[d] National Primary Standards: The levels of air quality deemed necessary by the federal government, with an adequate margin of safety, to protect the public health.

[e] National Secondary Standards: The levels of air quality deemed necessary by the federal government, to protect the public welfare from any known or anticipated adverse effects to a pollutant.

[f] The Bay Area attained the national O_3 standard 5 consecutive years in the early 1990s and was re-designated to Attainment/Maintenance status. However, in 1995 and 1996 the O_3 standard was exceeded, and the EPA begin to reconsider its decision. Although the standard was once again attained in 1997, in June 1998, the EPA announced its decision to re-designate the Bay Area back to nonattainment. Due to "special circumstances," the EPA decided to apply no classification. The national standard was exceeded again in 1998.

[g] Measured as O_3.

[h] The 1-hour O_3 standard will be replaced by the 8-hour standard on an area-by-area basis when the area has achieved 3 consecutive years of air quality data meeting the 1-hour standard.

2

pollutants, and standards are set to protect more pollution-sensitive populations (*e.g.*, children and the elderly). National and state standards are reviewed and updated periodically based on new health studies. California ambient standards tend to be at least as protective as national ambient standards and are often more stringent. National and state ambient air quality standards are presented in Table 4.4-1. The so-called criteria pollutants and associated adverse health effects are described below.

For planning purposes, regions like the San Francisco Bay Area are given an air quality status designation by the federal and state regulatory agencies. Areas with monitored pollutant concentrations that are lower than ambient air quality standards are designated "attainment" on a pollutant-by-pollutant basis. When monitored concentrations exceed ambient standards within an air basin, it is designated "nonattainment" for that pollutant. An area that recently exceeded ambient standards, but is now in attainment, is designated "maintenance." Nonattainment areas are further classified, based on the severity and persistence of the air quality problem, as "moderate," "severe," or "serious." Attainment classifications determine the applicability and minimum stringency of pollution control requirements. In general, the more serious the air quality classification, the more stringent the control requirements that must be contained in the regional air quality plans (the SIP and CAP, described above). A description of criteria pollutants follows.

Carbon Monoxide. Exposure to high concentrations of CO reduces the oxygen-carrying capacity of the blood and can cause dizziness and fatigue, impair central nervous system function, and induce angina in persons with serious heart disease. Primary sources of CO in ambient air are passenger cars, light-duty trucks, and residential wood burning.

Ozone. While O_3 serves a beneficial purpose in the upper atmosphere (stratosphere) by reducing ultraviolet radiation potentially harmful to humans, when it reaches elevated concentrations in the lower atmosphere it can be harmful to the human respiratory system and to sensitive species of plants. O_3 concentrations build to peak levels during periods of light winds, bright sunshine, and high temperatures. Short-term O_3 exposure can reduce lung function in children, make persons susceptible to respiratory infection, and produce symptoms that cause people to seek medical treatment for respiratory distress. Long-term exposure can impair lung defense mechanisms and lead to emphysema and chronic bronchitis. Sensitivity to O_3 varies among individuals, but about 20 percent of the population is sensitive to O_3, with exercising children being particularly vulnerable. O_3 is formed in the atmosphere by a complex series of photochemical reactions that involve "ozone precursors" that are two large families of pollutants: oxides of nitrogen (NO_x) and reactive organic gases (ROG). NO_x and ROG are emitted from a variety of stationary and mobile sources. While NO_x is another criteria pollutant itself, ROGs are not in that category, but are included in this discussion as O_3 precursors.

Nitrogen Dioxide. The major health effect from exposure to high levels of NO_2 is the risk of acute and chronic respiratory disease. NO_2 is a combustion by-product, but it can also form in

the atmosphere by chemical reaction. NO_2 is a reddish-brown colored gas often observed during the same conditions that produce high levels of O_3. NO_2 is a precursor to O_3.

Sulfur Dioxide. The major health effect from exposure to SO_2 is acute and chronic respiratory disease. Asthmatics are particularly sensitive. SO_2 can also react with water in the atmosphere to form acids (or so-called "acid rain"), which can cause damage to vegetation and man-made materials. The main source of SO_2 is the combustion of fuels containing sulfur — chiefly coal and fuel oil. California has very low levels of SO_2 because most large combustion sources burn natural gas, which contains only trace quantities of sulfur. California regulations also limit the sulfur content of gasoline and diesel fuel.

Particulate Matter. Particulate matter is regulated as PM_{10}. More recently, it has been subdivided into coarse and fine fractions, with particulate matter less than 2.5 microns in diameter ($PM_{2.5}$) constituting the fine fraction. The health effects from long-term exposure to high concentrations of particulate matter are increased risk of chronic respiratory disease like asthma, and altered lung function in children. Short-term exposure to high levels of particulate matter has been shown to increase the number of people seeking medical treatment for respiratory distress, and to increase mortality among those with severe respiratory problems. Particulate matter also results in reduced visibility. Ambient particulate matter has many sources. It is emitted directly by combustion sources like motor vehicles, industrial facilities, and residential wood burning, and in the form of dust from ground-disturbing activities such as construction and farming. It also forms in the atmosphere from the chemical reaction of precursor gases.

Toxic Air Contaminants. TACs do not have ambient air quality standards. Many pollutants are identified as TACs because of their potential to increase the risk of developing cancer. For TACs that are known or suspected carcinogens, the CARB has consistently found there are no levels or thresholds below which exposure is risk free. Individual TACs vary greatly in the risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another. Where data are sufficient to do so, a "unit risk factor" can be developed for cancer risk. The unit risk factor expresses assumed risk to a hypothetical population in terms of the estimated number of individuals in a million who may develop cancer as the result of continuous, lifetime (70-year) exposure to 1 microgram per cubic meter ($\mu g/m^3$) (equal to one part per million) of the TAC. Unit risk factors provide a standard that can be used to establish regulatory thresholds for permitting purposes. However, they are not a measure of actual health risk because actual populations do not experience the extent and duration of exposure that the hypothetical population is assumed to experience. For non-cancer health effects, a similar factor called a Hazard Index is used.

In 1998, the CARB formally identified particulate matter emitted by diesel-fueled engines as a TAC. Diesel engines emit TACs in both gaseous and particulate forms. The particles emitted by diesel engines are coated with chemicals, many of which have been identified by the EPA as HAPs, and by the CARB as TACs. The vast majority of diesel exhaust particles are very small

(94 percent of their combined mass consists of particles less than 2.5 microns in diameter), both the particles and their coating of TACs can be inhaled into the lungs. While the gaseous portion of diesel exhaust also contains TACs, the CARB's action was specific to diesel particulate emissions which, according to supporting CARB studies, represent 50 to 90 percent of the mutagenicity of diesel exhaust (CARB 1998).

The CARB action was taken at the end of a lengthy process that considered dozens of health studies, extensive analysis of health effects and exposure data, and public input collected over the last nine years. CARB's Scientific Advisory Committee has recommended a unit risk factor of 300 in a million for diesel particulate.[2] The CARB action will lead to additional control of diesel engine emissions in coming years by CARB. The EPA has also begun an evaluation of both the cancer and non-cancer health effects of diesel exhaust.

The 1998 ruling prompted the CARB to begin searching for means to reduce diesel PM emissions. In September 2000, the CARB approved the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (Diesel Risk Reduction Plan). The Diesel Risk Reduction Plan outlines a comprehensive and ambitious program that includes the development of numerous new control measures over the next several years aimed at substantially reducing emissions from new and existing on-road vehicles (*e.g.*, heavy duty trucks and buses), off-road equipment (*e.g.*, graders, tractors, forklifts, sweepers, and boats), portable equipment (*e.g.*, pumps), and stationary engines (*e.g.*, stand-by power generators).

Odors. BAAQMD Regulation 7, and Regulation 9, Rules 1 and 2, place limitations on odorous substances and specific limitations on certain odorous compounds including dimethylsulfide, ammonia, methylmercaptan, phenol, trimethylamine, sulfur dioxide, and hydrogen sulfide. Regulation 9, Rule 1, places emission limits for sulfur dioxide from all sources and Regulation 9, Rule 2, limits the ground level concentrations of hydrogen sulfide to 0.06 ppm for a three-minute average or 0.03 ppm for a six-minute average.

4.4.3 Regional Setting

The region under consideration is the San Francisco Bay Area Air Basin. Several large-scale transportation projects are planned that could affect long-term regional air quality, including the San Francisco International Airport Expansion Project and the metropolitan Oakland International Airport Development Program. In addition to the construction and operation of these airport projects, several major construction projects located near the redevelopment project area with long-term schedules could also have an effect on ambient air quality, including the San Francisco-Oakland Bay Bridge East Span Seismic Safety Project[3], and the Oakland Harbor Navigation Improvement Project (the "-50-Foot Project").

[2] The Scientific Review Committee findings are Attachment A to CARB Resolution 98-35, August 27, 1998.

[3] The environmental review document for this project concludes there would be no significant long-term impacts to air quality from project operation..

Meteorology and Climatology

The climate of the San Francisco Bay Area is classified as Mediterranean, and has mild, wet winters and warm, dry summers. The regional climate is controlled primarily by the Pacific high-pressure system over the eastern Pacific Ocean and by local topography. Local climate is strongly influenced by topography and proximity to the Pacific Ocean and San Francisco Bay. Cool, onshore winds blowing from the Pacific have a moderating effect, especially west of the Diablo Mountain Range where the study area is located. These mountains act as a barrier to onshore winds, resulting in the channeling of airflow along canyons, valleys, and through straits in the Bay, as well as strong west-to-east temperature differences. The resulting overall air flow patterns are complex, exhibiting much local variation. Large-scale winds, which are the wind patterns influenced by general geographical and topographical features of the San Francisco Bay Area on a roughly 50-mile scale, are predominantly from the west from the Golden Gate toward the Delta.

Atmospheric dispersion of pollutants is influenced by several parameters, including temperature inversion. An inversion is a layer of cooler air near the ground surface trapped below a layer of warm air aloft. This condition restricts vertical movement or mixing of pollutants, and therefore allows pollutant concentrations to increase. Inversions can be caused by several different combinations of meteorological conditions, and can occur in both the summer and winter in the study area.

In the immediate study area, the flow of marine air traveling through the Golden Gate, across San Francisco and through the San Bruno Gap is the dominant weather factor. Prevailing winds are from the west (CARB 1984). Air pollution potential in Northern Alameda County is lowest close to the Bay where the study area is located, due largely to two factors: good ventilation from winds that are frequently brisk, and a relatively low flux of pollutants from upwind areas. The occurrence of light winds in the early morning and late evening occasionally cause elevated levels of pollutants (BAAQMD 1996).

Emission Inventory

Table 4.4-2 presents the BAAQMD inventory of emissions of CO, ROGs, NO_x, SO_2, and PM_{10}, for the Bay Area and for Alameda County. Projections of expected future emission levels are based on expected growth rates in population, employment, industrial/commercial activity, travel, and energy use, and consider the effects of control measures already adopted by the EPA, CARB, and BAAQMD, and some proposed measures as well (BAAQMD 1997 Clean Air Plan). $PM_{2.5}$ is not included in this inventory because the federal $PM_{2.5}$ standard was only recently upheld, and Bay Area-wide $PM_{2.5}$ emissions and monitoring data are not yet available.

Inventory information presented in Table 4.4-2 indicates that within the region, the BAAQMD expects total annual tons of CO, ROGs, and NO_x to decrease over time, and total annual tons of SO_2 and PM_{10} to increase.

Table 4.4-2
Bay Area Emission Inventory Summary and Projections (1994 to 2010)[a]

	1994		2000		2010	
Pollutant	Bay Area (tons/day)	Alameda County's Share[b]	Bay Area (tons/day)	Alameda County's Share[b]	Bay Area (tons/day)	Alameda County's Share[b]
CO	2,425	22%	1,963	21%	1,600	21%
ROGs	572	22%	446	22%	359	22%
NO_x[c]	692	20%	555	20%	451	20%
SO_2	102	12%	107	12%	115	12%
PM_{10}[d]	187	19%	209	19%	230	19%

Source: BAAQMD 1996.
Notes:
[a] Data are estimates for 1995 and were taken from BAAQMD (1996) CEQA Guidelines.
[b] Percent of Bay Area emissions attributable to Alameda County sources.
[c] Average summer day emissions.
[d] Average winter day emissions.

Pollutant Monitoring

The BAAQMD operates a regional air quality monitoring network for O_3, CO, NO_2, SO_2, and PM_{10}. Monitoring data from the BAAQMD network are used by the EPA and CARB to designate the attainment status of the region and to classify the severity of nonattainment conditions (see discussion of planning requirements, above). Table 4.4-1 describes the attainment status of the Bay Area region relevant to federal and state ambient air quality standards. The large number of "attainment" designations shown in Table 4.4-1 indicates that the Bay Area experiences low concentrations of most pollutants, the exceptions being O_3 and particulate matter, for which standards are exceeded periodically.

In addition to criteria pollutants, both the BAAQMD and the CARB operate TAC monitoring networks in the San Francisco Bay Area. These stations measure 10 to 15 TACs, depending on the specific station. The TACs selected for monitoring are those that have traditionally been found in the highest concentrations in ambient air, and therefore tend to produce the most significant risk. The BAAQMD operates an ambient TAC monitoring station at Davie Stadium at 198 Oak Road in Oakland, about 2.5 miles to the east of the study area. The estimated average lifetime cancer risk resulting from exposure to TAC concentrations monitored at this station in 1999 (the latest year for which data are available) is 170 in one million (BAAQMD 2000). This risk level is close to the Bay Area average for estimated average lifetime cancer risk, 186 in one million for all Bay Area TAC monitoring stations (BAAQMD 2000). These levels can be compared to a background cancer incidence rate in the United States from all causes that is about 1 in 4, or 250,000 in one million[4].

[4] It is generally believed that a large portion of the total background cancer risk in the United States comes from smoking and other personal habits, genetic susceptibilities, diet, natural radiation including radon, and other lifestyle factors.

There is also growing evidence that exposure to emissions from diesel-fired engines (about 95 percent of which come from mobile sources) may result in cancer risks that exceed those attributed to the measured TACs. In 1998, the State of California identified diesel particulate matter (PM) as a TAC and issued a health risk assessment that included estimates of cancer potency of diesel PM. Because diesel PM cannot be monitored directly in the ambient air, cancer risk is estimated using indirect methods based on measurement of surrogate compounds. The BAAQMD has estimated the average cancer risk associated with diesel particulate exposure in the Bay Area, based on CARB estimates of population-weighted average ambient diesel PM concentrations for the Bay Area in the year 2000, to be about 450 in one million (BAAQMD 2000).

4.4.4 Local Setting

For air quality, the current environmental setting, and the alternative baseline in 1995 for the OARB are described. As allowed by CEQA, where relevant, the analysis of air quality impacts of a military base reuse may be based on environmental conditions that existed at the time the federal government made the decision to close the base, rather than current existing conditions. For the OARB, the government made this decision in 1995. The analysis of impacts to air quality use an alternative baseline for only the OARB portion of the redevelopment project area.

Emission Inventory. As presented in Table 4.4-2, Alameda County's contribution to regional emissions is consistent over time, between 12 to 22 percent per year, depending on pollutant. The District expects the percentage of Alameda County's contribution to basin-wide emissions would remain approximately the same per pollutant, except the County's relative contribution to CO is expected to slightly decrease.

Setting

Pollutant Monitoring, Attainment Status. The BAAQMD monitoring stations nearest to the redevelopment project area are as follows:

- Alice Street, Oakland (monitors O_3 and CO)
- San Leandro Hospital (monitors O_3 and PM_{10})
- 7^{th} Street, Richmond (monitors SO_2)

Table 4.4-3 summarizes three years of ambient air quality data measured at these stations. No BAAQMD monitoring station representative of the project area monitors NO_x. Monitoring data from stations closest to the project area generally reflect the regional pattern; only the state O_3 standard is occasionally exceeded.

Table 4.4-3
Summary of Criteria Air Pollutant Monitoring Data

Monitoring Station	Air Quality Indicator	1998	1999	2000
Ozone (O_3)				
Alice Street (Oakland)	Peak 1-hour concentration (ppm)	0.056	0.081	0.072
	Days above federal standard	0	0	0
	Days above state standard	1	0	1
San Leandro County Hospital	Peak 1-hour concentration (ppm)	0.111	0.113	0.098
	Days above federal standard	0	0	0
	Days above state standard	2	3	1
Carbon Monoxide (CO)				
Alice Street[a] (Oakland)	Peak 1-hour concentration (ppm)	4.58	5.23	2.69[a]
	Days above federal standard	0	0	0
	Days above state standard	0	0	0
	Peak 8-hour concentration (ppm)	3.9	3.9	3.6
	Days above federal standard	0	0	0
	Days above state standard	0	0	0
PM_{10}				
San Leandro[b] County Hospital	Peak 24-hour concentration ($\mu g/m^3$)	32[a]	--	--
	Days above federal standard	0	--	--
	Days above state standard	0	--	--
	Annual geometric mean ($\mu g/m^3$)	13.2	--	--
	Exceedance of state standard	no	--	--
	Annual arithmetic mean ($\mu g/m^3$)	14.0	--	--
	Exceedance of federal standard	no	--	--
Sulfur Dioxide (SO_2)				
7th Street (Richmond)	Peak 24-hour	0.010	0.008	0.008
	Days above state or federal standards	0	0	0

Source: CARB 1998, 1999, and 2000, Internet Air Quality Data Summaries.
Notes:
-- Data not available
[a] The carbon monoxide values for 2000 are based on 46 percent of the annual data for that year.
[b] The PM_{10} values for 1998 are based on 41 percent of the annual data for that year. No PM_{10} data are available for 1999 and 2000. For monitored PM_{10} data closest to the study area, see Table 4.4-4.

To increase knowledge of particulate exposure at and near the Port of Oakland, in April 1997, the Port of Oakland initiated a monitoring program to measure PM_{10} and $PM_{2.5}$ at two locations. One PM monitoring station is located on Port property near the intersection of 7th Street and Middle Harbor Road. The second monitoring station is located near the intersection of Filbert and 24th streets in a residential area of West Oakland. The monitoring program is being coordinated with the BAAQMD.

Data have been reported for the years 1997 through August 2001 and are summarized in Table 4.4-4 (GAIA 2001). During this sampling period, the highest annual average PM_{10} concentration in the project area was 30.7 $\mu g/m^3$, slightly above the annual average state standard of 30 $\mu g/m^3$. The peak 24-hour concentration was 83 $\mu g/m^3$, above the 24-hour state standard of 50 $\mu g/m^3$. The maximum 24-hour $PM_{2.5}$ concentration was 59 $\mu g/m^3$, below the 24-hour federal standard of 65 $\mu g/m^3$. The maximum annual average $PM_{2.5}$ concentration was 12.6 $\mu g/m^3$; there is not an annual average $PM_{2.5}$ standard.

Pollution-sensitive receptors (e.g., residences, schools, hospitals, etc.) are located within and near the study area. The Oakland Military Institute College Preparatory Academy and Head Start classrooms are interim uses at the OARB. Residences are located adjacent to and near the 16th/Wood sub-district, and the Phoenix Lofts are located within the Maritime sub-district. The intervening UP West Oakland and Desert railyards and elevated I-880 freeway separate most West Oakland residential receptors from the majority of the OARB and Maritime sub-districts. Near Martin Luther King, Jr. Way, receptors are separated from the project area by

Table 4.4-4
$PM_{2.5}$ and PM_{10} Concentrations[a], 1997 to 2000

	24-Hour Maximum Concentration[b]		Annual Average Concentration		Days Above National/State Standard	
	$PM_{2.5}$	PM_{10}	$PM_{2.5}$	PM_{10}		
National Standard:	**65**	**150**	**15**	**50**		
State Standard:	**--**	**50**	**--**	**30**	**$PM_{2.5}$**	**PM_{10}**
Monitoring Site						
Port of Oakland Site (7th/Middle Harbor Road)						
1997[c]	53	83	10.6	25.5	0/--	0/2
1998	58	76	10.8	26.5	0/--	0/6
1999	53	72	12.6	34.6	0/--	0/14
2000	32	60	11.0	30.6	0/--	0/2
2001[d]	44.6	68.1	11.6	33.4	0/--	0/7
West Oakland (Filbert/24th Street)						
1997[c]	51	77	9.6	23.6	0/--	0/1
1998	59	65	9.9	22.2	0/--	0/1
1999	49	81	11.8	25.5	0/--	0/4
2000	35	59	11.2	25.0	0/--	0/2
2001[d]	44.6	83	10.6	26.8	0/--	0/3

Source: GAIA 2001.
Notes:
[a] All concentrations in $\mu g/m^3$ (micrograms per cubic meter).
[b] Highest 24-hour concentration in a 12-month period.
[c] April 1997 – December 1997.
[d] January 2001 – August 2001.
-- = Not applicable (no standard).

intervening land uses that include commercial and industrial facilities, although some live/work units are located intermittently throughout this area. The closest public schools to the project area are McLymonds High on Myrtle Street and Prescott Elementary on Campbell Street.

The East Bay Municipal Utility District (EBMUD) Main Wastewater Treatment Plant (WWTP) is located immediately north of the Baldwin Yard and Subaru site, at the I-80/I-880 interchange. This existing facility does not present a new odor source to the surrounding community. The former Knight railyard and the Desert railyard are located immediately west of I-880, with potential odor-sensitive West Oakland residential areas located on the east side of that freeway.

Alternative Baseline 1995

This alternative baseline provides information on the level of activity and air pollutant emissions at the OARB in 1995, at the time of the OARB closure. The purpose of the information is to compare the projected levels of activity and air pollutant emissions associated with redevelopment to those of the Base when it was still operating in 1995.

OARB Pollutant Emissions. In 1995, the OARB operated a number of air pollutant-emitting sources. These included natural gas-fired boilers, emergency diesel-fired engine generators, underground and three above-ground petroleum storage tanks, a diesel-powered crane, two woodworking shops, a photographic lab, solvent washing units, multiple metal welding operations, and multiple touch-up coating operations. 1994 emission estimates for these stationary sources are presented below. As noted by the Army in their environmental analysis of Base closure and reuse, estimates for 1994 were used due to lack of data for the year 1995 (Corps 2001).

1994 OARB Stationary Source Emissions

Pollutant	CO	ROG	NO_x	SO_x	PM_{10}
Pounds/day	10.7	3.87	33.16	0.557	6.53
Tons/year	1.4	0.5	4.3	0.07	0.8

Source: Corps 2001.

The majority of emissions associated with operations at OARB resulted from employee commute trips and other vehicular traffic associated with the installation (Corps 2001). Mobile source emissions were calculated following methodology from the BAAQMD CEQA Guidelines (1996, revised 1999). This methodology uses average trip generation rates for specific land uses, average trip lengths, and composite emission factors for estimating mobile source emissions. Emission factors from the BAAQMD CEQA Guidelines are as follows:

1995 BAAQMD Mobile Source Emission Factors

CO (lbs/mile)	Hot Soak ROG (lbs/trip)	ROG (lbs/mile)	NO_x (lbs/mile)	SO_x (lbs/mile)	PM_{10} (lbs/mile)
0.0233	0.0019	0.0018	0.0026	0.00013	0.0019

Source: BAAQMD CEQA Guidelines as revised through 1999.

Following are estimates of mobile source emissions at the OARB in 1995.

1995 Mobile Source Emissions at the OARB

Pollutant	CO	ROG	NO_x	SO_x	PM_{10}
Pounds/day	4247	377	473	24	349
Tons/year	552	49	61	3	45

Source: Corps 2001.

Notes: Average trip length assumed to be 7.9 miles.
Average daily trips = 23,027 for the year 1995.

4.4.5 Impact Assessment Methodology

Potential air quality impacts from redevelopment are discussed qualitatively, in terms of the likely emissions that would occur with each activity involved. Specific information about sources of air emissions, and their locations is required to perform a meaningful dispersion modeling analysis. Such information is not currently defined for the redevelopment program at this time. Rather, this analysis takes a conservative approach (of estimated gross emissions) to impact significance, and a solution-oriented approach to potential impacts.

Emissions from vehicular sources (transport trucks and passenger cars) were quantified based on the traffic analysis conducted for this EIR. This analysis examined the potential traffic associated with year 2020 buildout. Emissions were calculated using emission factors from the EMFAC2000 model, which is the latest CARB emissions model for on-road vehicles.

Emissions from cargo-handling equipment at Port of Oakland terminals, railyard equipment, and switch engines at the New Intermodal Facility were estimated using existing information about emissions from these sources located on the Berths 55-58 Project EIR (Port of Oakland 1998) and the JIT Project EIR (Port of Oakland 1999) as well as cargo throughput for the year 2020. Emissions from line haul trains using the New Intermodal Facility were estimated using information provided in the transportation analysis (Dowling Associates 2002). Finally, ship and tugboat emissions were estimated using ship call information provided by the Port of Oakland.

Emission factors for diesel combustion were available for particulate matter of 10 microns or less in aerodynamic diameter (PM_{10}), which is the mass fraction of all particulate matter emissions comprising particles of 10 microns or less in diameter. These estimated PM_{10} emissions were used to characterize all diesel particulate matter (PM) emissions. It is well documented that the great majority of diesel PM emissions comprise particles less than 10 microns in aerodynamic diameter. According to one recent critical review paper on diesel engine emissions (Lloyd and Cackette 2001), more than 90 percent of diesel exhaust-derived PM is smaller than one micron in diameter. This is supported by the Staff Report prepared by CARB in 1998 in support of CARB's listing of diesel PM as a TAC (CARB 1998), which states:

> *Approximately 98 percent of the mass of these particles are 10 microns or less in diameter, 94 percent less than 2.5 microns in diameter, and 92 percent less than one micron in diameter.*

Therefore, the use of PM_{10} emission factors for diesel PM is representative of total diesel PM in terms of characterizing potential health effect. In addition, most of the mass of these diesel PM_{10} emissions is in the size range of 2.5 microns or less in aerodynamic diameter ($PM_{2.5}$). Assuming the estimates in the 1998 CARB Staff Report, about 96 percent of the mass of PM_{10} in diesel exhaust comprises particles with diameters of 2.5 microns or less. Therefore, PM_{10} emission estimates for diesel combustion essentially represent $PM_{2.5}$ emission estimates, and on balance, provide a slightly conservative estimate of $PM_{2.5}$ emissions.

Emissions calculations for this analysis incorporate anticipated future truck and passenger vehicle emissions reductions due to improved fuel and vehicle engine technology. This reduction in emissions is reflected in the EMFAC2000 model for future years. In addition, diesel emissions calculations incorporate currently legislated emission reduction requirements by EPA.

Project emissions calculated for impacts in this analysis do not include projected mitigated emissions for major projects located within the redevelopment area previously disclosed in publicly reviewed and certified environmental review documents (the Berths 55-58 EIR and the JIT Project EIR, Port of Oakland 1998 and 1999, respectively) as further discussed under Section 4.4.6 below. Neither do they include emissions associated with operation of the OARB in 1995, the alternative baseline year.

Significance Criteria

Redevelopment would have a significant impact on the environment if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Expose pollution-sensitive receptors to substantial pollutant concentrations;
- Contribute to CO concentrations exceeding the state ambient air quality standards of 9 ppm averaged over 8 hours and 20 ppm for 1 hour;
- Result in total emissions of ROG, NO_x, or PM_{10} of 15 tons per year or greater, or 80 pounds (36 kilograms) per day or greater (there is currently no quantitative significance threshold for $PM_{2.5}$);
- Result in a substantial increase in diesel emissions; or
- Create objectionable odors affecting a substantial number of people.

Discussion of impacts with respect to consistency with the Clean Air Plan is located in Chapter 5: Cumulative Impacts.

4.4.6 Impacts

In general, redevelopment would involve activities that produce pollutant emissions. These activities include construction/remediation, vessel movement, cargo handling and transport, passenger car travel, and operation and maintenance of commercial development. Both criteria and toxic pollutants would be emitted in all sub-districts. TACs would be emitted in the form of particulate matter from diesel fuel exhaust. Construction/remediation emissions consist of fugitive dust from earth-disturbing activities and equipment exhaust from combustion of gasoline and diesel fuel. Cargo ships, tugboats, on-dock equipment, and trains in the Maritime sub-district and Port development area would emit pollutants in the exhaust, as would trucks and vehicles traveling to all three sub-districts. Finally, buildings, warehouses, offices, and residences would also be sources of emissions from combustion of natural gas for space and water heating, exhaust emissions from landscaping equipment, and volatile organic compound emissions from miscellaneous consumer products, solvents, and cleaners as would emissions from trucks and vehicles from all sub-districts within the project area. The specific activities that would generate air pollutants are discussed below.

Emissions of criteria pollutants (ROG, NO_x, CO, and PM) are associated with each activity. In addition, activities such as construction/remediation involving diesel-fueled engines would emit toxic air contaminants from the diesel exhaust in the form of $PM_{2.5}$.

Construction/remediation activities would generate fugitive dust PM_{10} emissions and exhaust emissions of NO_x, ROG, and CO that could violate the ambient air quality standards and expose pollution-sensitive receptors to substantial pollutant concentrations for the duration of construction/remediation. This would result in a potentially significant impact. In addition, particulate matter from diesel-fueled equipment exhaust could be emitted in a significant amount. This would also result in a potentially significant impact. Construction/remediation emissions were not quantified for this analysis because the specific size, location, and timing of construction activities are not defined at this time.

The BAAQMD CEQA Guidelines include numerous measures for controlling fugitive dust as PM from construction activities. The BAAQMD normally allows a presumption of impact insignificance with implementation of these control measures, and does not require quantification of construction emissions.

Estimated emissions resulting from year 1995 operations at the OARB (the alternative baseline year are as follows:

OARB Alternative Baseline (1995) Estimated Emissions					
1994 Stationary Source Emissions					
Pollutant	**CO**	**ROG**	**NO_x**	**SO_x**	**PM_{10}**
Pounds/day	10.7	3.87	33.16	0.557	6.53
Tons/year	1.4	0.5	4.3	0.07	0.8
1995 Mobile Source Emissions					
Pollutant	**CO**	**ROG**	**NO_x**	**SO_x**	**PM_{10}**
Pounds/day	4247	377	473	24	349
Tons/year	552	49	61	3	45

Source: Corps 2001.

Estimated mitigated emissions of the Berths 55-58 and JIT Projects , as reported in the Berths 55-58 Project EIR are:

Berths 55-58 and JIT Projects Mitigated Emissions in 2010 (tons/year)		
ROG	**NO_x**	**PM**
66	454	40

Source: Port of Oakland 1998.

Estimated emissions from the increment of cargo operations (ships, tugs, cargo handling equipment, locomotives), transport trucks, and passenger vehicles (including delivery trucks) associated with proposed redevelopment are shown in Table 4.4-5. This table shows the resulting emissions after those already disclosed in other approved EIRs (Berths 55-58, JIT) and the 1995 OARB baseline were subtracted out. All emissions except for passenger cars/delivery trucks are associated with either the Port development area or Maritime sub-district.

Area source emissions (business and residential) from natural gas combustion for space and water heating, consumer product use, and landscaping could expose pollution-sensitive receptors to elevated levels of NO_x, ROG, CO, and PM_{10}. These emissions were qualitatively assessed. Passenger cars/delivery trucks traveling to all sub-districts within the area could lead to violations of the CO standard at congested intersections.

Finally, the development of the OARB sub-district near the EBMUD wastewater treatment plant would place individuals near an existing source of odorous emissions. Relocation of JIT functions to the New Intermodal Facility could expose receptors to odors associated with diesel fuel combustion. However, the likelihood of an odor impact is extremely low due to meteorological conditions and distance from the community.

Table 4.4-5
Redevelopment Program Year 2020 Estimated Emissions from Operations (tons/year)

	NO_X	ROG	CO	SO_2	PM_{10}[a]
Port Development Area/Maritime Sub-District					
Marine Cargo Equipment	37	5	14	2	2
Ships	1,065	65	101	580	79
Tugs	33	1	5	6	1
Trains	29	2	7	5	1
Rail Cargo Equipment	8	1	2	Negligible	Negligible
Transport Trucks	402	67	625	Negligible	19
Cars/Delivery Trucks	9	16	94	Negligible	1
Total Gross Emissions, Port Activities:	1,583	157	848	593	103
Gateway Development Area					
Cars/Delivery Trucks	50	91	519	Negligible	8
Transport Trucks	54	9	85	Negligible	3
Total Gross Emissions, Gateway:	104	100	604	Negligible	11
16th/Wood Sub-District					
Cars/Delivery Trucks	37	67	382	Negligible	6
Transport Trucks	24	4	37	Negligible	1
Total Gross Emissions, 16th/Wood:	61	71	419	Negligible	7
Redevelopment Program Gross Emissions:	**1,748**	**328**	**1,871**	**593**	**121**
Less Berths 55-58 and JIT Mitigated Emissions	454	68	0	0	40
Less 1995 Alternative Baseline Emissions	65	50	553	3	46
Redevelopment Program Net Total	**1,229**	**210**	**1,318**	**590**	**35**

Sources: Marine cargo equipment emissions and mitigated Port emissions from Berths 55-58 Project EIR (Port of Oakland 1998); Railyard cargo equipment and train emissions from JIT Project EIR (Port of Oakland 1999); transport trucks and passenger and delivery vehicle emissions from traffic analysis by Dowling Associates for this EIR (2002); alternative baseline emissions from Army EIS for disposal and reuse of the OARB (Corps 2001).
Note:
[a] Considered a TAC from diesel fuel combustion.

Impact 4.4-1: PM as fugitive dust would be emitted during construction and remediation activities.

Significance: Potentially significant

Mitigation 4.4-1: Contractors shall implement all BAAQMD "Basic" and "Optional" PM_{10} (fugitive dust) control measures at all sites, and all "Enhanced" control measures at sites greater than four acres.

Residual Significance: Less than significant

Construction/remediation activities would produce PM as fugitive dust. Such activities would include, and are not limited to, demolition/de-construction of buildings and structures; removal

and recycling of paving and concrete; excavation and fill, and hauling of excavated and fill materials; removal of surface and subsurface contaminants; grade correction, and other site preparation. Other dust-producing construction activities would include construction of infrastructure, including realignment of Maritime Street and installation of utilities.

These emissions would be short-term, for the duration of specific construction/remediation activities. Because the level of emissions depend on details of construction not yet completely defined, the impact is considered potentially significant. With implementation of Mitigation Measure 4.4-1, the BAAQMD allows a presumption of impact insignificance in the absence of quantitative analysis (BAAQMD 1996, revised 1999),and the residual impact is considered less than significant.

~ ~ ~

Impact 4.4-2: Construction equipment exhaust could increase levels of NO_x, ROG, CO, and PM_{10} (the latter primarily as diesel PM) that could exceed 15 tons per year, or result in substantial increase in diesel emissions.

Significance: Potentially significant

Mitigation 4.4-2: Contractors shall implement exhaust control measures at all construction sites.

Residual Significance: Significant and unavoidable

All construction/remediation equipment would emit criteria pollutants, particularly ROG, NO_x CO, and PM. Most heavy equipment, and some support equipment, is likely to be diesel-fueled, and would emit diesel exhaust. These emissions would be relatively short-term, and quantities would depend on the amount of equipment, as well as its frequency and duration of use.

The BAAQMD provides that impacts to air quality from construction emissions of CO, NO_x, and ROG are included in the emission inventory that is the basis of regional air quality plans and as such are not expected to impact attainment or maintenance of O_3 and CO standards in the Bay Area. However, the proposed redevelopment is unusual for several reasons:

- construction/remediation activity may take place throughout the entire 1,800 acre project area;
- at a minimum, approximately 370 acres of the OARB will be deconstructed, regraded and redeveloped;
- numerous construction activities may take place in the same general vicinity and at the same time; and

- portions of the redevelopment project area are located within different jurisdictional boundaries, generally preventing a coordinated timing or phasing of construction activities.

For these reasons and in the interest of being conservative, the emission of construction/remediation equipment exhaust is considered to be a potentially significant effect of redevelopment.

PM_{10} emissions from diesel-fueled equipment exhaust are considered by the CARB to be a TAC. The majority of diesel PM_{10} is in the fine fraction (less than 2.5 microns in diameter, or $PM_{2.5}$) and can remain airborne for several days. The area of impact would depend on meteorological conditions. On most days, when at least light wind conditions prevail in the study area, construction-related diesel particulate is likely to be dispersed widely and have its impact on a regional scale. During periods of very light wind speeds, low inversion heights, and atmospheric stability, diesel particulate may remain in the study area and have more local impact. Because health risks relate to long-term, lifetime exposure, it is long-term average exposure to diesel particulate that is of most concern. Due to the prevailing meteorological conditions in the redevelopment project area and the distance of the closest residential areas from the emissions sources, levels of diesel particulate in the area of local impact are expected to be well dispersed. Increased levels of PM would be short-term, for the duration of those construction activities that generate such emissions.

It is assumed that most trucks associated with hazardous remediation (including hauling off site) and other trucks used to haul demolition and construction debris would be diesel-fueled. The amount of emitted pollutants would depend on the frequency of truck trips, the speed and idling time, and the distance traveled by the trucks. This impact would occur near the OARB, Maritime, and 16th/Wood sub-districts and also throughout the air basin, depending on where the trucks deliver the off-hauled material.

Construction and remediation-related generation of criteria pollutants and diesel exhaust would be short-term, and, given meteorological conditions, pollutants are expected to be dispersed. However, because details of construction are not yet completely defined, the impact is considered potentially significant. With implementation of Mitigation Measure 4.4-2, the impact would be reduced, but not to a level that is less than significant, and the residual impact is considered significant and unavoidable.

~ ~ ~

Maritime and Rail Operations

Maritime and rail transportation operations utilize a variety of gasoline-, diesel-, and alternatively-fueled equipment. Air pollutants would be emitted from ships, trains, trucks, and cargo equipment working at or supporting New Berth 21, as well as the increment of other additional maritime and rail operations needed to meet year 2020 throughput projections.

Impact 4.4-3: Increased Port maritime and rail operations, as well as trucking activities associated with all redevelopment operations would emit NO_x, ROG, and PM_{10} in excess of 15 tons per year or 80 pounds per day, substantially increase diesel emissions, and potentially expose pollution-sensitive receptors to substantial pollutant concentrations.

Significance: Significant

Mitigation 4.4-3: The Port shall develop and implement a criteria pollutant reduction program aimed at reducing or off-setting Port-related emissions in West Oakland from its maritime and rail operations. The program shall be sufficiently funded to reduce and/or off-set redevelopment related contributions to local West Oakland air quality to the maximum extent feasible.

Mitigation 4.4-4: The City and the Port shall jointly create, maintain, and fund on a fair share basis, a truck diesel emission reduction program. The program shall be sufficiently funded to reduce and/or off-set redevelopment related contributions to local West Oakland diesel emissions to the maximum extent feasible.

Residual Significance: Significant and unavoidable

Maritime and rail operations are anticipated to generate net quantities of pollutants due to redevelopment in 2020 as indicated on Table 4.4-5.

Ships and Tugs. Ships produce air emissions when burning fuel for propulsion or for electrical or steam generation. Three modes of ship operations occur in the Bay Area air basin: cruising, maneuvering, and hoteling. The first mode of operation is the “straight line” movement of the ships toward the Port in the ocean-shipping lane. The second mode is the maneuvering of the ship once it is in the San Francisco Bay. The last mode is the operation of auxiliary boilers or generators to supply power, etc., to the ship while it is berthed. Tugboats are diesel-fueled and emit criteria and TAC emissions while in transit and while maneuvering ships to Port facilities.

Emissions from ships transiting the Port would change as a result of construction of New Berth 21 as well as from other anticipated changes within the maritime sub-district. Those emissions would also change from the present through the build-out year of 2020. Ship calls for year 2000/2001 totaled 1,810 (Marine Exchange 2001), while ship calls in 2020, are projected to be 2,455 (Port of Oakland 2002). It should be noted that while ships contribute to local air pollution, nearly all ships that call at the Port of Oakland are under foreign registry, and not subject to U.S. environmental regulations. Appendix 4.4 contains additional information about the air quality impacts of marine operations.

Marine Terminal Cargo Equipment. Cargo handling or "yard" equipment would emit criteria and toxic pollutants from combustion of diesel fuel. Yard equipment transports cargo between the ship to an over-the-road truck, and intermodal truck, or to a storage area in the marine terminal yard. Yard equipment generally does not leave the terminal area. Types of marine terminal cargo equipment include transtainers (also known as rubber-tired gantries), top picks, reach stackers, yard hustlers ("hostlers"), side picks, and forklifts. Emissions from these sources were estimated taking into account emission estimates for the year 2010, and the predicted cargo throughput for the year 2020.

Rail Terminal Cargo Equipment and Locomotives. Rail use is proposed for the Port development area of the OARB sub-district and the Maritime sub-district. Rail development involves the movement of cargo between trains, to ships and trucks. Train engines would emit air pollutants from combustion of diesel fuel. Switch locomotives, or "yard engines" are used in rail terminal for connecting and disconnecting long haul trains. Switch locomotives have longer idle times and vary their running speed often while performing operations. Yard equipment used to handle the transfer and storage of cargo would emit air pollutants from the combustion of diesel fuel.

Trains that transport cargo to and from other areas of the state and country (line haul) would be sources of air pollutants, but the majority of their emissions would occur outside the study area. Emissions from line haul trains were calculated for mileage within the Bay Area air basin only.

Transport Trucks. Both "intermodal" and "over-the-road" transport trucks would emit criteria and toxic pollutants in the exhaust. Intermodal trucks transport cargo between Port terminals (marine to rail or rail to marine). Over-the-road trucks transport cargo between the Port, the Gateway development area, or the 16th/Wood sub-district, and locations outside the project area. Over-the-road truck emissions were calculated using mileage within the Bay Area air basin. Over-the-road trucks traveling south through southern Santa Clara county would travel approximately 80 miles within the air basin. Trucks traveling east towards Tracy would travel approximately 45 miles within the air basin. The average of these distances was used to calculate emissions from over-the-road trucks.

Combined Diesel Emissions. The analysis in this document is an assessment of the incremental increase in train and rail yard activity associated with the redevelopment program only, and takes into account emissions disclosed in a previously certified and publicly reviewed EIR (EIR for the Joint Intermodal Terminal, Port of Oakland 1999). This EIR also considers the effect of additional cargo handling equipment at the marine terminals and the rail terminal, as well as increased truck transport activity, and relocating the functions of the JIT to the New Intermodal Facility. Taken together, these activities could increase exposure of pollutant-sensitive receptors in the West Oakland community to increased diesel emissions.

The total increase in emissions combined with the relocation of the railyard emissions source nearer the West Oakland community are considered a significant impact. With implementation

of Mitigation Measures 4.3-3 and 4.3-4 , the impact would be substantially reduced, but it is not likely it would be reduced to a level that is less than significant, and the residual impact would be significant and unavoidable.

~ ~ ~

Impact 4.4-4: Passenger vehicles and delivery trucks associated with redevelopment would emit NO_x, ROG, CO, and PM in excess of 15 tons per year or 80 pounds per day.

Significance: Significant

Mitigation 4.4-5: Major developers[5] shall fund on a fair share basis BAAQMD-recommended feasible Transportation Control Measures (TCMs) for reducing vehicle emissions from commercial, institutional, and industrial operations, as well as all CAP TCMs the BAAQMD has identified as appropriate for local implementation.

Residual Significance: Significant and unavoidable

Passenger car and delivery truck traffic would be generated by redevelopment in all sub-districts, and exhaust from this traffic would emit criteria pollutants as follows:

2020 Emissions of Criteria Pollutants from Passenger and Delivery Vehicles (tons/year)

Pollutant	Port Development Area, Maritime Sub-District	Gateway Development Area	16th/Wood Sub-District
NO_x	9	50	37
ROG	16	91	67
CO	94	519	382
SO_2	Negligible	Negligible	Negligible
PM_{10}	1	8	6

Source: Table 4.4-5.

Emissions of all criteria pollutants would exceed significance criteria, and the impact is considered significant. With implementation of Mitigation Measure 4.4-5, the impact would be substantially reduced, but may not be reduced to a level that is less than significant, and the residual impact is considered significant and unavoidable. In addition, Mitigation Measure 4.3-4, comprising traffic demand management (TDM) measures intended primarily to address traffic impacts, would also reduce air emissions, but not to a level that is less than significant.

~ ~ ~

[5] Defined as City, Port, and private developers whose subsequent redevelopment activity would generate more than 20,000 square feet of employment-generating land uses, or that would generate 100 or greater local jobs.

Impact 4.4-5: Space and water heating as well as routine maintenance of office buildings, warehouses, retail stores, and live-work space, could emit NO_x, ROG, CO, and PM_{10} in quantities that could exceed thresholds.

Significance: Potentially significant

Mitigation 4.4-6: Title 24 of the Uniform Building Code (UBC) requires that new construction include energy-conserving fixtures and designs. Additionally, the City and Port shall implement sustainable development policies and strategies related to new development design and construction.

Residual Significance: Less than significant

Land uses proposed for the OARB and 16th/Wood sub-districts include light industrial, office, research and development, retail, warehouse/distribution, and live/work. Air pollutants emitted from stationary sources at these types of land uses include combustion emissions from space and water heating and industrial sources. These area emission sources would also be present in the Maritime sub-district in the administration building and miscellaneous one-story buildings (*e.g.*, repair shop, storage, etc.) at the Port terminal and at the rail terminal. Emissions of these types could result in quantities of emissions that exceed significance criteria. Because occurrence of this impact depends on site-specific design not currently defined, the impact is considered potentially significant. With implementation of Mitigation Measure 4.4-6, the impact would be minimized, and the residual impact would be less than significant. Mitigation Measures 4.11-4 and 4.11-5, intended primarily to mitigate impacts to aesthetic resources, would partially mitigate impacts to air quality resources as well.

~ ~ ~

Impact 4.4-6: Proximity of the New Intermodal Facility to West Oakland, and of the EBMUD Main WWTP to the OARB sub-district, could expose individuals to odorous emissions.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

Examination of the annual wind directions shown in Figure D-1 of the BAAQMD CEQA Guidelines (1996, revised 1999) illustrates that the prevailing wind direction in the area is from the west and west-northwest most of the year. Winds sometimes blow from the southwest to southeast, in part due to passing frontal systems. Winds seldom blow from the northeast quadrant. The wind directions shown for the area were developed from data collected at the EBMUD Main WWTP.

The EBMUD Main WWTP is located northeast of the OARB sub-district. Odor thresholds of airborne compounds from WWTPs are very low (primarily hydrogen sulfide, with a characteristic "rotten egg" odor). Because of this, there is a possibility that new employee population at the OARB sub-district could experience odor events. Because the wind is seldom from the northeast, the likelihood odor events at the OARB is low, although such events would be possible under stable, calm air conditions. Because the expected frequency of odor events at the OARB sub-district is low, the impact is considered less than significant.

The New Intermodal Facility would be generally located at the former Knight railyard. This would place the railyard in the prevailing upwind direction from the West Oakland community, however, odor thresholds for compounds in diesel exhaust are relatively high compared to many other types of odorous compounds, and these odors would be expected to dissipate quickly. Therefore, the expected likelihood of an odor impact is extremely low, given the distance of the New Intermodal Facility to the West Oakland community and the intervening freeway and rail land uses. The impact is considered less than significant. Should odor complaints regarding that facility be registered with the BAAQMD, that agency would investigate these complaints.

Discussion of odors and land use compatibility can be found in Section 4.2: Land Use.

~ ~ ~

4.4.7 Mitigation

Implementation of the following mitigation measures will avoid, minimize, reduce, rectify, or compensate for significant impacts of redevelopment.[6]

Mitigation 4.4-1: Contractors shall implement all BAAQMD "Basic" and "Optional" PM_{10} (fugitive dust) control measures at all sites, and all "Enhanced" control measures at sites greater than four acres.

This measure applies to Impact 4.4-1 and Cumulative Impact 5.4-1.

The following BAAQMD fugitive dust control measures shall be implemented as indicated at construction sites, and shall be enforced through contract specifications.

[6] An extensive evaluation of potential air quality mitigation measures was conducted as part of the Berths 55-58 EIR (Port of Oakland 1998). Mitigation measures found feasible in that study, and for which some cost-benefit remains are included in the following recommendations for mitigating maritime-related impacts.

BAAQMD Fugitive Dust Control Measures

Control Measure	BAAQMD Category	Emission Source Controlled	Measure
1	Basic	Land	Water all active construction areas at least twice daily
2	Basic	Trucks	Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least 2 feet of freeboard.
3	Basic	Land	Pave, apply water 3 times daily, or apply (nontoxic) soil stabilizers on all unpaved access roads, parking areas and staging areas, at construction sites.
4	Basic	Land	Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.
5	Basic	Streets	Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
6	Enhanced	Land	Hydroseed or apply (nontoxic) soil stabilizers to inactive construction areas (previously graded areas inactive for 10 days or more).
7	Enhanced	Stockpiles	Enclose, cover, water twice daily or apply (nontoxic) soil binders to exposed stockpiles (dirt, sand, etc.)
8	Enhanced	Streets	Limit traffic speeds on unpaved roads to 15 mph.
9	Enhanced	Land	Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
10	Enhanced	Land	Replant vegetation in disturbed areas as quickly as possible.
11	Optional	Land	Limit the area subject to excavation, grading, and other construction activity at any one time.
12	Optional	Land	Suspend excavation and grading activity when sustained[a] wind speeds exceed 25 mph.
13	Optional	Trucks	Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.

Source: BAAQMD, 1996 as revised through 1999. Table 2.
Note: [a] Modified as per the Berths 55-58 EIR.

~ ~ ~

Mitigation 4.4-2: Contractors shall implement exhaust control measures at all construction sites.

This measure applies to Impact 4.4-2 and Cumulative Impact 5.4-1.

Exhaust control measures shall be implemented where feasible at each construction site, and may include, but not be limited to the following:

Exhaust Control Measures	
Control Measure	**Measure**
1	Prohibit truck idling in excess of 2 minutes
2	Use electricity from power poles rather than generators
3	Limit the size of construction equipment engines to the minimum practical size
4	Configure construction equipment with two to four degree engine timing retard or pre-combustion chamber engines
5	Install high pressure injectors on diesel construction equipment
6	Install soot traps
7	Install catalytic oxidizers
8	Minimize concurrent operation of vehicles
9	If they are available in the air basin, purchase emission offsets if ROG or NO_x emissions from construction where emissions exceed 6 tons/quarter

~ ~ ~

Mitigation 4.4-3: The Port shall develop and implement a criteria pollutant reduction program aimed at reducing or off-setting Port-related emissions in West Oakland from its maritime and rail operations. The program shall be sufficiently funded to reduce and/or off-set redevelopment related contributions to local West Oakland air quality to the maximum extent feasible.

This measure applies to Impact 4.4-3 and Cumulative Impact 5.4-1.

This program shall be periodically reviewed and updated every one to three years, corresponding to regular updates of the Clean Air Plan. The review and update shall include a reassessment of funding requirements, technical feasibility, cost benefit assumptions and other factors. The periodic updates shall be submitted to the City/Port Liaison Committee or its equivalent.

The pollutant reduction program shall give priority to emission reduction strategies that address PM_{10} emissions, but shall also provide for reductions in NO_x and ROG emissions. The emission reduction program shall include a list of potential emission reduction strategies. Strategies that shall be included in the program and implemented over the buildout period include:

- The Port shall expand its existing cargo handling equipment re-powering and retrofitting program (part of the Berths 55-58 Project air quality mitigation program) to include marine and rail terminal yard equipment added or relocated as part of redevelopment build-out.

- The Port shall extend its grant program (part of the Berths 55-58 Project air quality mitigation program) to provide financial incentives to tugboat operators at New Berth 21 and other Port facilities to implement emission reduction control measures or to replace tugboat engines to low NO_x technology.

- The Port shall require rail terminal operators to use switch engines at the New Intermodal Facility that comply with federal air emission regulations for diesel operated locomotives as set forth in federal air regulations. In addition, the rail terminal operator and the Port are to exchange information with the goal of investigating options to accelerate compliance with Tier 0, 1 and 2 requirements of the federal regulations.

- The Port shall not preclude in its design of the New Intermodal Facility the installation of an alternative fueling station and shall to the extent feasible accommodate such a fueling station.

- The Port shall encourage ships to implement source control technologies when in the port area (such as reduced hoteling).

Other strategies to be included in the Port criteria pollutant reduction program when technically and economically feasible, include:

- Inclusion of an alternative fueling facility at the New Intermodal Facility.

~ ~ ~

Mitigation 4.4-4: The City and the Port shall jointly create, maintain and fund on a fair share basis, a truck diesel emission reduction program. The program shall be sufficiently funded to reduce and/or off-set redevelopment related contributions to local West Oakland diesel emissions to the maximum extent feasible.

This measure applies to Impact 4.4-3 and Cumulative Impact 5.4-1.

This program shall be periodically reviewed and updated every one to three years, corresponding to regular updates of the CAP. The review and update shall include, and not be limited to, a reassessment of funding requirements, technical feasibility, and cost benefit assumptions. Periodic updates shall be submitted to the City/Port Liaison Committee or its equivalent.

The diesel emissions reduction program shall include a list of potential emission reduction strategies that shall include on-site Port improvements and/or practices; loan, grant or incentive-based programs; and on-going studies.

Strategies that shall be included in the diesel emissions reduction program and implemented over the build-out period include the following:

1. On-site Port improvements.

    - Configure truck parking in the Port to minimize traffic interference and reduce idling times.
    - Allow easy access to a truck parking facility at the Port 24-hours a day.
    - Synchronize traffic lights in the Port area to reduce congestion (requires coordination with the City).

2. City/Port loan or grant/incentive programs for local businesses or entities.

    - Provide incentives for re-powering, retrofitting, electrifying, or switching to alternative fuels to local businesses, franchises or truck fleets operating in West Oakland. Such businesses may include, for example, locally owned and operated trucking operations, refuse and recycling collection vehicles, school buses, Port and/or City fleet vehicles, and US Mail trucks.

Other strategies to be included in the diesel emissions reduction program to be examined and incorporate when technically and economically feasible, include the following:

1. On-site Port improvements.

    - Allow trucks using alternative fuels to the head of queues or have separate gate entrances.

2. On-going studies.

    - Explore methods to minimize truck idling times at the Port.
    - Explore and encourage the use of alternative fuels for Port marine, rail and truck operations.
    - Propose and fund a random roadside heavy duty diesel vehicle (HDDV) emissions testing program and an HDDV repair subsidy program.

3. City/Port loan or grant/incentive programs for local businesses or entities.

    - Provide subsidies, training programs and/or voucher programs for local West Oakland businesses to conduct timing retard, compressions changes and other adjustments to diesel engines to reduce emissions.
    - Install oxidative catalyst and particulate traps on diesel engines with low NOx, alternatively fueled or electrified engines.

~ ~ ~

Mitigation 4.4-5: Major developers shall fund on a fair share basis BAAQMD-recommended feasible Transportation Control Measures (TCMs) for reducing vehicle emissions from commercial, institutional, and industrial operations, as well as all CAP TCMs the BAAQMD has identified as appropriate for local implementation.

This measure applies to Impact 4.4-4 and Cumulative Impact 5.4-1.

Each major developer of a subsequent redevelopment activity shall fund its fair share toward some or all of the following TCMs:

BAAQMD-Recommended Transportation Control Measure, Modified for this Action

Control Measure	Measure
1	Construct transit facilities such as bus turnouts/bus bulbs, benches, shelters, etc. Improve transit bus service to the area.
2	Design and locate buildings to facilitate transit access, e.g., locate building entrances near transit stops, eliminate building setbacks, etc.
3	Provide and make public transit convenient for 16th and Wood sub-district residents and tenants
4	Encourage OARB sub-district tenants to use car pools, vanpools, and public transit by providing incentives.
5	Provide a shuttle to and from the West Oakland BART station
6	Provide on-site shops and services for employees, such as cafeteria, bank, dry cleaners, convenience market, etc.
7	Provide on-site child care, or contribute to off-site child care within walking distance.
8	Establish mid-day shuttle service from worksite to food service establishments/commercial areas.
9	Provide preferential parking for carpool and vanpool vehicles
10	Implement parking fees for single occupancy vehicle commuters.
11	Provide secure, weather-protected bicycle parking for employees.
12	Provide safe, direct access for bicyclists to adjacent bicycle routes.
13	Provide showers and lockers for employees bicycling or walking to work.
14	Provide direct, safe, attractive pedestrian access from project to transit stops and adjacent development.
15	Provide neighborhood-serving shops and services within or adjacent to the 16th and Wood sub-district.

Source: BAAQMD 1996, as amended through 1999. Based on Table 15: "Mitigation Measures for Reducing Motor Vehicle Emissions from Commercial, Institutional, and Industrial Projects."

Each major developer of a subsequent redevelopment activity shall also fund its fair share of the following CAP TCMs, which the BAAQMD has identified as appropriate for local implementation, with redevelopment-specific modifications:

CAP TCMs	Description
1. Support Voluntary Employer-Based Trip Reduction Programs	The City and Port will explore ways to promote transit use and support employer-based trip reduction programs through development incentives such as density bonuses, reduced parking requirements, incentives for permanent bicycle facilities, etc. The City will encourage development of transit transfer stations near employment concentrations in the Gateway development area and 16th/Wood sub-district.
9. Improve Bicycle Access and Facilities	Redevelopment includes extensive multi-use trails serving as both "spine" thoroughfares and "spurs" connecting main trails to the Oakland waterfront. The City and Port will encourage employers and developers to provide permanent bicycle facilities.
12. Improve Arterial Traffic Management	Maritime Street and other roadways in the project area will include facilities to encourage bicycling and walking. Roadways and intersections will be designed to operate at City-standard LOS, to facilitate traffic flow and avoid unnecessary queuing.
15. Local Clean Air plans, Policies and Programs	Redevelopment as presented in Chapter 3: Description, and including mitigation measures described in Chapter 4: Setting and Baseline, Impacts, and Mitigation, incorporates land uses such as live/work, and measures intended to reduce the number and length of single-occupant automobile trips.
17. Conduct Demonstration Projects	The City will encourage through development incentives demonstration projects for fleet electrification or alternative fueling. In addition, the Port will not preclude alternative fueling in its design of rail facilities.
19. Pedestrian Travel	OARB and Maritime sub-districts will include multi-use trails to encourage safe pedestrian travel.
20. Promote Traffic Calming Measures	Redevelopment will include traffic calming measures to the extent appropriate, consistent with the General Plan and sound traffic management of the project area area.

Source: BAAQMD CEQA Guidelines, revised 1999 Table 5.

These TCMs shall be coordinated with transportation demand management (TDM) measures implemented under Mitigation Measure 4.3-4.

~ ~ ~

Mitigation 4.4-6: Title 24 of the Uniform Building Code (UBC) requires that new construction include energy-conserving fixtures and designs. Additionally, the City and Port shall implement sustainable development policies and strategies related to new development design and construction.

This measure applies to Impact 4.4-5.

Implementation of UBC requirements would reduce the need for space and water heating that would emit pollutants.

City and Port policies and strategies shall be conditioned for all new development within the redevelopment project area. Specific examples may include, and are not limited to the following:

- Wood fire heating shall be prohibited in new live/work development.
- Where siting allows and where feasible, buildings shall be oriented to take advantage of passive and active climate control designs.
- To the maximum extent feasible, central water heating systems shall be installed.

~ ~ ~

~

4.5 NOISE

Redevelopment would result in one potentially significant and one less than significant impact regarding noise. With implementation of measures recommended in this section, the potentially significant impact would be reduced to a level that is less than significant.

Discussion of Acoustical Terms

A discussion of sound properties and terms is informative to any discussion of sound and noise. Sound levels are measured on a logarithmic scale in decibels (dB). The common measure for environmental sound is the "A"-weighted sound level (dBA). "A" scale weighting is an adjustment to measured sound that takes into account the way the human ear responds to sound. "Noise" is typically defined as unwanted sound.

The ambient noise level comprises the sum of all noise sources, both near and far. It includes indistinguishable noise from roads, machinery, aircraft, and other sources. The ambient level varies slowly with time, as these sources increase or diminish.

Because noise by its nature varies with time, it is beneficial to define certain measurement terms, also called "metrics descriptors," used to characterize this fluctuation. The energy average level over a specific period is defined as the equivalent sound level, or equivalent energy noise level, abbreviated as L_{eq}. For a given time interval, L_{eq} is a constant sound level whose acoustic energy is the same as the acoustic energy of the (actual) time-varying sound level. Thus, L_{eq} provides a measure of the true energy-average sound level in an area, and includes the sound from all constant, sporadic, or transient events. L_{eq} is usually measured in hourly intervals over long periods in order to develop 24-hour average noise levels. L_{eq} is generally used to describe levels of noise affecting sensitive receptors where the noise source itself is not of special concern during evening and nighttime hours, or where the noise is only generated during daytime hours such as with construction activities.

Other descriptors of noise are commonly used to predict noise/land use compatibility, as well as community reaction to daytime and nighttime environmental noise. These descriptors include the Day-Night Average Sound Level (abbreviated L_{dn} or DNL), and California's Community Noise Equivalent Level (CNEL). Each of these descriptors uses units of dBA. Both L_{dn} and CNEL represent 24-hour periods, and both apply a penalty to noise events that occur during evening and/or nighttime hours, when relaxation and sleep disturbance is usually of more concern. In the case of CNEL, noise occurring during the daytime hours, between 7:00 a.m. and 7:00 p.m., receives no penalty. Noise occurring between 7:00 p.m. and 10:00 p.m. (denoted "evening") is penalized by adding 5 dB to the measured noise level, while noise occurring from 10:00 p.m. to 7:00 a.m. (nighttime) is penalized by adding 10 dB to the measured level. L_{dn} differs from CNEL by not adding a penalty in the evening period. Both CNEL and L_{dn} are the predominant metrics used by local governments to describe noise environments within their jurisdictions and for land use compatibility planning purposes. The U.S. Environmental Protection Agency (EPA) recommends their use.

Other metrics presented in this report include Maximum A-weighted Sound Level ($L_{A_{max}}$) and statistical sound levels such as L_{10}, L_{50} and L_{90}. $L_{A_{max}}$ is the A-weighted maximum instantaneous sound level measured during the specified time interval or for an individual noise event. The statistical sound level quantity, L_x (in dBA), also can represent the background sound level. L_x is the level that is exceeded "x" percent of the time during a given interval.

Two relevant characteristics of sound (or noise) behavior outdoors are propagation and attenuation. Propagation refers to the manner in which sound energy travels outward from its source. The pattern of propagation is related to the geometry of the sound source. One common environmental noise source is described as a "point source." Examples of point sources are a single piece of construction equipment relatively close to a receptor or an entire construction site that is relatively far away from a receptor. The noise from such a source propagates (travels) outward in an ever-increasing spherical pattern. As the sound energy propagates and the sphere becomes larger and larger, the sound energy at any given point on the surface of the sphere becomes less and less. This reduction in noise level is described as geometric or distance attenuation and is quantified in decibel units. The rate at which the sound from a point source attenuates with distance is 6 decibels for every doubling of distance away from the source, starting at 50 feet. A second common noise source geometry is a "line source," such as a very busy highway with vehicles close together, or a long train. Sound propagates away from this type of source in the shape of a cylinder parallel to the source. As noise travels away from a line source it also attenuates, but less rapidly than the noise from a point source. The rate of attenuation from a line source is 3 decibels for every doubling of distance from the source. A quasi–line source (*e.g.*, automobiles spaced apart on a road) is between a point source and a line source; noise from a quasi–line source attenuates at the approximate rate of 4½ decibels for every doubling of distance from the source.

Factors other than distance cause additional sound attenuation. These include intervening terrain or barriers between the source and the receptor that block the direct line-of-sight, for distances greater than 1,000 feet, the atmosphere attenuates sound.

Human response to noise varies from individual to individual and is dependent upon the ambient environment in which the noise is perceived. The same noise that would be highly intrusive to a sleeping person or someone in a quiet park might be barely perceptible at an athletic event or in the middle of the freeway at rush hour. Therefore, planning for an acceptable noise exposure must take into account the types of activities and corresponding noise sensitivity in a specified location for each particular set of land uses. Some general guidelines for noise levels are: sleep disturbance may occur at an interior level above 35 dBA, interference with human speech begins at around 52 dBA, and hearing damage will result from prolonged exposure to noise levels in excess of 90 dBA. The state and City noise regulations and guidelines cited in this EIR as bases for standards of significance of noise impacts take into account the human response to noise and the noise sensitivity of various activities.

4.5.1 Study Area

The study area consists of the redevelopment project area and adjacent areas that may be affected by noise from redevelopment. An area of noise-sensitive receptors starts at Goss Street, and extends northward toward West Grand Avenue. This noise-sensitive area is bounded on the east by Mandela Parkway, and on the west by the eastern boundary of the 16th/Wood sub-district.

The study area also includes a small area north of the Howard Terminal that has noise-sensitive receptors located near truck routes in the vicinity of 3rd Street and Martin Luther King Jr. Way. This area is predominantly industrial.

4.5.2 Regulatory Setting

Federal

The Noise Control Act of 1972. The Noise Control Act (42 USC Chapter 4901 *et seq.*) directs the EPA to develop noise level guidelines that would protect the population from the adverse effects of environmental noise. The EPA published a guideline (EPA Levels Document, Report No. 556/9-74-664) containing recommendations for noise levels affecting residential land use not to exceed 55 dBA L_{dn} outdoors and not to exceed 45 dBA L_{dn} for indoors. The agency is careful to stress that these recommendations contain a factor of safety, and do not consider technical or economic feasibility issues, and therefore should not be construed as standards or regulations.

Noise Emission Standards for Transportation Equipment. Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under 40 CFR, Part 205, Subpart B. The federal truck passby noise standard is 80 A-weighted decibels (dBA) at 15 meters (approximately 50 feet) from the vehicle pathway centerline (Crocker 1997). Vehicle noise limits are implemented through regulatory controls on vehicle manufacturers.

The federal regulations for railroad noise are contained in 40 CFR, Part 201, and 49 CFR, Part 210. Noise limits for locomotives manufactured during or after 1980 are as follows: stationary (idle throttle setting)—70 dBA at 15 meters from the track pathway centerline; stationary (all other throttle settings)—87 dBA at 15 meters; and moving—90 dBA at 15 meters (Crocker 1997). These noise limits are implemented through regulatory controls on vehicle manufacturers.

Department of Housing and Urban Development Standards. Department of Housing and Urban Development (HUD) standards define L_{dn} below 65 dBA as acceptable for residential use. Levels up to 75 dBA L_{dn} can be made acceptable through the use of insulation in buildings (HUD 1985).

State/Regional

Noise Insulation Standards. Relevant state regulations are contained in the California Code of Regulations (CCR). Part 2 of Title 24 establishes the limit for interior community noise level for multi-family dwellings, hotels, motels, dormitories and long-term care facilities of 45 dBA L_{dn}. The state's regulation may be extended by local legislative action to include single-family dwellings.

California Governor's Office of Planning and Research Guidelines. Section 65302(f) of the CCR establishes the requirement that local land use planning jurisdictions prepare a General Plan. In 1998, the Office of Planning and Research published the most recent edition of its *General Plan Guidelines* (GPG). The GPG advises local jurisdictions in preparing their comprehensive long-term general plans. The Noise Element is a mandatory component of the General Plan and includes general community noise guidelines and specific planning guidelines for noise/land use compatibility developed by the local jurisdiction.

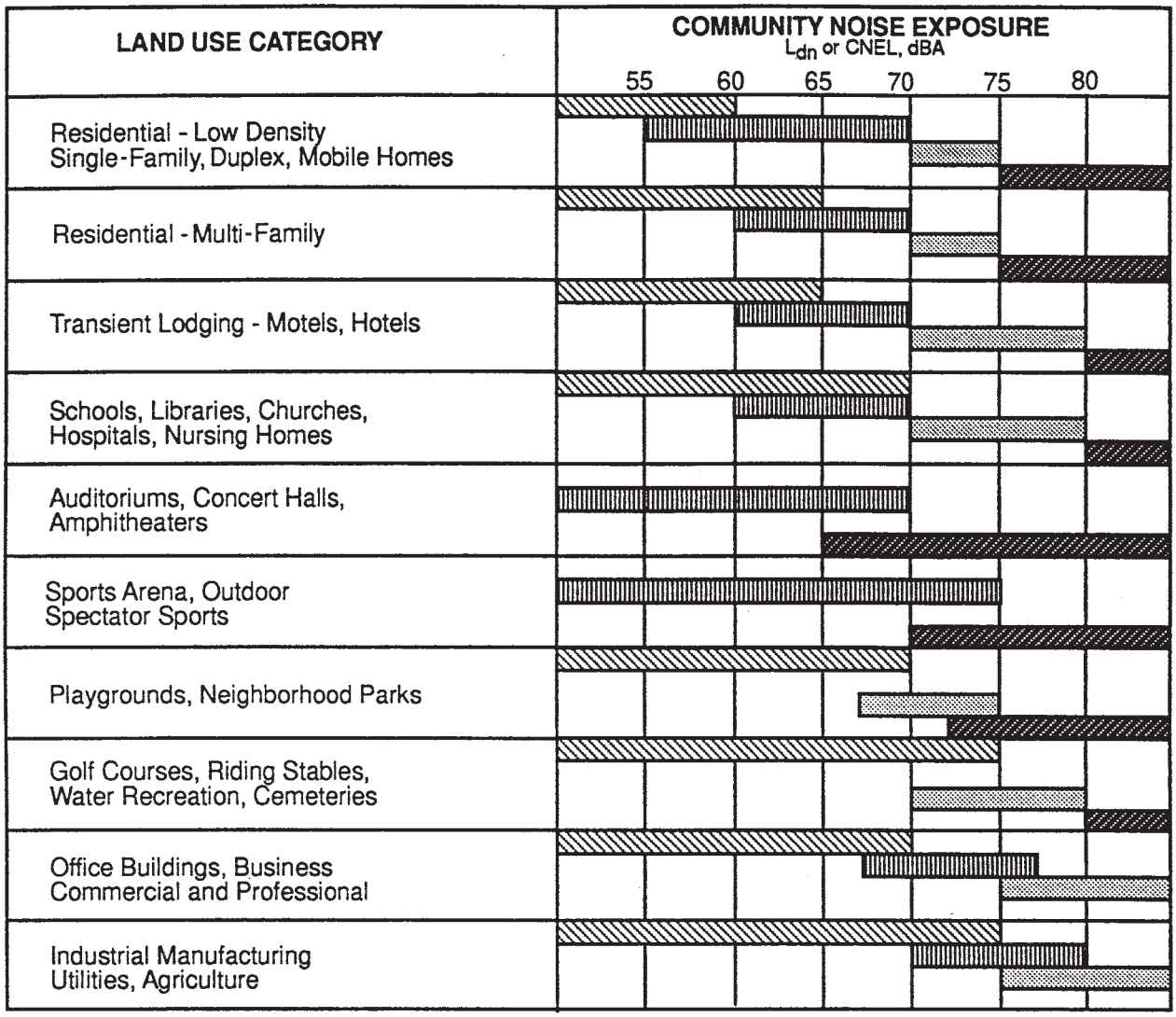
The GPG guidelines are presented in Figure 4.5-1. Selected relevant levels are:

- CNEL below 60 dBA—acceptable[1] for low-density residential use.
- CNEL below 65 dBA—normally acceptable for high-density residential use.
- CNEL of 60 to 70 dBA—conditionally acceptable for churches, and educational and medical facilities.
- CNEL below 70 dBA—normally acceptable for playgrounds and neighborhood parks.

Other. The State of California also establishes noise limits for vehicles licensed to operate on public roads. For heavy trucks, the state passby noise standard is consistent with the federal limit of 80 dBA. The state passby noise standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle weight rating) is also 80 dBA at 15 meters from the centerline (California Vehicle Code §§ 23130 and 23130.5; §27150 *et seq.*; §§ 27204 and 27206). Vehicle noise limits are implemented through regulatory controls on vehicle manufacturers and by legal sanction of vehicle operators enforced by state and local peace officers.

The Alameda County *Airport Land Use Policy Plan* (ALUPP), adopted in 1986, contains policies intended to provide guidance in determining whether proposed actions are compatible with current and anticipated airport operations. One important concern regarding proposed actions is exposure of persons on the ground to excessive noise from air operations. The ALUPP identifies areas of concern regarding noise from air operations and land use compatibility as noise impact zones. In general, noise impact zones reflect areas where the CNEL is greater than 65 decibels or exceeds state standards due to air operations. The redevelopment project

[1] See the figure for definition of "acceptable."



INTERPRETATION

NORMALLY ACCEPTABLE
Specified land use is satisfactory based upon the assumption that any buildings involved are of normal conventional construction, without any special noise insulation requirements.

CONDITIONALLY ACCEPTABLE
New construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features included in the design. Conventional construction, but with closed windows and fresh air supply systems or air conditioning will normally suffice.

NORMALLY UNACCEPTABLE
New construction or development should generally be discouraged. If new construction or development does proceed, a detailed analysis of the noise reduction requirements must be made and needed noise insulation features included in the design.

CLEARLY UNACCEPTABLE
New construction or development should generally not be undertaken.

Source: State of California, Governor's Office of Planning and Research, 1998

OARB Area Redevelopment EIR

Figure 4.5-1 Guidelines for Noise Compatible Land Use

April 2002

area is not located within a noise impact zone for the Oakland Airport, taking into account airport expansion as proposed in the *Airport Development Program, Metropolitan Oakland International Airport EIR* (Port of Oakland 1997). The redevelopment project area is not considered noise sensitive relative to air operations.

Local

Regulatory noise standards generally fall into two categories: noise/land use compatibility guidelines, and noise control ordinances.

Because local jurisdictions are preempted from regulating noise emissions from transportation noise sources such as cars, trucks, trains, and airplanes, the City implements noise controls through noise/land use compatibility guidelines referenced in the General Plan and the Noise Ordinance. Noise/land use compatibility guidelines identify the range of noise levels with which various land uses are deemed compatible. This permits local jurisdictions to achieve noise/land use compatibility for the land uses exposed to noise, even if the noise sources themselves cannot be regulated. In 1974, the City of Oakland published the Noise Element of the General Plan. The Noise Element does not set forth specific guidelines for noise and land use planning. HUD guidelines, described above, are incorporated into the Noise Element.

The City also passed a noise ordinance (Oakland Municipal Code [OMC], Title 17, Chapter 17.120.050). Tables 4.5-1 and 4.5-2 identify exterior noise standards according to the City's Noise Ordinance for operational and construction noise, respectively. Table 4.5-2 applies to construction noise except if an acoustical analysis is performed and all feasible mitigation measures imposed, including standard noise measures adopted by the City Council in January 2001. Furthermore, construction or demolition noise received by any land use during the hours of 7 p.m. to 7 a.m. on weekdays and 8 p.m. to 9 a.m. on weekends, and federal holidays, shall not exceed the applicable nighttime operational noise level standard in Table 4.5-1. The City's noise ordinance also contains nuisance laws regarding persistent construction-related noise (Oakland Planning Code, § 8.18.020).

4.5.3 Regional Setting

The OARB is located west of I-880 in West Oakland. Freeways in the vicinity include I-880, I-80, I-580, and I-980. Active Bay Area Rapid Transit (BART) rail lines pass through the area. The primary sources of noise on the OARB area are freight trains operating in the Port of Oakland area and trucks serving the Port. Rail operations include the Port's Joint Intermodal Terminal (JIT), and Union Pacific's West Oakland and Desert rail yards. In addition, aircraft operating to/from Oakland International and San Francisco International airports affect ambient noise.

Table 4.5-1
City of Oakland Operational Noise Standards at Receiving Property Line, dBA[a]

Receiving Land Use	Cumulative Number of Minutes in a 1-Hour Period[b]	Maximum Allowable Noise Level (dBA)	
		Daytime 7 a.m.-10 p.m.	Nighttime 10 p.m.-7 a.m.
Residential and Civic[c]	20 (L_{33})	60	45
	10 ($L_{16.7}$)	65	50
	5 ($L_{8.3}$)	70	55
	1 ($L_{1.7}$)	75	60
	0 (L_{max})	80	65
		Anytime	
Commercial	20 (L_{33})	65	
	10 ($L_{16.7}$)	70	
	5 ($L_{8.3}$)	75	
	1 ($L_{1.7}$)	80	
	0 (L_{max})	85	
Manufacturing, Mining, and Quarrying	20 (L_{33})	70	
	10 ($L_{16.7}$)	75	
	5 ($L_{8.3}$)	80	
	1 ($L_{1.7}$)	85	
	0 (L_{max})	90	

Source: Oakland Planning Code, Section 17.120.050.

Notes:

[a] These standards are reduced 5 dBA for simple tone noise, noise consisting primarily of speech or music, or recurring impact noise. If the ambient level exceeds these standards, the standard shall be adjusted to equal the ambient noise level.

[b] L_x is the noise level exceeded x percent of a given period. L_{max} is the maximum instantaneous noise level.

[c] Legal residences, schools, childcare facilities, health care facilities, public open space, or similarly sensitive land uses.

1

Table 4.5-2
City of Oakland Construction Noise Standards at Receiving Property Line, dBA[a]

Receiving Land Use	Maximum Allowable Noise Level (dBA)	
	Weekdays 7 a.m.–7 p.m.	Weekends 9 a.m.–8 p.m.
Less than 10 days		
Residential	80	65
Commercial, Industrial	85	70
More than 10 Days		
Residential	65	55
Commercial, Industrial	70	60

Source: Oakland Planning Code, Section 17.120.050.

Note: [a] If the ambient noise level exceeds these standards, the standard shall be adjusted to equal the ambient noise level.

4.5.4 Local Setting

This section describes the current setting for ambient noise, identifies noise-sensitive receptors, and describes the alternative noise baseline for year 1995 for the OARB.

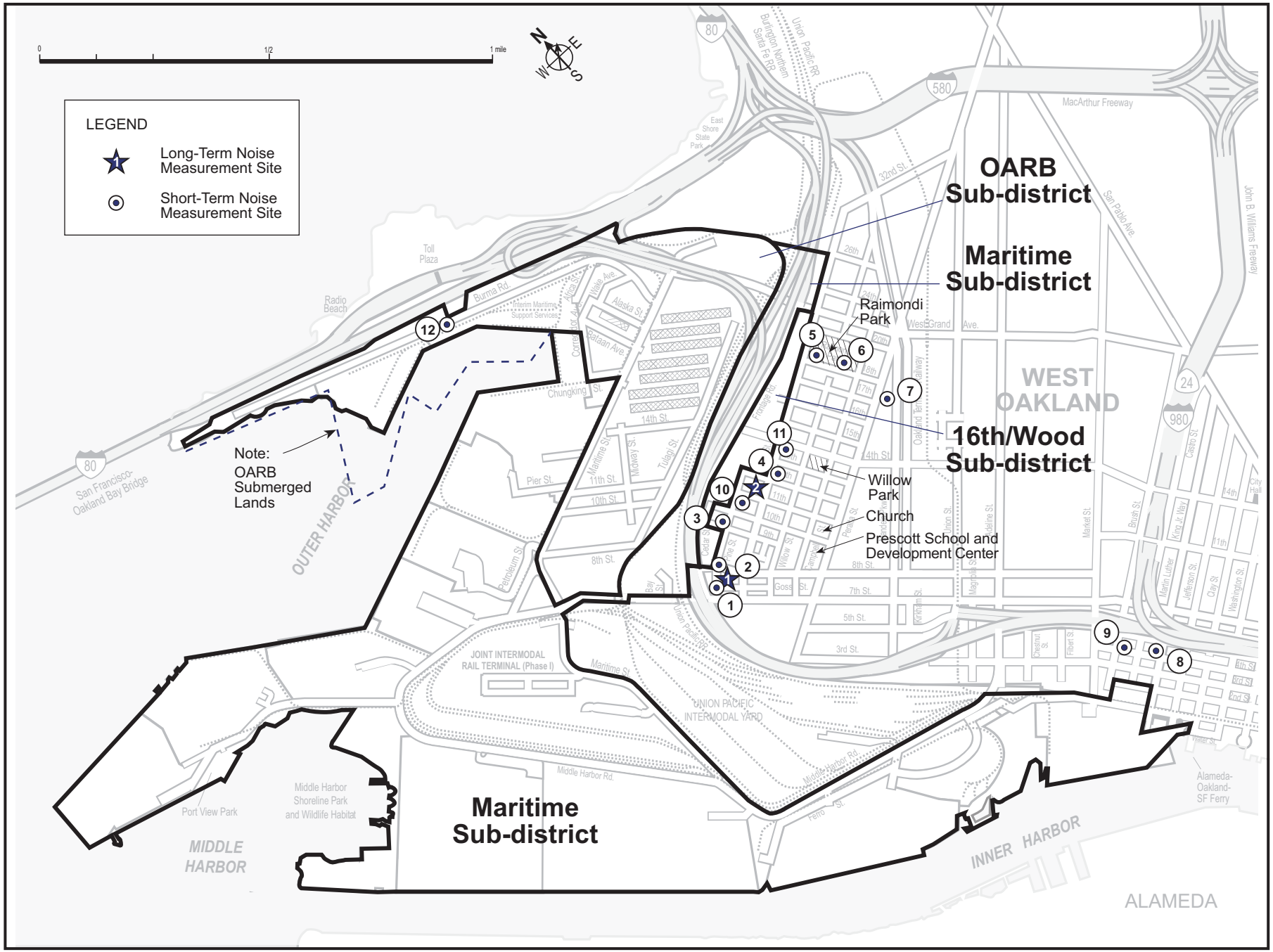
Setting

Ambient Noise. To accurately describe the existing noise environment and assess potential project noise impacts on the adjacent community, an ambient noise survey was conducted in the local area Tuesday, April 17, 2001 through Wednesday, April 18, 2001. Noise levels were found to be typical for an urban area that includes major transportation facilities.

The most significant consistent noise source in the area of West Oakland is from vehicle traffic on I-880. Noise from BART operations is a major contributor to the noise environment, depending on proximity to the line. BART operations are audible at the intersection of 14th and Wood streets, and are possibly audible farther away. Commercial aircraft are also a considerable noise source in the area. Activities at nearby railyards are occasionally acoustically perceptible, but are not the primary noise source. The railyard facilities do not constitute a major noise source because of substantial distance, intervening structures, and existing ambient noise levels. There are also minor noise sources from industrial facilities in the area, mostly involving heavy trucks and forklifts.

Figure 4.5-2 depicts the short- and long-term sound measurement locations representing the previously mentioned residential and recreational noise-sensitive receptors within the study area. Eleven locations were surveyed immediately east of the 16th/Wood sub-district, two locations were surveyed immediately north of the Howard Terminal and the Inner Harbor, and one location was surveyed adjacent to Burma Road on the northern boundary of the OARB sub-district. Two of the locations were used for unattended long-term monitoring of approximately 25 hours duration. The remaining 11 locations were used for 12 attended short-term monitoring periods of approximately 15 minutes each.

The long-term measurements were made with Type 2, Metrosonics db308 community noise analyzers. The short-term measurements were made with a tripod-mounted Type 1 Brüel & Kjær Type 2231 Sound Level Meter (SLM) with statistical analyzer. To ensure accuracy, laboratory calibration of the instruments was field checked before and after each measurement period using an acoustical calibrator. The accuracy of the acoustical calibrator is maintained through a program established by the manufacturer, and is traceable to the National Institute of Standards and Technology. The sound measurement instruments meet the requirements of the American National Standard S 1.4-1983 and the International Electrotechnical Commission Publications 804 and 651. In all cases, the instruments were set on “slow” time response using the A-weighted decibel (dBA) scale. The microphones were equipped with standard windscreens and set at a height of 5 feet above the ground.



OARB Area Redevelopment EIR

Figure 4.5-2 Noise Measurement Sites

April 2002

g. borchard & associates

Weather conditions during the survey period were mild, with clear or partly cloudy skies. Air temperatures varied from 67 °F to 75 °F, with 35 to 40 percent relative humidity. Wind speed varied from 0 to 7 miles per hour (mph) for most of the survey period, increasing at midday on April 18 to speeds of 8 to 12 mph with gusts to 17 mph. The wind direction was generally from the west. Apart from increased wind speeds for the last few measurements, weather conditions were acoustically ideal and did not adversely affect the measurement accuracy.

The ambient survey included two long-term survey sites. The first was designated Long-Term 1 (LT-1), and the second Long-Term 2 (LT-2). Both monitors recorded noise data for approximately 25 continuous hours. Relevant data are provided in Appendix 4.5.

LT-1 was located on a post in the parking lot of the Women's Economic Agenda Project (WEAP), located at Pine and Goss streets. Noise from I-880 and local traffic, BART, and aircraft dominated the noise environment at LT-1. Hourly daytime and evening noise levels varied from 62 dBA L_{eq} to 67 dBA L_{eq}; nighttime hourly noise levels varied from 54 dBA L_{eq} to 64 dBA L_{eq}.

The CNEL value for LT-1 was 68 dBA, which is Conditionally Acceptable for all residential categories and Normally Acceptable for schools, libraries, churches, hospitals, nursing homes, playgrounds, and neighborhood parks with respect to the OPR recommendations.

LT-2 was located in the front garden of 1109 Wood Street (between 11th and 12th streets). The noise environment at LT-2 was dominated by traffic on adjacent streets, which included buses and an occasional heavy truck, and was also affected by aircraft overflights. Traffic on I-880 contributed to residual ambient noise. Daytime and evening hourly noise levels varied from 57 dBA L_{eq} to 68 dBA L_{eq}, nighttime hourly noise levels varied from 49 dBA L_{eq} to 57 dBA L_{eq}.

The CNEL value for LT-2 was 64 dBA. According to OPR standards, this is Conditionally Acceptable for residential low-density single-family, duplex, and mobile homes. The CNEL at LT-2 is Normally Acceptable for multi-family residential, motels, hotels, schools, libraries, churches, hospitals, nursing homes, playgrounds, and neighborhood parks according to OPR standards.

A summary of short-term noise measurements is provided in Appendix 4.5. Short-term noise measurements were conducted at 12 sites concurrent with the long-term sites. The short-term locations in the community were selected to represent the nearest noise-sensitive receptors to the east boundary of the redevelopment and the associated truck routes in the area. Measured ambient noise levels (L_{eq}) varied from 56 dBA L_{eq} at a residence on 17th Street to 71 dBA L_{eq} at a residence on Martin Luther King Jr. Way near 4th Street. The majority of the measurements made in the area along Wood Street resulted in L_{eq} levels between 61 dBA and 63 dBA. This is considered a reasonable range for daytime noise levels in a residential area that is close to a major freeway. The measured daytime noise levels in area east of the 16th/Wood sub-district are consistent with similar to the long-term CNELs discussed above. The daytime measured noise levels in the area of 3rd Street were 67 dBA L_{eq} and 71 dBA L_{eq}. Employing the OPR guidelines,

these daytime levels would lead to CNEL values in the Normally Unacceptable range for residential categories (70 to 75 dBA CNEL).

Noise Sensitive Receptors. The area southeast of the 16th/Wood sub-district is of generally residential use at the southern end, transitioning to industrial land uses at the northern end. Two parks are within the local area: Raimondi and Willow. Raimondi Park is located at 18th and Wood streets, and Willow Park is located at 14th and Willow streets. A park is proposed at the Bay Bridge touchdown peninsula at the end of Burma Road. Several public and private schools are located within the local area: Prescott Elementary, Prescott Development Center, St. Martins Peporres, McClymonds High, Head Start, and the Oakland Military Institute College Preparatory Academy. The nearest public medical facility to the local area is the West Oakland Health Center (700 Adeline Street), about 0.8 mile from the OARB. There are also two churches in the local area: Beth Eden Baptist Church (1183 Tenth Street), and St. Mary-St. Francis de Sales (707 Jefferson Street).

Alternative Baseline, Ambient Noise

A literature search revealed no data to quantitatively describe the OARB ambient noise environment in the 1995 alternative baseline year. However, two relevant documents provide primarily qualitative characterizations of the noise environment—the Army's EIS for the disposal and reuse of the OARB (Corps 1999 and 2001) and the *Berths 55-58 Project Draft EIR* (Port of Oakland 1998).

According to the Army's EIS for disposal and reuse of the OARB, primary sources of noise from the OARB (before it was closed in 1995) were trains on the Oakland Terminal Railway running to Wharf 7 and diesel engines of trucks driving to and from Port of Oakland terminal areas (Corps 1999 and 2001). The EIS states the single 100-ton wharf crane was a secondary, but fairly minor, source of noise. The Base typically operated between the hours of 6 a.m. to 5 p.m. When a ship was in port (once per month on average), loading and unloading operations usually take place around the clock. Major noise sources, other than activities at the OARB, included vehicle traffic on I-80, West Grand Avenue, and Maritime Street; train traffic in the Union Pacific (UP) West Oakland Railyard; and aircraft overflights from San Francisco International and Oakland International airports. In 1995, the Cypress Freeway (I-880) was not completed or operational near the study area. According to the *Berths 55-58 Project Draft EIR*, in 1992, receptors on West Oakland streets near the Cypress Freeway corridor experienced noise levels ranging from 61 to 74 dBA L_{eq} (time interval not specified) (Port of Oakland 1998).

The *Berths 55-58 Project Draft EIR* provides a qualitative description of existing noise sources in the OARB EIR study area.[2] Primary noise sources included port-related maritime uses in the

[2] The extent of the Berths Draft EIR noise study area in West Oakland is approximately the same as the study area of the OARB Redevelopment EIR.

Maritime sub-district (ships, trucks, and rail operations), truck traffic on local streets, BART, Amtrak and other Union Pacific rail operations (Port of Oakland 1998).

Over the past four to ten years, circumstances in the study area have occurred that have both lowered and increased local noise levels. Completion of I-880 increased nearby vehicle traffic volume, thus increasing noise. Reduced ship, train, and truck activity at the OARB (due to the Base's closure) decreased noise levels.

Although noise sources have changed, overall ambient noise levels in the local area have not changed substantially since 1995. Therefore, a quantitative description of the 1995 noise environment, with the exception of I-880–generated noise, can be represented by use of the current (2001) ambient noise environment, as described above.

4.5.5 Impact Analysis Methodology

As allowed by CEQA, where relevant, the analysis of impacts of community reuse of a military facility may be based on environmental conditions that existed at the time the federal government made the decision to close the base, rather than current existing conditions. For the OARB, the decision was made in 1995. As described above, appreciable differences in the ambient noise environment between 1995 and 2001 have not occurred.

Noise impacts disclosed in this EIR do not include noise from sources previously disclosed and for which mitigation was required in two publicly reviewed and certified environmental documents (Port of Oakland 1998, and Port of Oakland 1999), or (as described above) from those sources associated with operation of the OARB in 1995, the alternative baseline year.

The noise sources identified in the Berths 55-58 EIR were construction (excavation, dredging, earthmoving), operational and maintenance, vehicle and vessel traffic and the fact that public access areas would be developed adjacent to noise sources. All impacts, except construction, were evaluated to be less than significant, not warranting mitigation. Mitigation for construction noise impacts are similar, if not identical, to the mitigation presented in Section 4.5.7.

The noise sources identified in the JIT EIR were construction (grading, earthmoving, general construction), operational (train movements, yard cargo-handling and trucks), increase rail activity at the Knight Yard, and project-related noise increases at receptors near local rail lines. All impacts, except construction, were evaluated to be less than significant, not warranting mitigation. Mitigation for construction noise impacts is similar, if not identical, to the mitigation presented in Section 4.5.7.

The noise analysis for this EIR is consistent with the level of detail currently available regarding redevelopment, as presented in Chapter 3: Description.

Significance Criteria

Redevelopment would have a significant impact on the environment if it would:

- Expose persons to or generate noise levels in excess of standards established in the Oakland General Plan or applicable standards of other agencies (*e.g.*, the Occupational Health and Safety Administration);
- Violate the City of Oakland Noise Ordinance (Oakland Planning Code § 17.120.050) regarding operational and construction noise as presented in Tables 4.5-1 and 4.5-2,[3]
- Violate the City of Oakland Noise Ordinance (Oakland Planning Code § 8.18.020) regarding nuisance of persistent construction-related noise;
- Create a vibration that is perceptible without instruments by the average person at or beyond any lot line containing vibration-causing activities not associated with motor vehicles, trains, and temporary construction or demolition work, except activities located within the (a) M-40 zone or (b) M-30 zone more than 400 feet from any legally occupied residential property (Oakland Planning Code § 17.120.060);
- Generate interior L_{dn} or CNEL greater than 45 dBA for multi-family dwellings, hotels, motels, dormitories, or long-term care facilities (and if extended by local legislative action, single-family dwellings) per California Noise Insulation Standards (CCR Part 2, Title 24);
- Result in a 5 dBA permanent increase in ambient noise levels in the vicinity above levels existing without redevelopment;
- Conflict with state land use compatibility guidelines (OPR 1998) for all specified land uses for determination of acceptability of noise levels as shown in Figure 4.5-1;
- Be 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, and would expose people residing or working in the project area to excessive noise levels; or
- Be located within the vicinity of a private airstrip, and would expose people residing or working in the project area to excessive noise levels.

Not all criteria above apply to redevelopment as proposed. While pile-driving during construction in the 16th/Wood sub-district may result in vibration perceptible at residential receptors, construction activity is an exception of that portion of the Oakland Planning Code that comprises the significance criteria. The nearest redevelopment activity that could result in vibration due to operations would be the New Intermodal Facility, located approximately 1,100 feet from the nearest residential land use, with an existing intervening major freeway and rail facilities. Due to the distance to residential receptors, vibration generated by operational activities at the New Intermodal Facility are not expected to be perceptible at residential receptors. The interior CNEL criterion does not apply to proposed redevelopment because no existing relevant noise-sensitive land uses[4] are proximate to the project area. Subsequent redevelopment activities

[3] Table 4.5-2 applies to construction noise, except if an acoustical analysis is performed and all feasible mitigation measures imposed, including standard noise measures adopted by the City Council in January 2001.

[4] Such land uses include multi-family dwellings, hotels, motels, dormitories, or long-term care facilities.

would be required to comply with state laws and regulations, and impacts would be avoided. Redevelopment would incorporate state land use compatibility guidelines promulgated by the state for determination of acceptability of noise levels; as such, redevelopment would not conflict with state guidelines, and no impact would occur. While the redevelopment project area is located within the General Referral Area of the ALUPP, it is not located within a Noise or Safety Referral Zone. The project area is not located within two miles of a public airport or private airstrip.

4.5.6 Impacts

Impact 4.5-1: Construction could result in short-term noise levels in excess of established standards, or that violate the City of Oakland Noise Ordinance at and near the redevelopment project area, and along construction haul routes.

Significance: Potentially significant

Mitigation 4.5-1: Developers and/or contractors shall develop and implement redevelopment-specific noise reduction plans.

Residual Significance: Less than significant

Build-out is expected by 2020. Construction activities are expected to occur within all of the sub-districts. The primary purpose of redevelopment is the elimination of blighting influences. In general, this would involve demolition/deconstruction, selected remediation, grade correction and site preparation, excavation and filling, and infrastructure installation. Specifically, it would include realignment of Maritime Street and utilities located within that right-of-way, construction of a new Maritime Street extension (the "loop road"), reconfiguration of the Outer Harbor shoreline for New Berth 21, construction of the Gateway Park, construction of the New Intermodal Facility, and creation of public access. In addition, subsequent redevelopment activities would include construction of internal circulation, buildings, parking, landscaping, etc.

Noise levels would increase within the redevelopment project area and adjacent areas from operation of construction equipment. In the OARB and Maritime sub-districts, pile driving would be required for construction of wharves (installation of pilings and possibly sheet pile), as well as buildings, which due to geotechnical conditions, are expected to be built on friction piles. Table 4.5-3 summarizes typical major noise source equipment expected to be used during redevelopment construction activities.

Table 4.5-3
Major Sources of Construction Noise

Activity	Source	Typical L_{eq} (dBA) at 50 Feet
Demolition/deconstruction	Bulldozers, concrete crushers, backhoes, loaders, trucks	80 to 91 dBA
Site preparation, construction of roads, utilities, parking areas	Bulldozers, backhoes, scrapers, compacters, trucks	80 to 91 dBA
Shoreline reconfiguration	Dredges, excavators, trucks	67 dBA (dredge at 250 feet) 80 to 91 dBA (excavators and trucks)
Wharf construction, building foundations	Pile drivers, trucks	101 dBA (L_{max} for pile driver) 80 to 91 dBA (L_{eq} for trucks)

Source: Port of Oakland 1998, Table 3.4-3.

Details of redevelopment construction are not fully defined: equipment to be used, its proximity to receptors, etc., is not yet known. Because occurrence of this impact relies on details of construction not completely defined, the impact is considered potentially significant. With implementation of Mitigation Measure 4.5-1, compliance with the Noise Ordinance is considered to be achieved, and the residual impact is considered less than significant.

~ ~ ~

Impact 4.5-2: Operation of redevelopment facilities could result in a long-term increase in ambient noise levels.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

The proposed land use classification for the majority of the Gateway development area is Business Mix. Business Mix is intended to be a flexible classification, and allows a wide variety of business and related commercial and industrial uses. The primary sources of noise stemming from this activity would likely be low-speed vehicle traffic, including light- and medium-duty trucks.

The Park & Urban Open Space classification proposed for the Gateway Park area and for the gateway development area waterfront would be a place for recreation; as such, it would be considered a receiver of noise, rather than a noise generator. However, community/civic events at these spaces may generate off-peak noise-generating automobile traffic in the area.

The proposed land use classification for the Port development area is General Industrial/Transportation. This classification allows heavy industrial uses, including manufacturing, railyards, maritime operations, and other similar uses. Primary noise sources would likely be heavy-duty trucks, trains, ships, cargo equipment, and other cargo operations.

The Maritime sub-district, with the largest acreage of all of the sub-districts, would support ongoing and proposed Port of Oakland industrial maritime operations. Primary noise sources would include ships (horn-blowing and docking procedures), cargo-handling operations, trucking, and trains. Although these types of noise sources currently exist, cargo throughput is expected to increase, and increased noise levels would result from related equipment, truck, and rail activities.

A portion of the 16th/Wood sub-district is immediately west of existing residential land use in West Oakland. The sub-district is currently classified as Business Mix, and is expected to remain in that classification. It may contain as many as 375 live/work units in addition to buildings for office, retail, and light industrial use. Primary sources of noise would likely be automobile and light-duty truck traffic.

Because the primary noise sources would be vehicle traffic and rail operations, the focus of the noise analysis for this impact was vehicle traffic and rail operations. Table 4.5-4 presents data regarding freeway segment noise levels for the morning and afternoon peak traffic periods, and Table 4.5-5 presents data for study area intersections (non-freeway roads) for the same periods. As demonstrated by these data, no freeway segment or roadway intersection would experience an increase in noise of 5 dBA or greater as a result of redevelopment, and the impact is considered less than significant.

In terms of rail traffic, redevelopment is expected to increase the number of daily trains serving the Port by two (from 23.4 to 25.4) over the daily number disclosed in previously certified and publicly reviewed EIRs (Dowling Associates, Inc. 2002). The increase would be less than 10 percent over current train trips, and assuming the additional trains have the same operating characteristics as those previously analyzed, average daily noise levels from the additional line haul trains would increase by less than 1 dBA.

Table 4.5-4
Changes in Traffic Noise Along Freeway Segments

		A.M. Peak			P.M. Peak		
Freeway Segment	**Travel Direction**	**Baseline Traffic**	**Program Traffic[a]**	**Increase in dB**	**Baseline Traffic**	**Program Traffic[a]**	**Increase in dB**
I-80 at the Bay Bridge	East	5,813	436	0.3	11,252	103	0
	West	10,929	105	0	7,448	421	0.2
I-80 between I-880 and I-580	East	3,917	144	0.2	7,581	785	0.4
	West	7,364	823	0.5	5,019	174	0.1

Table 4.5-4
Changes in Traffic Noise Along Freeway Segments

Freeway Segment	Travel Direction	A.M. Peak			P.M. Peak		
		Baseline Traffic	Program Traffic[a]	Increase in dB	Baseline Traffic	Program Traffic[a]	Increase in dB
I-80 East of I-80/I-580 Split	East	5,751	213	0.2	11,131	830	0.3
	West	10,813	855	0.3	7,369	204	0.1
I-880 Connector to I-80 East	North	2,837	213	0.3	3,131	831	1
	South	2,433	855	1.3	2,080	204	0.4
I-880 Connector to I-80 West	North	1,700	250	0.6	1,746	1,206	2.3
	South	1,074	1,258	3.4	1,801	277	0.6
I-880 North of 7th Street	North	2,849	16	0	3,844	18	0
	South	2,513	25	0	4,056	7	0
I-880 South of 7th Street	North	4,679	898	0.8	4,203	231	0.2
	South	2,715	277	0.4	4,797	860	0.7
I-880 North of I-980	North	4,846	882	0.7	3,805	213	0.2
	South	2,208	224	0.4	4,395	694	0.6
I-880 South of I-980	North	7,680	830	0.4	7,282	209	0.1
	South	4,967	293	0.2	6,618	784	0.5
I-880 North of I-238	North	7,295	620	0.4	8,120	157	0.1
	South	7,856	232	0.1	7,380	582	0.3
I-880 South of I-238	North	6,842	580	0.4	8,185	145	0.1
	South	8,940	178	0.1	7,815	556	0.3
I-238	East	2,771	54	0.1	4,788	26	0
	West	4,629	40	0	2,001	12	0
I-580 East of I-238	East	5,017	54	0	8,670	26	0
	West	8,383	40	0	3,623	12	0
I-580 West of I-238	East	5,008	44	0	6,078	249	0.2
	West	5,458	256	0.2	5,422	56	0
I-580 East of I-980/SR-24	East	6,091	124	0.1	8,482	671	0.3
	West	7,399	693	0.4	6,618	153	0.1
I-580 West of I-980/SR-24	East	7,682	144	0.1	10,873	785	0.3
	West	10,373	822	0.3	9,027	174	0.1
I-980	East	2,792	15	0	5,866	26	0
	West	5,792	30	0	2,834	11	0

Table 4.5-4
Changes in Traffic Noise Along Freeway Segments

Freeway Segment	Travel Direction	A.M. Peak Baseline Traffic	A.M. Peak Program Traffic[a]	A.M. Peak Increase in dB	P.M. Peak Baseline Traffic	P.M. Peak Program Traffic[a]	P.M. Peak Increase in dB
SR-24 East of I-580	East	2,758	118	0.2	7,184	515	0.3
	West	7,437	528	0.3	3,216	127	0.2

Source: Traffic information from "Freeway LOS.xls," Dowling Associates, Inc. 2002.

Note: [a] In passenger car equivalents (one truck = two cars).

1

Table 4.5-5
Changes in Traffic Noise Along Non-Freeway Roads

Intersection	A.M. Peak Baseline Traffic	A.M. Peak Program Traffic	A.M. Peak Increase in dB	P.M. Peak Baseline Traffic	P.M. Peak Program Traffic	P.M. Peak Increase in dB
West Grand/Maritime	1,580	281	0.7	2,000	27	0.1
West Grand/Frontage Road	2,045	27	0.1	2,695	268	0.4
West Grand/Mandela	1,879	137	0.3	2,087	139	0.3
West Grand/Adeline	1,841	129	0.3	2,577	132	0.2
West Grand/Market	2,111	1,016	1.7	2,217	1,035	1.7
West Grand/San Pablo Avenue	2,548	794	1.2	2,888	801	1.1
West Grand/MLK Jr	1,930	797	1.5	2,273	804	1.3
West Grand/Northgate	2,369	798	1.3	2,814	803	1.1
West Grand/Harrision	3,991	258	0.3	4,853	254	0.2
7th/Maritime	1,145	846	2.4	1,202	672	1.9
7th/I-880 SB Ramp	989	770	2.5	987	1,029	3.1
7th/I-880 North Ramp	1,386	1,236	2.8	1,485	916	2.1
7th/Peralta	819	122	0.6	792	122	0.6
7th/Mandela	1,215	129	0.4	1,240	127	0.4
7th/Union	1,498	128	0.4	1,389	128	0.4
7th/Adeline	1,803	334	0.7	1,662	338	0.8
7th/Market	1,870	330	0.7	1,814	304	0.7
7th/Harrison	2,895	173	0.3	3,215	42	0.1
7th/Jackson	2,119	170	0.3	2,483	41	0.1
6th/Jackson	2,244	170	0.3	2,534	41	0.1

Table 4.5-5
Changes in Traffic Noise Along Non-Freeway Roads

Intersection	A.M. Peak			P.M. Peak		
	Baseline Traffic	Program Traffic	Increase in dB	Baseline Traffic	Program Traffic	Increase in dB
5th/Union/I-880 Ramps	2,058	69	0.1	1,527	179	0.5
5th/Adeline	2,013	237	0.5	1,751	321	0.7
I-880 Off Ramp/Market	1,327	146	0.5	1,145	55	0.2
5th/Broadway	1,986	44	0.1	2,798	178	0.3
3rd/Adeline	828	232	1.1	923	141	0.6
3rd/Market	714	104	0.6	674	49	0.3
14th/Mandela	738	329	1.6	707	357	1.8
12th/Brush	2,875	30	0.0	1,718	11	0.0
12th/Castro	987	20	0.1	2,658	31	0.1
27th/SR 24-580 Off Ramp	2,226	394	0.7	1,547	278	0.7
27th/SR 24-580 On Ramp	1,611	78	0.2	2,885	356	0.5
San Pablo Avenue/Adeline	2,318	137	0.2	2,858	135	0.2
West MacArthur/Market	1,327	137	0.4	2,176	134	0.3
Powell/I-80 Frontage Road	3,171	52	0.1	4,271	53	0.1
Powell/I-80 NB Ramps	3,447	61	0.1	4,562	94	0.1
Powell/Christie	2,990	52	0.1	4,294	52	0.1
Powell/Hollis	1,836	52	0.1	2,976	52	0.1
Powell/San Pablo	3,551	52	0.1	3,516	52	0.1
Stanford/Market	2,115	52	0.1	2,798	54	0.1
Stanford/MLK Jr.	3,793	13	0.0	5,034	14	0.0
Ashby/7th	2,956	103	0.1	3,183	106	0.1
Ashby/San Pablo	3,886	104	0.1	4,142	104	0.1
Marina Village/Constitution	2,117	103	0.2	2,520	106	0.2
Atlantic/Webster	3,021	103	0.1	2,816	105	0.2
Atlantic/Constitution	1,979	103	0.2	2,236	106	0.2
Maritime/New Gateway access road	N/A	601	N/A	N/A	541	N/A

Source: Traffic information from Dowling Associates, Inc. 2002.

At its nearest point to West Oakland residential land uses, the New Intermodal Facility would be approximately 1,100 feet from noise-sensitive receptors. The existing JIT is located approximately 2,600 feet from the same receptors. Both the UP West Oakland and Desert yards are located closer to these receptors than either the existing JIT or the proposed New Intermodal Facility. Yard activities in the New Intermodal Facility are expected to increase, potentially increasing train noise levels by 6 dBA at a distance of 1,100 feet. However, intervening major facilities, such as I-880 and its soundwalls, and the Desert Yard are expected to attenuate this increase in noise to well below 5 dBA at the receptors, and the impact is considered less than significant. Ambient noise levels in the study area are expected to continue to be dominated by noise from I-880, BART, and aircraft overflights.

~ ~ ~

4.5.7 Mitigation

Implementation of the following mitigation measures will avoid, minimize, reduce, rectify, or compensate for significant impacts of redevelopment.

Mitigation 4.5-1. Developers and/or contractors shall develop and implement redevelopment-specific noise reduction plans.

This measure applies to Impact 4.5-1 and Cumulative Impact 5.5-1.

This measure shall be enforced via contract specifications. The measure as written is intended to effectively limit construction noise, while allowing the sponsors of redevelopment activities and their contractors flexibility in controlling site-specific noise.

Each developer and/or contractor should be contractually required to demonstrate knowledge of the Oakland Noise Ordinance, and to construct in a manner whereby noise levels do not exceed significance criteria. Contractors may elect any combination of legal, non-polluting methods to maintain or reduce noise to thresholds levels or lower, as long as those methods do not result in other significant environmental impacts or create a substantial public nuisance. The developer and/or contractor shall perform a site-specific acoustical analysis, and, if necessary, shall develop and implement a noise reduction plan subject to review and approval by the City or Port. The plan for attenuating these noises shall include some or all of the following measures, as appropriate and feasible, and shall be implemented prior to any required activities.

Schedule

- Schedule operation of one piece of equipment that generates extreme levels of noise at a time.
- Schedule activities that generate low and moderate levels of noise during weekend or evening hours.

- Standard construction activities shall be limited to between 7:00 a.m. and 7:00 p.m. Monday through Friday. No construction activities shall be allowed on weekends until after the building is enclosed without prior authorization of the Building Services and Planning Divisions of the Community and Economic Development Agency, or unless expressly permitted or modified by the provisions of a building and/or grading permit.

Pile Driving and/or Other Activities that Generate Extreme Levels of Noise for Noise Levels Greater than 90 dBA

- Pile-driving and/or other activities that generate noise above 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m., Monday through Friday, with no activity generating extreme levels of noise permitted between 12:30 and 1:30 p.m. No construction activities that generate extreme levels of noise shall be allowed on Saturdays, Sundays, or holidays unless expressly permitted or modified by the provisions of a building and/or grading permit.

- Install engine and pneumatic exhaust controls as necessary to ensure exhaust noise from pile driver engines are minimized. Such controls can reduce noise levels by 6 dBA L_{eq}.

- Employ sonic or vibratory pile drivers (sonic pile drivers are only effective in some soils). Such drivers may reduce maximum noise levels by as much as 12 dBA (L_{max}). In some cases however (*e.g.*, sheet pile driving) vibratory pile drivers may generate more noise than impact pile drivers/methods. The specific circumstances should be evaluated.

- Tie rubber aprons lined with absorptive material around sheetpile.

- Hydraulically drive piles.

- Pre-drill pile holes.

- Erect temporary plywood noise barriers around the entire construction site.

- Use noise control blankets on the building structure as it is erected to reduce noise emission from the site.

- Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings.

- Monitor the effectiveness of noise attenuation measures by taking noise measurements.

Other Equipment, Methods

- A pre-construction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise mitigation and practices are completed prior to the issuance of a building permit (including construction hours, neighborhood notification, posted signs, etc.).
- All construction equipment, fixed and mobile, and motor-vehicles shall be properly maintained to minimize noise generation. This would include maintaining equipment silencers, shields, and mufflers in proper operating order. “Quiet package” or “hush” equipment, which is readily available for such equipment as trailer-mounted compressors,

welders, etc. shall be used. All equipment shall be operated in the quietest manner practicable.

- Equipment and trucks used for construction shall use best available noise control techniques (*e.g.*, improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures, and acoustically attenuating shields or shrouds, wherever feasible).
- Impact tools (*e.g.*, jack hammers, pavement breakers, and rock drills) used for construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed-air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed-air exhaust should be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used where feasible, which could achieve a reduction of 5 dBA. Quieter procedures should be used, such as drills rather than impact equipment, where practicable.
- Stationary noise sources should be located as far from sensitive receptors as possible, and they should be muffled and enclosed within temporary sheds, or insulation barriers, or other measures should be incorporated to the extent feasible.
- Material stockpiles and/or vehicle staging areas should be located as far as practicable from dwellings.
- Public address systems would be designed and to minimize "spill over" of sound onto adjacent properties.
- Physical barriers/screens (*e.g.*, along fence lines) may be used to attenuate noise.
- Project workers exposed to noise levels above 80 dBA would be provided personal protective equipment for hearing protection (*i.e.*, ear plugs and/or muffs).
- Areas where noise levels are routinely expected to exceed 80 dBA would be clearly posted "Hearing Protection Required in this Area."
- A process with the following components shall be established for responding to and tracking complaints pertaining to construction noise:
  - A procedure for notifying City Building Division staff and Oakland Police Department;
  - A list of telephone numbers (during regular construction hours and off-hours);
  - A plan for posting signs on-site pertaining to complaint procedures, permitted construction days and hours, day and evening contact telephone numbers for the job site and day and evening contact telephone numbers for the City in the event of a problem;
  - Designation of a construction complaint manager for the project who will respond to and track complaints; and
  - Notification of neighbors within 300 feet of the project construction area at least 30 days in advance of construction activities.

❖ ❖ ❖
❖

4.6 CULTURAL RESOURCES

Cultural resources include archaeological and historical objects, sites and districts, historic buildings and structures, cultural landscapes, and sites and resources of concern to local Native Americans and other ethnic groups.

Redevelopment would result in benefits to certain cultural resources, as well as potentially significant and significant impacts to other such resources. With implementation of measures recommended in this section, some significant impacts would be mitigated to a level that is less than significant. Even with implementation of all feasible mitigation, however, some residual impacts would remain significant; these impacts are considered unavoidable. The impact of loss of aesthetic character related to cultural resources is disclosed and discussed in Section 4.11: Aesthetics.

4.6.1 Study Area

The study area for cultural resources is the approximately 1,800-acre redevelopment project area, plus any nearby resources that could potentially be affected by redevelopment.

4.6.2 Regulatory Setting

Federal

The National Environmental Quality Act (NEPA, 42, United States Code (USC) §§ 4321-4327), requires federal agencies to consider potential environmental impacts and appropriate mitigation measures of actions with federal involvement. The National Historic Preservation Act (NHPA) (16 USC § 470 *et seq.*) addresses concerns pertinent to an action's effect on cultural resources.

The NHPA sets forth the federal government's policy on historic preservation and the programs, including establishing the National Register of Historic Places (NRHP). Under the NHPA, historic properties include ". . . any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the National Register of Historic Places" (16 USC 470w(5)). Section 106 (16 USC 470f) of the NHPA requires federal agencies, prior to implementing an "undertaking" (*e.g.*, conducting its own action or issuing a federal permit), to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation (ACHP) and the State Historic Preservation Officer (SHPO) a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing on the NRHP.

The U.S. Army's action at the OARB—disposal and transfer of government property—is a federal undertaking, As such, the NHPA and its implementing regulations (16 USC 470 *et seq*., 36 Code of Federal Regulations [CFR] Part 800, 36 CFR Part 60, and 36 CFR Part 63) apply to

the Army's action. The Army , the lead federal agency, was responsible for NHPA Section 106 compliance, including consultation with the SHPO and ACHP.

Under the NHPA (36 CFR Section 60.4) a district, site, building, structure, or object is eligible for listing in the NRHP when:

1. The quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity, including location, design, setting, materials, workmanship, feeling, and association, and:

2. The districts, sites, buildings, or objects meet the following criteria:

   - are associated with events that have made a significant contribution to the broad patterns of our history; or
   - are associated with the lives of persons significant in our past; or
   - embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
   - have yielded, or may be likely to yield, information important in prehistory or history.

The NHPA uses the term "historic property" for cultural and archaeological resources that have been determined eligible to the NRHP. Cultural and archaeological resources and structures that do not qualify for listing on the NRHP are not considered to be significant and are not described as historic properties. If a resource has been determined not to be eligible for listing on the NRHP, it generally is not considered further in assessment of the environmental impacts of a project. Further guidance for determining the eligibility of structures and historic districts are published by the National Park Service (NPS), the National Register Bulletins 15 (1991a), 16A (1991b), 16B (1991c), and the *Secretary of Interior's Standards and Guidelines for Evaluation* (1983: 44723-26). These guidelines provide instructions for evaluating and nominating National Register Historic properties.

To retain historic integrity, a resource should possess several of the above-mentioned aspects. The retention of specific aspects of integrity is essential for a resource to convey its significance. For a district to retain its integrity as a whole, the majority of the components, or individual resources, that make up the district's historic character must possess integrity even if they are individually undistinguishable. The relationships among the district's components must be substantially unchanged since the period of significance. When evaluating the impact of changes upon the district's integrity, the relative number, size, design and location of the resources that do not contribute to the district's significance should be considered. A district is not eligible if it contains many alterations or new intrusions, so that it no longer conveys the sense of the historic environment.

State

CEQA requires lead agencies to consider effects of their proposed actions on historic resources (these include built-environment historic and prehistoric archaeological resources). Historic resources are defined as those resources that meet any of the following criteria for listing on the California Register of Historic Places (CRHR). These criteria are set forth in Sections 15064.5 and 15126.4 of CEQA:

- Criterion A: is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- Criterion B: is associated with lives of persons important in our past;
- Criterion C: embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
- Criterion D: has yielded, or may be likely to yield, information important in prehistory or history.

In addition, the definition of "historical resource" includes archaeological resources listed in or formally determined eligible for listing in the CRHR as well as resources listed or eligible for listing in the NRHP or local registers. It also includes historical resources determined by the lead agency to be significant.

Where an action may adversely affect a historical resource, CEQA Section 21084.1 requires the lead agency to treat that effect as a significant environmental effect and prepare an EIR. Additionally, CEQA Sections 21083.2 and 21084.1 operate independently to ensure that potential effects on unique archaeological resources are considered as part of a project's environmental analysis. A unique archaeological resource implies an archaeological 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 meets one of the following criteria:

- the archaeological artifact, object, or site contains information needed to answer important scientific questions and there is a demonstrable public interest in that information; or
- the archaeological artifact, object, or site has a special and particular quality, such as being the oldest of its type or the best available example of its type; or
- the archaeological artifact, object, or site is directly associated with a scientifically recognized important prehistoric or historic event or person.

A non-unique archaeological resource indicates an archaeological artifact, object, or site that does not meet the above criteria. Impacts to non-unique archaeological resources and resources that do not qualify for listing on the CRHR receive no further consideration under CEQA.

Section 15064.5 of CEQA also assigns special importance to human remains and specifies procedures to be used when Native American remains are discovered. These procedures are detailed under Public Resources Code (PRC) 5097.94 and 5097.98. Health and Safety Code

Section 7050.5 codifies, with the exception of those activities defined in PRC 5097, that every person who knowingly mutilates or disinters, wantonly disturbs, or willfully removes any human remains in or from any location other than a dedicated cemetery without authority of law is guilty of a misdemeanor.[1] If human remains were to be discovered within the project area, the Alameda County Coroner must be notified within 48 hours, and the Coroner must contact the California Native American Heritage Commission in the event that the remains are determined to be of Native American descent.

Local

The City of Oakland General Plan contains a Historic Preservation Element that was adopted in 1994 by City Council Resolution number 70807 C.M.S. The Historic Preservation Element, amended in 1998, sets forth the policy for listing on the Local Register in Policy 3.8 (Definition of "Local Register of Historical Resources" and Historic Preservation for Environmental Review Purposes). For purposes of environmental review under CEQA, the following properties constitute the City of Oakland's Local Register of Historical Resources:

- all Designated Historic Properties, and
- those Potential Designated Historic Properties that have an existing rating of "A" or "B" or are located within an Area of Primary Importance.

Until complete implementation of Historic Element Action 2.1.2 (Redesignation), the Local Register of Historical Resources will also include the following designated properties: Oakland Landmarks, S-7 Preservation Combining Zone properties, and the Preservation Study List properties.

The City of Oakland also maintains the Oakland Cultural Heritage Survey (OCHS), a project of the Community and Economic Development Department. The OCHS, which has been in progress since 1979, is intended to provide an inventory of historic resources throughout the city.

The OCHS uses a five-tier rating system for individual properties, ranging from "A" (highest importance) to "E" (of no particular interest), that is incorporated in the Historic Preservation Element of the General Plan by reference (pp. 3-1 and 3-2). This is termed the Individual Property Rating of a building, and is based on the following criteria:

- **Visual Quality/Design**: Evaluation of exterior design, interior design, materials and construction, style or type, supporting elements, feelings of association, and importance of designer.

[1] Section 5097 of the PRC prohibits excavations upon, or removing, destroying, injuring, or defacing, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, situated on public lands, and prohibiting the prevention of Native American religious worship at archaeological or sacred sites.

- **History/Association**: Association of person or organization, the importance of any event, association with patterns, and the age of the building.
- **Context**: Continuity and familiarity of the building within the district.
- **Integrity/Reversibility**: Evaluation of the building's condition, its exterior and interior alterations, and any structural removals.

Properties with conditions or circumstances that could change substantially in the future are assigned both an "existing" and a "contingency" rating. The existing rating describes the property under its current condition, while the contingency rating describes it under possible future circumstances, such as if the property were restored. The existing rating is denoted by an uppercase letter, and is the present rating of the building. The contingency rating, if any, is shown second, and is denoted by a lowercase letter. Properties are also given a Multiple Property Rating (1, 2, or 3) based on an assessment of the significance of the area in which the property is located: properties within an Area of Primary Importance (an area that appears eligible for the National Register) are rated "1"; those in an Area of Secondary Importance are rated "2"; and those outside an identified district are rated "3." A plus (+) or minus (-) sign indicates whether the property contributes or not to the API or ASI.

An Area of Primary Importance (API) is a historically or visually cohesive area or property grouping that contains a "high proportion of individual properties with ratings of 'C' or higher and appears eligible for the National Register of Historic Places either as a district or as a historically-related complex." At least two-thirds of the properties must be "contributors" to the API, reflecting the API's principal historical or architectural themes, and must not have undergone major alterations. An Area of Secondary Importance (ASI) is similar to an API, however potential contributors to the ASI are counted for purposes of the two-thirds threshold as well as contributors; ASIs do not appear eligible for the National Register.

4.6.3 Regional Setting

Environmentally, Oakland and the surrounding San Francisco Bay region afford a wealth of resources for human settlement. The OARB and immediate vicinity are situated mostly on manmade fill placed from the 1900s through the 1940s. The extreme western end of the project area is situated on the edge of a historic marsh that was important to Native American settlement, as well as to later farming and industry. The San Antonio Creek marsh, as well as the resources of the local streams and hills, were attractive to the earliest Native American settlers of the region, who hunted and gathered a wide variety of resources. The streams and the rich oak woodlands of the Oakland area also attracted settlement by later ranchers and farmers. One environmental factor significant in the archaeological assessment of the project area is that the Base is constructed on man-made fill. In terms of the archaeological record, this precludes any likelihood of prehistoric archaeological resources within the study area.

The cultural history of the Oakland area is marked by four distinct periods. The area was first occupied by Native Americans. The first Euro-American entry occurred around 1769, during

exploration for the establishment of missions by Spanish-colonials from Mexico. The rancho era of settlement began with Mexican independence from Spain in the 1820s, at which time settlement increased and lands were distributed among Mexican settlers. The United States gained sovereignty over the region in 1848, and this event was soon followed by an onrush of American settlers, whose presence would forever change the character of the region.

Prehistoric Setting

Human occupation of Oakland and the surrounding San Francisco Bay region extends back 5,000 years or more. The vicinity of the study area was occupied and used prehistorically by Native American groups, who subsisted by hunting and gathering the rich resources of the marshlands along the Bay shore and the nearby uplands, including abundant game, acorns, and other plant sources. The people of Oakland and the surrounding Bay Region were integrated into an extensive trade network that extended throughout California and the West. At the time of historic contact, the area was occupied by the Ohlone (or Costanoan) group of Native Americans (Levy 1978), who probably entered the Bay Region between 1,500 and 2,000 years ago.

The population and traditional lifeways of the Ohlone were severely affected by the influences of the Spanish colonists and the Mission system. As the result of enforced missionization, disease and direct assault, by 1800, few if any Ohlone remained on the land or subsisted in native lifeways, and native population had declined in some areas by as much as ninety percent. (Cook 1955).

Historical Setting

The historic settlement of Oakland began during the Spanish Pueblo era, 1791-1820. The Spanish and later Mexican colonizers first established the Rancho San Antonio, which was granted to Sergeant Luis Maria Peralta in 1820. The Rancho was later subdivided and distributed among Mr. Peralta's sons. Vicente Peralta inherited that portion of Oakland nearest the study area. The first building in the area was constructed as part of the Rancho San Antonio headquarters located outside of the study area on 34th Avenue.

The core of the City of Oakland was incorporated in 1852 by Horace W. Carpenter (Hart 1978:305). The beginnings of the City are somewhat controversial, as Horace W. Carpenter, Edson Adams, and Alexander Moon had squatted on Vicente Peralta's land since 1850. A deal was struck between the parties, and Carpentier leased the land for a townsite from Vincente Peralta. Carpentier and three friends laid out the townsite of Oakland, and sold lots from the leased land. So many purchasers were involved in these land sales that the courts were unable to handle the volume, and Vincente Peralta lost some of his most valuable land as a result (Bagwell 1982).

A long period of monopolistic control of the waterfront followed. Carpentier gained control of the waterfront by virtue of a grant deed issued by the town trustees in 1852 (Bagwell 1982:44). He became mayor of Oakland in 1854 and under the monopoly formed between him and his allies,

the Central Pacific Railroad (later SPRR) barons, he gained further control. In 1868, Carpentier and the Central Pacific Railroad formed the Oakland Waterfront Company. Carpentier granted his holdings to the company, and Oakland became the western terminus for the transcontinental railroad (Bagwell 1982).

In 1869, transcontinental rail service began along 7th Street, which was followed by the 1st Street freight line and Long Wharf in 1891 (Brady and Associates 1994). With the arrival of the railroad, Oakland was transformed into a commercial center with a booming population, becoming the second largest city in the state after San Francisco (Moffat 1982).

In response to local demands, the federal government included harbor improvements to San Antonio Creek in the government's Rivers and Harbor Act of 1873. A contributing factor for obtaining federal aid was the perceived insecurity of Central Pacific's Long Wharf, a 2-mile-long wooden pier. Since a majority of the railroad traffic for the western United States was shipped from this pier, its vulnerability to marine insects and natural disasters was seen as a great long-term risk to commerce.

The task of building the Oakland Harbor was assigned to the Corps. This project was considered the largest, most complex and expensive of all of the Corps' harbor improvement work in the San Francisco District (JRP 1996). In 1874–1875, work began on the two stone masonry "training walls" (or jetties) that flanked the Federal Channel entrance to Oakland Harbor. The concept behind the training walls was to enable (or train) the natural ebb tide to scour and deepen the shipping channel. The north and south walls were 750 to 1,000 feet apart, 12 to 20 feet wide at the base, 8 feet wide at the top, and measured 9,500 feet and 12,000 feet long, respectively. The walls were unusual because they were constructed of a random rubble core that was faced with boulders weighing 1/2 to 3 tons, using a dry stone masonry technique. The northern wall, formerly within the Maritime sub-district, was removed during construction of the Port of Oakland's Berths 55-58 Project.

Commerce using the Port of Oakland increased more than 21-fold between 1874 and 1900. Channel dredge material had been used to fill behind the north training wall, creating new land in front of the Carpentier grant line, which the courts had ruled only reached to the low tide line of 1852. This new land was used to challenge the unresolved conflict over private monopoly control of the waterfront. In 1906, the City granted Western Pacific a franchise and wharfing-out rights in an area adjacent to the north training wall. SPRR, who thought they had the right to all tidelands, opposed this grant. The court battle lasted through 1909. In 1909, the City of Oakland was successful in its claim to all new land beyond the 1852 low tide line, ending the control of the Waterfront Company and creating a municipal port (Bagwell 1982). Municipal control postdates the Western Pacific presence (see Bagwell 1982:187; McCarthy and Lerner 1997:4). The City permitted Western Pacific to build an extensive facility for rail and ferry operations adjacent to the north training wall through the study area. Built in 1909–1910, the 2-mile-long development was called the Western Pacific mole, and consisted of tracks, a levee, a mole, a freight shed, an ornamental ferry building, two ferry slips, and two piers (McCarthy 1997).

Western Pacific was acquired by Union Pacific in 1984, and this area is now referred to as the UP mole.

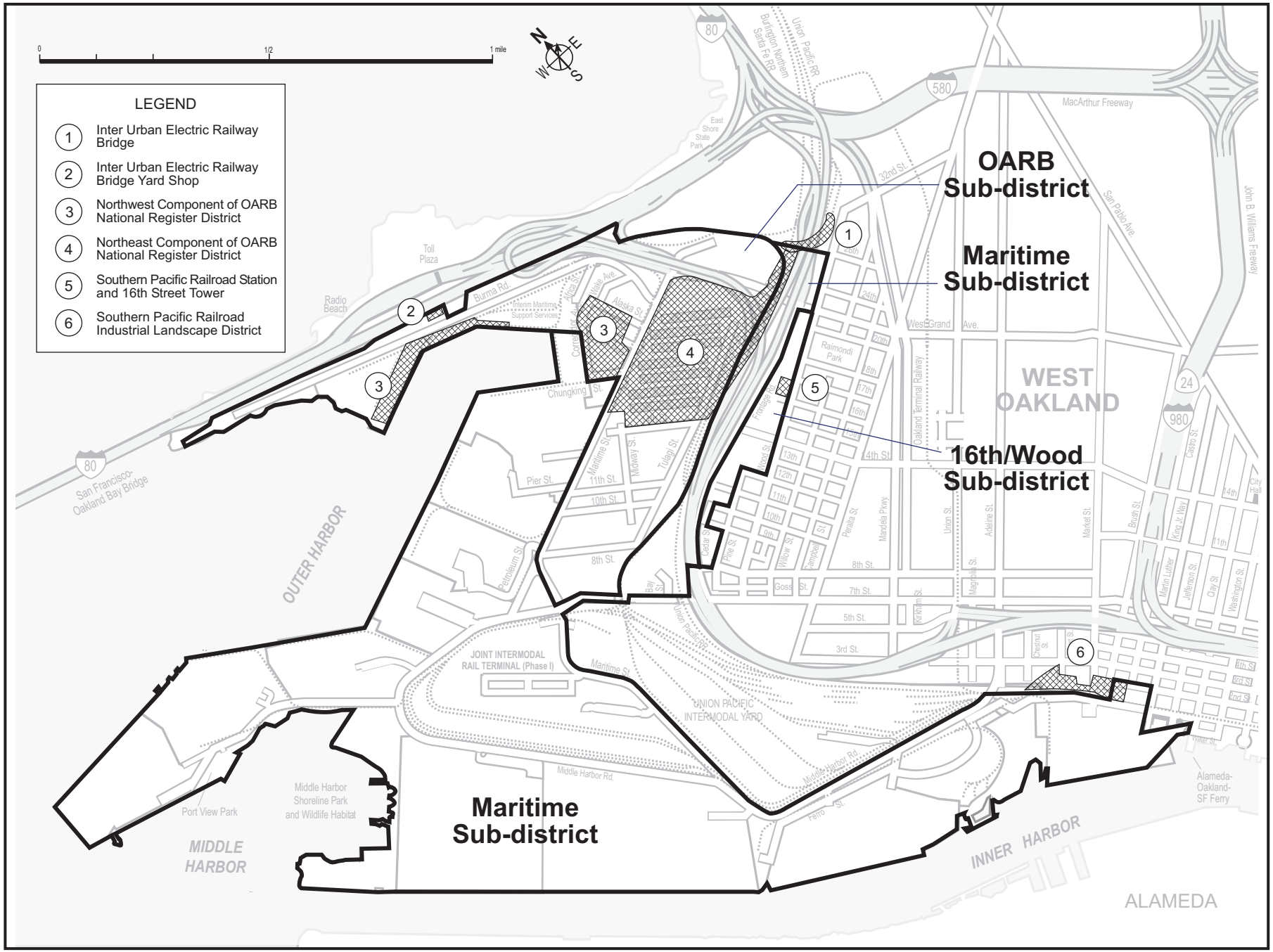
The majority of the study area lies on top of a vast human-made fill plain, most of which was constructed between 1900 and 1945. The earlier areas of fill were along the training walls and were mostly dredge materials. The fill in the easternmost boundaries of the study area adjacent to the current alignment of the I-880 corridor consisted primarily of legal and illicit refuse deposits. These deposits were primarily located alongside the tracks of the Southern Pacific and Western Pacific railroads (Caltrans 1990:9-10).

During World War II, the federal government undertook construction of two separate military facilities within the study area: the OARB and the Naval Supply Center, Oakland (NSCO). These facilities were extremely important during World War II, the Korean War, the Vietnam War, and the Gulf War, and employed thousands of people. These facilities operated until the 1990s, when they were slated for closure. The NSCO (later called the Fleet and Industrial Supply Center, Oakland [FISCO]) has subsequently undergone redevelopment for industrial port and regional recreational use.

4.6.4 Local Setting

No archaeological sites, cultural landscapes, or other resources of concern to local Native Americans have been identified within the study area. Two historic districts and three individual historic structures have been identified within the study area. The historic districts are the Oakland Army Base Historic District and the Southern Pacific Railroad Industrial Landscape District. The individually historic structures are the Southern Pacific Railroad Station and 16th Street Tower, and the IEC Railway Bridge Yard Shop. Figure 4.6-1 illustrates the locations of these resources.

Twelve additional buildings within the study area exceed fifty years of age, but are not considered significant historic resources under the California Environmental Quality Act (CEQA). Eight of these structures are on the Oakland Army Base and were subjected to further study for this EIR to determine their significance (JRP 2002). These structures include OARB Buildings No. 70, 773, 774, 775, 796, 840, the 7th Street Underpass, and the IEC Railway Bridge. All of these structures were evaluated by an architectural historian and determined not to qualify as significant historic resources or as a significant historic district for the purposes of CEQA. Four additional structures were identified in the study area; these are two structures within the Schnitzer Steel property, a 1940s structure located on Pacific Gas & Electric property adjacent to the Howard Terminal, and a 1950s-era add-on substation to PG&E's Power Station C. These structures are not historically significant under CEQA. Moreover, the proposed redevelopment program would not affect these structures.



OARB Area Redevelopment EIR

Figure 4.6-1 District Historic Resources

April 2002

g. borchard & associates

Known Cultural Resources

Figure 4.6-1 illustrates known cultural resources within the project area. A review of documentation for the presence of previously recorded archaeological sites and historic built environment features, and for previous archaeological surveys within the study area is based on the following studies and inventories:

- studies for the I-880 Cypress Freeway replacement structure (Caltrans 1990);
- Draft, Supplemental Draft, and Final Environmental Impact Statements (EIS) for disposal and reuse of OARB (Corps 1997, 2001a, 2001b);
- the EIS/Program Environmental Impact Report (EIR) for disposal and reuse of the Fleet and Industrial Supply Center, Oakland ([FISCO] U.S. Navy and Port of Oakland 1997);
- Berths 55-58 Project EIR (Port of Oakland 1998);
- Letter Report on the Impact of the Cypress Structure Project on the OARB Historic District (JRP 2000);
- Howard Terminal EIR (Port of Oakland [Brady and Associates] 1994); and
- Oakland Army Base Area Redevelopment Plan for Supplemental Cultural/Historic Resource Analysis (JRP 2002).
- Oakland Army Base Wharf 6, 6½, and 7 Condition Study (Nancy Elizabeth Stoltz Design and Planning 2001)
- Oakland Army Base Historic Preservation Feasibility Study; Preliminary Building Condition Survey – Draft manuscript (Ripley Architects 2000)
- Oakland Army Base Historic Building Reuse Alternatives Report – Draft (Nancy Elizabeth Stoltz Design and Planning 2002)

The OARB, FISCO, and Howard Terminal have been surveyed for built environment historic structures. No additional archaeological surveys were conducted for the current action, since most of the area is composed of man-made fill, and the remainder was investigated by Caltrans (1990). The built environment of the OARB has been documented thoroughly by previous studies.

Archaeological Resources throughout the Study Area

No known prehistoric archaeological sites are located within the study area. Only one archaeological site has been recorded within a one-half-mile radius of the study area. Prehistoric site number CA-ALA-17 is reported to be located in the vicinity of 7th and Adeline streets, but its exact location is unknown. Because the study area lies almost entirely upon fill, it

is considered to have low archaeological sensitivity. A small portion of the study area within the Maritime sub-district area bounded by Martin Luther King, Jr. Way, Brush Street, 3rd Street, and the Embarcadero is located on a parcel that is not man-made fill, and may have a higher potential for buried prehistoric and historic archaeological resources, although none are known to exist there.

Historic Resources: OARB Sub-District

Figure 4.6-2 illustrates historic resources in the OARB sub-district and surrounding area. The OARB Historic District, an NRHP-eligible district, is located in this sub-district, and portions are located in both the Gateway and Port development areas. The historic district is discontinguous, comprising three distinct areas. Two smaller areas are combined and designated the Northwest Component; the third larger area is designated the Northeast Component. The OARB Historic District was determined eligible for listing to the NRHP as a result of a 1990 study conducted by Caltrans for the Cypress Structure Replacement Project. The District is also listed as an Area of Primary Importance in the City of Oakland's General Plan (1994).

The OARB Historic District derives its significance from the following: The OARB played a significant role during World War II (1941–1945), and has been determined eligible for listing in the National Register of Historic Places under Criterion A, representing broad patterns of American History, at the local, state, and national levels of significance (see the 2001 MOA, Appendix 4.6). According to the Army, it was the only complete Army port installation in the nation set up with rail marshalling yards, huge warehouses, waterside transit sheds, and piers capable of handling the largest transport cargo ships, supported by shops, a complete rail system linking the entire operation, administrative and service buildings, a dry dock for handling smaller boats and ships, and temporary quarters for housing troops. It also served as the Army's disposition center, through which moved all military personnel returning from overseas assignments (King 1990:2).

The historic district has been identified, evaluated, and recorded to Historic American Buildings Survey (HABS) level II standards (Corps 1999:4-63, Caltrans 1990). When determined eligible for listing to the NRHP, the district incorporated OARB Buildings No. 1, 4, 60, 85, 88, 90, 99, 151 (Wharf 6), 152 (Wharf 6½), 153 (Wharf 7), 802–808, 812, 821, 822, 823, 991, and the Knight Railyard.[2] The Knight Railyard was subsequently re-evaluated by the Army, and found to no longer possess sufficient integrity to be considered eligible for the NRHP (JRP 2000). The Knight Railyard is also no longer considered eligible to the California or Local Register, and is not considered further in this EIR as a historic resource.

The Army and the State Office of Historic Preservation (OHP) dropped all OARB structures designated "temporary WWII" (Buildings No. 4, 85, 88, 90, 802–808, 821, 822, 823, and 991) from federal consideration pursuant to a national Programmatic Agreement concerning World

[2] Buildings No. 151, 152, and 153 are not buildings but wharf structures. None of the buildings located on the wharves are contributing elements to the district.

War II–era military facilities. For the purpose of CEQA and the analysis for this EIR, however, these temporary World War II structures are considered to be historic resources (as Historic District contributors). All of the contributing structures within the OARB Historic District are categorized as "3d" by the OHP (2001: PRC Reference Numbers 4623-0441-0001 through 00024). This category means that the structures are not individually eligible, only contributing elements to the Historic District as a whole.

Under Section 106 of the NHPA, a signed Memorandum of Agreement (MOA) between the Department of the Army and the California SHPO has been in effect since December 11, 2001. According to the MOA, included in Appendix 4.6, the Oakland Heritage Alliance and Oakland Landmarks Preservation Advisory Board were consulted when the MOA was drafted. This MOA addresses Army undertakings and the effect that disposal and reuse of the OARB would have on the historic districts. The MOA states that "temporary structures" within the OARB historic district have been removed from the NHPA Section 106 process, the Knight Railyard is no longer considered a contributing element to the District due to loss of integrity, and the Army has completed its mitigation measures for the Base. The U.S. Army agreed to complete mitigation measures for historic resources at the OARB in 1995. These measures were outlined in a MOA between the Advisory Council on Historic Preservation, Military Traffic Management Command (Western Area), and the SHPO, dated August 30, 1995. The mitigation measures included:

- Preparation of the Historic Preservation Plan for the Oakland Army Base by Hermann Zillgens, December 1994.

- Completion of HABS/HAER documentation for Buildings No. 1, 4, 60, 85, 88, 90, 99, 151 (Wharf 6), 152 (Wharf 6½), 153 (Wharf 7), 802, 803, 804, 805, 806, 807, 808, 812, 822, 823, and 991, and submittal to the National Park Service.

- Production of a video entitled "A Job Well Done," documenting the history of the Oakland Army Base.

OARB Sub-District, Gateway Development Area

As depicted by Figure 4.6-2, several buildings and structures within the Gateway development area are listed on or determined eligible to the NRHP or CRHR. Most of these buildings and structures are eligible as contributing elements to the OARB Historic District. In addition, one building (the IEC Bridge Yard Shop) is individually eligible for listing on the NRHP. The Korean War-era buildings are not considered historic resources.

OARB Historic District. The following buildings are contributing elements to the OARB Historic District and are located within the Gateway development area: Buildings No. 1, 4, 60, 85, a portion of 88, a portion of 99, portions of 804–808, 812, 821, 822, and 823. In total, this represents approximately 720,000 square feet (36 percent) of the approximately 1.99 million

Not to Scale

IEC Bridge Yard Shop

Gateway Development Area

IEC Bridge WYE

991

152 Wharf 6½

151 Wharf 6

153 Wharf 7

Northwest Component of OARB National Register District

Northeast Component of OARB Historic District

Port Development Area

SPRR/Amtrak 16th Street Station and Tower

7th Street Underpass

GATEWAY DEVELOPMENT AREA

PORT DEVELOPMENT AREA

LOCATION OF HISTORIC RESOURCES

1	2505 Alaska Street	**803**	2498 W. 16th Street
4	2025 Africa Street	**804**	2498 W. 17th Street
60	2555 Bataan Street	**805**	2498 W. 18th Street
85	2540 Buna Street	**806**	2498 W. 19th Street
88	2525 Buna Street	**807**	2498 W. 20th Street
90	2565 Buna Street	**808**	2498 W. 21th Street
99	2585 Buna Street	**812**	2491 Ukraine Street
151	Wharf 6	**821**	2480 Ukraine Street
152	Wharf 6½	**822**	2450 Ukraine Street
153	Wharf 7	**823**	2420 Ukraine Street
802	2498 W. 15th Street	**991**	No Address on Wake Ave.

LEGEND

Historic Resources

OARB National Register Historic District Boundaries as Shown in Caltrans 1990

Note:

The map depicting the boundaries of the OARB National Register District was submitted to the California State Historic Preservation Officer. All of the correspondence to/from the SHPO clearly indicates that Wharf 6 (Building No.151) is a contributing element to the District, and is within its boundaries. This must be kept in mind when viewing this map, as it does not depict Wharf 6 as within the District, when it clearly should be. The shaded areas depicting wharves 6, 6½, and 7 on this figure actually depict the non-contributing structures on top of the wharves, not the underlying wharf structures. It is important to note that it is the wharves which are the contributing elements to the historic district.

Sean Dexter
Archaeologist
URS Corporation
500 12th Street, Suite 200
Oakland, CA 94607-4014

OARB Area Redevelopment EIR

Figure 4.6-2 OARB Sub-District Historic Resources

April 2002

g. borchard & associates

square feet of historic buildings within the district. In addition, the following structures are contributing elements to the OARB Historic District, and are located within the Gateway development area: the majority of Wharf 6½, and Wharf 7 in its entirety (Buildings No. 152 and 153, respectively). This represents approximately 2,200 linear feet (62 percent) of the total 3,500 linear feet of historic wharves within the Historic District.

Korean War–Era Buildings. Several structures within the OARB have reached fifty years of age since the 1990 Caltrans study. All of the structures that were constructed between 1946 and 1954 were re-examined by the City of Oakland to see whether they meet the definition of a significant historic resource for the purposes of CEQA (JRP 2002). Within the Gateway development area, Building No. 70 was evaluated. Under the Oakland Preservation Element, this building would be rated as "D" (of minor importance) if rated individually. The property is not individually distinctive but is typical or representative examples of military construction during the Korean War. When combined with the other OARB Korean War–era buildings (Buildings No. 773, 774, 775, 796, and 840—located in the Port development Area, see below) they also would qualify as Areas of Secondary Importance if grouped with the OARB for listing as a district. Building No. 70 is not a contributor to the significance of the OARB Historic District or to the themes represented at OARB (JRP 2002:25). As such, the property does not qualify as a significant historic resource for the purposes of CEQA, and is not considered further in this EIR.

IEC Bridge Yard Shop. The IEC Bridge Yard Shop was found individually eligible to the NRHP by Caltrans in 1990. In its 1990 Cypress study, Caltrans describes this resources as number C-12, an historic railway car shop. This structure is on land currently owned by Caltrans and is not expected to be affected by redevelopment.

OARB Sub-District, Port Development Area

Several buildings and structures within the Port development area are listed on or determined eligible to the NRHP or CRHR. Most of these buildings and structures are eligible as contributing elements to the OARB Historic District. In addition, one structure (the IEC Bridge) is no longer considered individually eligible to the CRHP or NRHP.

OARB Historic District. The following buildings are contributing elements to the OARB Historic District, and are located within the Port development area: Buildings No. 90, a portion of 88, 90, a portion of the majority of 99, 802, 803, portions of 804–808, and 991. These buildings comprise approximately 1.25 million square feet (64 percent) of the approximately 1.97 million square feet of total historic buildings within the Historic District. In addition, a portion of Wharf 6½ and Wharf 6 (Building No. 151) are contributing elements to the OARB Historic District. These wharves represent approximately 1,300 linear feet (38 percent) of the total 3,500 linear feet of historic wharves within the district.

Korean War–Era Buildings. Several structures within the OARB that reached fifty years of age since the 1990 Caltrans study and which were re-examined by the City are located within the Port development area. Buildings No. 773, 774, 775, 796, and 840 were evaluated. Under the

Oakland Preservation Element, these buildings would be rated as "D" (of minor importance) if rated individually. As a whole these properties are not individually distinctive, but they are typical or representative examples of military construction during the Korean War. When combined with the other Korean War–era buildings (Building No. 70—see the discussion of the Gateway development area, above) they also would qualify as Areas of Secondary Importance if grouped with the OARB for listing as a district. Buildings No. 773, 774, 775, 796, and 840 are not contributors to the significance of the OARB Historic District or to the themes represented at OARB (JRP 2002:25). As such, the properties do not qualify as significant historic resources for the purposes of CEQA, and are not considered further in this EIR.

IEC Bridge. The IEC Bridge was found individually eligible to the NRHP by Caltrans in 1990. In its 1990 Cypress study, Caltrans identified this resource as number C-15, an historic railway wye bridge. The southern half of the structure was removed during construction of the new I-880 freeway. The remaining approach and a portion of the elevated structure is within the Port development area. The City of Oakland re-evaluated this structure to determine whether it meets significance criteria for this EIR. Under the Oakland Historic Preservation Element and based on the Caltrans evaluation in 1990, the 26th Street Bridge had a preliminary rating of *B*. Considered significant as a rare surviving element of the interurban railway system, the bridge was eligible under Criterion A. The design was also unique, and it was a rare surviving example of a wye-shaped bridge. Now that the southern leg of the bridge has been demolished, the bridge no longer appears eligible for listing in the CRHR. The Oakland Historic Preservation Element rating would change from a *B* to a *C* based on this change. It has sufficient historical and architectural value to warrant limited recognition but it does not appear eligible for listing for the National Register (JRP 2001:30). As such, the property no longer qualifies as a significant historic resource for the purposes of CEQA, and is not considered further in this EIR.

Historic Resources: Maritime Sub-District

One eligible historic resource has been identified within the Maritime sub-district: a small portion of the SPRR Industrial Landscape and one of its contributing structures.

Southern Pacific Railroad (SPRR) Industrial Landscape District. This district is composed of a group of industrial warehouse buildings located along the north side of the former SP (now Union Pacific) rails between Chestnut and Castro Streets. The contributing structures within this District meet the EIR significance criteria as historic resources. Caltrans identified this district in the 1990 Cypress study. The former Robert Dalziel Company Warehouse (redeveloped as the Phoenix Lofts), located at 737 2nd Street, is the only contributing structure to the small portion of the SPRR Industrial Landscape District co-occurring with the Maritime sub-district. This building is currently used as loft housing, and is not expected to be affected by redevelopment.

Non-Significant Historic Resources. Five resources that are not considered to be significant historic resources for the purposes of CEQA were identified within the Maritime sub-district: facilities associated with the Grove Street Pier, the 7th Street Underpass, two PG&E Substations, and the Oakland Inner Harbor north training wall.

- **Grove Street Pier.** The quay wall, pier, and transit shed at the Grove Street Pier at the far eastern edge of the study area were determined eligible to the NRHP, and were listed on the Oakland Cultural Heritage Survey. However, these structures have subsequently been recorded to HABS/HAER level documentation and been demolished as part of the Port of Oakland's Howard Terminal Project. They are not considered further in this EIR as historic resources.

- **7th Street Underpass.** Built in 1931, the 7th Street Underpass has an Oakland Heritage Survey preliminary rating of *C* as secondary importance based on the evaluation by Caltrans in 1990. This structure was revisited by an architectural historian (JRP 2001) and was not found to meet the criteria of eligibility to the National, State, or Local registers and is not considered to be a significant historic resource for the purposes of CEQA.

- **PG&E Substation C**. This structure, located at 689 2nd Street, appears to be a 1950s addition to the historic 1931 PG&E Substation located outside the study area, between Martin Luther King, Jr. Way and Jefferson Street. The substation addition within the study area has been preliminarily rated "x" by the Oakland City Planning Department's Cultural Heritage Survey. As such, it is not considered a significant historic resource for the purposes of CEQA, and is not considered further in this EIR as a historic resource.

- **PG&E Howard Terminal Substation.** One small corrugated metal structure is located immediately adjacent (east) of the entrance gate to the Howard Terminal on Embarcadero Street. The structure appears to be a small PG&E substation associated with supplying power to the Howard Terminal. The substation within the study area was examined in the 1980s by the Oakland Heritage Survey, and given a ranking of "check not a PDHP," based on the fact that it did not appear to be over 50 years of age at that time.

  While the structure is now in excess of fifty years of age, preliminary research indicates that it would not meet the significance criteria for the California Register, and would most likely fall into the 'D', category of the Oakland Cultural Heritage Survey; however, if a subsequent redevelopment activity were proposed and this property were to be affected, an examination by a qualified architectural historian of the substation and its building equipment would be needed to make a formal determination. Regardless of its potentially historic nature, the OARB project area would not affect this property.

- **Inner Harbor North Training Wall.** The training wall that was constructed at the mouth of the Oakland Estuary during the 1880s and determined eligible for listing on the NRHP, was recently impacted by the Port of Oakland Berths 55-58 project. The wall was completely removed by the Port (Port of Oakland 2001), and therefore is not considered further in this EIR. The Port mitigated the removal of the training wall through recordation and documentation, and will complete its mitigation by applying to designate the training wall as a California Point of Historical Interest and by reconstructing a 50-yard section of the training wall along the shoreline of the Port's public access area, with the reconstruction to be executed by the Dry Stone Masonry Conservancy.

Historic Resources: 16th/Wood Sub-District

Two historic resources exist within this sub-district. The SPRR (later Amtrak) station and 16th Street Tower, both located at the corner of 16th and Wood streets. These buildings were determined eligible for listing on the NRHP by Caltrans in 1990. The structures were damaged in the Loma Prieta earthquake, are currently in a state of disrepair, and many of the decorative elements have been removed. However, the resource most likely retains sufficient integrity to be

listed on the NRHP, and is also listed by the City of Oakland as a Landmark District (Ordinance number 10434 C.M.S., January 31, 1984).

Three other NRHP-eligible historic properties were removed from 714 Pine Street, 1815 Shorey and 1817 Shorey (later Short) Street during the re-construction of I-880 and temporarily stored on blocks on the corner of 9th and Cedar streets. Two of the houses have since been moved outside of the project area and have been rehabilitated. The third house remains at 9th and Cedar but is not expected to be affected by redevelopment. These houses are not considered further in this EIR.

The Standard Oil Warehouse that was located at 9th and Cedar streets was determined eligible to the NRHP by Caltrans in 1990. It was subsequently demolished and removed by the owner and is not considered further in this EIR as a historic resource.

The Phoenix Ironworks site is also located within the 16th/Wood sub-district. This industrial facility was built in stages between 1934 and 1945, and was completely destroyed in 1996. When extant, the facility was evaluated by Caltrans as not eligible to the NRHP (1990). The City of Oakland assigned a rating of "C3" to the (now destroyed) buildings on the property (Betty Marvin, personal communication 2001). This rating did not qualify the structures as NRHP eligible or as nationally, state, or locally significant. This site is not eligible for the NRHP. This site is not considered further in this EIR as a historic resource.

The Oakland Point Historic District is located outside, but immediately adjacent to the 16th/Wood sub-district. This historic district is not expected to be affected by redevelopment, and is not considered further in this EIR.

4.6.5 Impact Analysis Methodology

With redevelopment, some portions of the district would be subject to building demolition and land clearing activities. For purposes of impact analysis, it is assumed that all buildings and structures on the Base (but not all buildings within the OARB sub-district) would be demolished. This would include all OARB historic resources. For the Maritime sub-district, no significant historic resources would be impacted. For the 16th/Wood sub-district, it is assumed the extant historic resources—the SPRR (Amtrak) Station and Tower—would be preserved.

Significance Criteria

Redevelopment would have a significant impact on the environment if it would:

- Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature;

- Disturb any human remains, including those interred outside of formal cemeteries; or

- Cause a substantial adverse change in the significance of a historical resource including unique archaeological resources as defined in CEQA Guidelines Section 15064.5; substantial adverse changes include physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be materially impaired. Section 15064.5 of the CEQA Guidelines further defines that the significance of a historical resource is materially impaired when a project demolishes or materially alters, in a adverse manner, those physical characteristics of the resource that:

  - convey its historical significance and that justify its inclusion on, or eligibility for inclusion on, the California Register of Historical Resources as determined by the State Historical Resources Commission;
  - account for its inclusion on a Local Register of historical resources or its identification in a historical resources survey form (DPR Form 523) ; or
  - convey its historical significance and that justify its inclusion on, or eligibility for inclusion on, the California Register of Historical Resources as determined by the lead agency.

4.6.6 Impacts

A total of two NRHP-listed historic districts and four individual historic resources that are considered to be significant historic resources for the purposes of CEQA have been identified within the study area. These include the OARB Historic District (NRHP and Local Register), the SPRR Industrial Landscape District (NRHP and Local Register), the SPRR Station, the SPRR 16th Street Tower, and the IEC Railway Bridge Yard Shop.

Benefits

Renovation and reuse of the SPRR (Amtrak) Station and 16th Street Tower would alleviate existing blight within the 16th/Wood sub-district by renovating these derelict buildings, while maintaining their external historic character. This renovation and reuse of the SPRR Station and 16th Street Tower is expected to improve the historic character or quality of the site and its surroundings. This is a benefit of redevelopment.

As described in its application to the Army for the Gateway peninsula, the EBRPD intends to include cultural interpretation as a key element of park development. At the time of its application, EBRPD envisioned the inclusion of cultural interpretive displays that describe the role and contribution of the OARB to the American military efforts of World War II, the Korean War, and the Vietnam War. The EBRPD also envisioned interpretive panels depicting the Oakland Key System and its interface with the San Francisco ferry system. The Gateway peninsula was the location where passengers made a trolley-ferry transfer. Inclusion of cultural historic interpretive features is a benefit of redevelopment.

Impacts

Impact 4.6-1: Redevelopment has the potential to encounter previously unknown subsurface cultural resources during ground-disturbing activities.

Significance: Potentially significant

Mitigation 4.6-1: Should previously unidentified cultural resources be encountered during redevelopment, work in that vicinity shall stop immediately, until an assessment of the finds can be made by an archaeologist. If the resource is found to be significant under CEQA, an appropriate mitigation plan must be developed.

Residual Significance: Less than significant

Most of the study area is located over fill material, and the potential to encounter unknown sub-surface cultural resources is very low. However, a portion of the 16th/Wood sub-district is not located on fill, and potential exists that such resources (archaeological, paleontological, human remains) could be encountered during construction-related excavation. Because these resources are not known to occur in the area, the impact is considered potential. With implementation of Mitigation Measure 4.6-1, the impact would be substantially rectified, and the residual impact is considered less than significant.

~ ~ ~

Impact 4.6-2: Redevelopment would remove all resources contributing to the OARB Historic District.

Significance: Significant

Mitigation 4.6-2: The City, Port and OARB sub-district developers shall fund on a fair-share basis development of a commemoration site at a public place located within the Gateway development area.

Mitigation 4.6-3: The City shall ensure the commemoration site is linked to the Gateway Park and the Bay Trail via a public access trail.

Mitigation 4.6-4: The City, Port and OARB sub-district developers shall fund on a fair-share basis collection and preservation of oral histories from OARB military and civilian staff.

Mitigation 4.6-5: The City, Port, and OARB sub-district developers shall fund on a fair share basis collaboration with “military.com” or a similar military history web site.

Mitigation 4.6-6: The City, Port, and OARB sub-district developers shall fund on a fair share basis distribution of copies of the complete OARB HABS/HAER documentation prepared by the Army to: Oakland History Room, Oakland Public Library; Bancroft Library, University of California; and Port of Oakland Archives for the purpose of added public access to these records.

Mitigation 4.6-7: The City, Port, and OARB sub-district developers shall fund on a fair share basis distribution of copies of "A Job Well Done" documentary video published by the Army to: the Oakland History Room, Oakland Public Library; Bancroft Library, University of California; the Port of Oakland Archives; local public schools and libraries; and local public broadcasting stations.

Mitigation 4.6-8: The City, Port, and OARB sub-district developers shall fund on a fair share basis preservation and long-term curation of murals from OARB Building No. 1, and OBRA shall either donate the murals to the Oakland Museum of California, or provide a permanent location within the project area.

Mitigation 4.6-9: The City, Port, and OARB sub-district developers shall fund on a fair share basis a program to salvage to the maximum extent feasible as whole timber posts, beams, trusses and siding of warehouses to be deconstructed. These materials shall be used on site, used in other East Bay Area construction, or be sold into the recycled construction materials market. Landfill disposal of salvageable construction material from contributing historic structures shall be prohibited by contract specification. Salvage and reuse requirements shall be enforced via contract specification.

Mitigation 4.6-10: The City, Port, and OARB sub-district developers shall fund on a fair share basis production and distribution of a brochure describing history and architectural history of the OARB to local libraries and schools.

Mitigation 4.6-11: The City, Port, and OARB sub-district developers shall fund on a fair share basis acquisition of copies of construction documentation and photographs of historic buildings currently in the OARB files. Copies shall be transferred to the Oakland History Room files and Port historic archives, including funding to cover costs of archiving and cataloging these materials at the Oakland History Room.

Mitigation 4.6-12: At least one building each in the Gateway and Port development areas of the OARB sub-district, if feasible, shall include architectural

design elements such as double eaves and clerestory windows evocative of the warehouse structures.

Residual Significance: Significant and unavoidable

Redevelopment would eliminate evidence of a specific period in the history of West Oakland military transportation and operations, potentially including all structures contributing to a designated historic district (Buildings No. 1, 4, 60, 85, 88, 90, 99, 151 [Wharf 6], 152 [Wharf 6½], 153 [Wharf 7], 802–808, 812, 821, 822, 823, and 991). Loss of these resources is considered a significant impact. Implementation of Mitigation Measures 4.6-2 through 4.6-7, as well as Mitigation Measure 4.11-1 (intended to primarily mitigate impacts to aesthetic resources, but which would partially mitigate impacts to cultural resources as well), would partially compensate for this loss; however, the residual impact is considered significant, and the impact unavoidable.

~ ~ ~

Impact 4.6-3: Redevelopment would render the OARB Historic District no longer eligible to the National and/or California Registers of Historic Places or the Local Register.

Significance: Significant and unavoidable

Mitigation: Measures 4.6-2 through 4.6-12 described above

Residual Significance: Significant

Redevelopment would eliminate evidence of a specific period in the history of West Oakland military transportation and operations, potentially including all structures contributing to a designated historic district (Buildings No. 1, 4, 60, 85, 88, 90, 99, 151 [Wharf 6], 152 [Wharf 6½], 153 [Wharf 7], 802-808, 812, 821, 822, 823, and 991). Loss of the historic setting that makes the District eligible to the NRHP, CRHP, or the Local Register is considered significant impact. Implementation of Mitigation Measures 4.6-2 through 4.6-12 would partially compensate for this loss; however, the residual impact is considered significant, and the impact unavoidable.

~ ~ ~

Impact 4.6-4: Redevelopment would result in renovation of the SPRR (Amtrak) Station and 16th Street Tower, which could alter the historic character of the buildings in a manner that could affect their eligibility.

Significance: Significant

Mitigation 4.6-13: Prior to major renovation of a historically significant structure, the redeveloper of the SPRR Station and 16th Street Tower shall ensure that historically significant artifacts and features, if present within the

building, are recorded and deposited with the appropriate museum. All renovation of the exterior of a historic structure shall be consistent with the Secretary of Interior's Standards for Historic Preservation Studies.

Residual Significance: Less than significant

Renovation and re-use of the SPRR Station and 16th Street Tower may alter evidence of a specific period in the history of West Oakland transportation. With implementation of Mitigation Measure 4.6-8, the impact would be substantially rectified, and the residual impact is considered less than significant.

~ ~ ~

4.6.7 Mitigation

Implementation of the following mitigation measures will avoid, minimize, reduce, rectify, or compensate for significant impacts of redevelopment.

Mitigation 4.6-1: Should previously unidentified cultural resources be encountered during redevelopment, work in that vicinity shall stop immediately, until an assessment of the finds can be made by an archaeologist. If the resource is found to be significant under CEQA, an appropriate mitigation plan must be developed.

This measure applies to Impact 4.6-1.

The City and/or Port of Oakland, or its developer will retain an archaeologist, upon any unanticipated discovery. The archaeologist will prepare a preliminary evaluation to assess the archaeological sensitivity of the specific site(s) under consideration and will recommend actions to protect archaeological resources. If the archaeologist's evaluation indicates a more detailed site assessment is warranted, an archaeologist shall initiate a testing program. The archaeologist will prepare a report determining the potential significance of the find and recommend measures to minimize potential effects on archaeological resources; measures might include a site security program, additional on-site investigations, or documentation, preservation, and recovery of cultural material.

If, after testing, the archaeologist determines that the discovery is not significant as defined in CEQA, no further investigations or precautions are necessary to safeguard the find. The archaeologist will prepare a final report to be sent to the responsible agency, the Oakland Landmarks Advisory Board, and the California Historical Resources Information System Northwest Information Center.

If, after testing, the archaeologist determines that the discovery is significant as defined in CEQA, ground-disturbing activities in the immediate vicinity of the discovery will remain suspended until an appropriate plan can be agreed upon and implemented. If further

investigations or precautions are necessary or appropriate, City and/or Port of Oakland and the archaeologist will jointly determine what additional procedures are necessary to protect the resource and/or mitigate any significant impacts. Additional measures might include a redesign of the project, data recovery excavations, or a program to monitor all site excavation, during which the archaeologist will record observations in a permanent log. The archaeologist will prepare a final report to be sent to the responsible agency, the Oakland Landmarks Advisory Board, and the California Historical Resources Information System Northwest Information Center.

Should any human remains be encountered, work in the vicinity shall halt and the County Coroner notified immediately. If the remains are determined to be Native American, the coroner will contact the California Native American Heritage Commission (NAHC) pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code. The NAHC in Sacramento will identify a Most Likely Descendant (MLD) pursuant to subdivision (a) of Section 5097.98 of the Public Resources Code. The City and/or Port of Oakland and the contracted archaeologist will consult with the MLD. The MLD may, with the permission of the owner of the land, or his or her authorized representative, inspect the site of the discovery of the Native American remains and may recommend to the owner or the person responsible for the excavation work means for treating or disposing, with appropriate dignity, the human remains and any associated grave goods. The descendents shall complete their inspection and make their recommendation within 24 hours of their notification by the Native American Heritage Commission. The recommendation may include the scientific removal and nondestructive analysis of human remains and items associated with Native American burials. Work may not commence until the coroner's approval has been received.

~ ~ ~

Mitigation 4.6-2: The City, Port and OARB sub-district developers shall fund on a fair-share basis development of a commemoration site at a public place located within the Gateway development area.

This measure applies to Impacts 4.6-2 and 4.6-3 and Cumulative Impact 5.6-1.

Land shall be set aside for development of a commemoration site at a publicly accessible place located within the Gateway development area (potentially the Gateway Park at the Bay Bridge touchdown peninsula). The commemoration site should include relocated physical elements of the OARB Historic District, along with appropriate monument(s) to memorialize the contributions of civilians and the military in the Bay Area to all wars.

- The City and the Port shall explore opportunities to identify structures and/or portions of structures to be preserved or moved to commemoration site.
- A master plan shall be prepared for the commemoration site, including selection of appropriate physical elements, the design of monuments and the design of the

commemoration site itself. The master planning process should involve the City and the Port, the public and interested historical and veterans groups, historic experts, and other public agencies.

- Implementation of the commemoration site master plan may be phased along with the timing of new development. No demolition or deconstruction of historic structures shall occur until necessary for redevelopment activities.
- The master plan may include an endowment to be funded by the City and the Port for on-going maintenance, replacement and potentially curator costs associated with commemoration site and with trail linkages as described below.
- The City and the Port shall develop an ongoing outreach program informing the public of the importance of the OARB to the community and the region, and of the existence of the commemorative site.

~ ~ ~

Mitigation 4.6-3: The City shall ensure the commemoration site is linked to the Gateway Park and the Bay Trail via a public access trail.

This measure applies to Impacts 4.6-2 and 4.6-3 and Cumulative Impact 5.6-1.

Within the Gateway development area, this trail may be located along the shoreline. Beyond the Gateway, the trail would follow the new alignment of Maritime Street, connecting to 7th Street, which connects to the Port's Middle Harbor Shoreline Park and other existing and planned trail segments.

- The design and development of this on-site trail shall include a series of interpretive panels, exhibits and design elements that communicate the scope and historical significance of Base activities and their impact on the community throughout the life of the Base.
- A brochure shall be developed and made available describing the history of the Army Base that could be used as a self-guided tour, related to the interpretive panels and exhibits described above.

~ ~ ~

Mitigation 4.6-4: The City, Port and OARB sub-district developers shall fund on a fair-share basis collection and preservation of oral histories from OARB military and civilian staff.

This measure applies to Impacts 4.6-2 and 4.6-3 and Cumulative Impact 5.6-1.

Oral histories shall be collected from OARB staff working at the Base from the 1940s through Base closure. Implementation of this measure should begin as soon as possible. The scope of this measure should include the following:

- professional quality publication of a master catalog of the interviews;

- a summary report made available at the Oakland Museum, Port Archives, the Oakland History room, and/or the UC Berkeley Regional Oral History Office at the Bancroft Library; and
- publication of copies of audio CD's and the summary report for sale to the public.

~ ~ ~

Mitigation 4.6-5: The City, Port, and OARB sub-district developers shall fund on a fair share basis collaboration with "military.com" or a similar military history web site.

This measure applies to Impacts 4.6-2 and 4.6-3 and Cumulative Impact 5.6-1.

The parties shall fund development of an interactive web page and web community for former military personnel connected to the OARB. A list of list of draftees/enlistees processed through the OARB during WWII and the Korean and Vietnam wars may be an element of such a site.

~ ~ ~

Mitigation 4.6-6: The City, Port, and OARB sub-district developers shall fund on a fair share basis distribution of copies of the complete OARB HABS/HAER documentation prepared by the Army to: Oakland History Room, Oakland Public Library; Bancroft Library, University of California; and Port of Oakland Archives for the purpose of added public access to these records.

This measure applies to Impacts 4.6-2 and 4.6-3 and Cumulative Impact 5.6-1.

The Army has produced set of documentation for the structures within the OARB Historic District. These documents were prepared for the Historic American Building Survey and Historic American Engineering Record as part of their Section 106 responsibilities to preserve the historical significance of the OARB. These documents are currently available to the public, but are not widely distributed. This mitigation measure will ensure that the documents are widely distributed and made available to a larger audience interested in the history of the Base. It will also offset the modification and/or destruction of many of the historic buildings on the base, preserve their images, and provide a description of their function and role to the interested public.

~ ~ ~

Mitigation 4.6-7: The City, Port, and OARB sub-district developers shall fund on a fair share basis distribution of copies of "A Job Well Done" documentary video published by the Army to: the Oakland History Room, Oakland Public Library, Bancroft Library, University of California; the Port of Oakland Archives; local public schools and libraries; and local public broadcasting stations.

This measure applies to Impacts 4.6-2 and 4.6-3 and Cumulative Impact 5.6-1.

The Army has produced a television broadcast–quality video documentary that describes the mission and historical significance of the OARB. This documentary is currently available to the public, but is not widely distributed. This mitigation measure will ensure that the documentary is widely distributed and made available to a larger audience interested in the history of the Base. It will also offset the modification and/or destruction of many of the historic buildings on the base, preserve their images, and provide a description of their function and role to the interested public.

~ ~ ~

Mitigation 4.6-8: The City, Port, and OARB sub-district developers shall fund on a fair share basis preservation and long-term curation of murals from OARB Building No. 1, and OBRA shall either donate the murals to the Oakland Museum of California, or provide a permanent location within the project area.

This measure applies to Impacts 4.6-2 and 4.6-3 and Cumulative Impact 5.6-1.

A mural commemorating the military transportation function of the Base is currently in storage at the OARB. Preservation through stabilization, conservation, and display will ensure this mural is preserved for future generations. This artwork is a unique historical document that evokes the historical importance of the Base, and commemorates the contributions of the U.S. military to Oakland and the nation at large. The mural shall be preserved in a publicly-accessible location, which may include the Gateway Park, a building within the Gateway development area, Middle Harbor Shoreline Park, or the Oakland Museum. This measure should include funding for long-term curation to standards approved by a qualified art historian.

~ ~ ~

Mitigation 4.6-9: The City, Port, and OARB sub-district developers shall fund on a fair share basis a program to salvage as whole timber posts, beams, trusses, and siding of warehouses to be demolished to the maximum extent feasible. These materials shall be used on site, used in other East Bay Area construction, or be sold into the recycled construction materials market. Landfill disposal of salvageable construction material from contributing historic structures shall be prohibited by contract specification. Salvage and reuse requirements shall be enforced via contract specification.

This measure applies to Impacts 4.6-2 and 4.6-3 and Cumulative Impact 5.6-1.

The long warehouses located within the OARB Historic District (Buildings No. 802–808) are constructed almost exclusively of high-quality lumber. The large scale of the buildings necessitated the use of large-dimension beams. Today it is ecologically and economically cost prohibitive to produce timbers of these dimensions and quality. Salvage operations shall employ members of local job-training bridge programs (Youth Employment Program, Joint

Apprenticeship Training Committee, Homeless Collaborative) or other similar organizations to provide construction training opportunities to Oakland residents.

Salvage and reuse of the timber from these structures will help to reduce the impacts on the environment and save this ecologically and historically valuable material for reuse in the local community.

~ ~ ~

Mitigation 4.6-10: The City, Port, and OARB sub-district developers shall fund on a fair share basis production and distribution of a brochure describing history and architectural history of the OARB to local libraries and schools.

This measure applies to Impacts 4.6-2 and 4.6-3 and Cumulative Impact 5.6-1.

A brochure commemorating the military transportation function of the OARB, and the off-base components of the redevelopment area, will be produced. This brochure shall build upon the previously completed historical documentation produced by the Port of Oakland, the Navy, and the Army for previous projects. This brochure will document the history of the redevelopment area.

~ ~ ~

Mitigation 4.6-11: The City, Port, and OARB sub-district developers shall fund on a fair share basis acquisition of copies of construction documentation and photographs of historic buildings currently in the OARB files and transfer the copies to the Oakland History Room files and Port historic archives, including funding to cover costs of archiving and cataloging these materials at the Oakland History Room.

This measure applies to Impacts 4.6-2 and 4.6-3 and Cumulative Impact 5.6-1.

The Army has amassed a collection of historical photographs, engineering records, and administrative records related to the OARB. This collection is currently not available to the public at large. This mitigation measure will ensure that the collection is made available to a larger audience interested in the history of the Base. It will also offset the modification and/or destruction of many of the historic buildings on the Base, preserve their images, and provide a description of their function and role to the interested public.

~ ~ ~

Mitigation 4.6-12: At least one building each in the Gateway and Port development areas of the OARB sub-district, if feasible, shall include architectural design such as double eaves and clerestory windows elements evocative of the warehouse structures.

This measure applies to Impacts 4.6-2, 4.6-3, and 4.11-2, and Cumulative Impact 5.6-1.

Implementation of this measure would provide new, modern buildings reflecting the most distinctive architectural elements of the visually prominent 800-series warehouses, contributing structures to the OARB Historic District. Inclusion of these distinctive elements in the modern architecture would provide an aesthetic connection to the historic architecture of the site, and would partially compensate for the visual loss of these architectural elements. It is preferred these elements be included in buildings constructed near the location of the 800-series warehouses. It is preferred the structures selected to implement these measures be in a prominent location visible from Gateway, nearby elevated, or arterial roadways. Finally, it is preferred, but not required, this measure be implemented on buildings comprising by number the first 10 percent of buildings constructed in each of the Gateway and Port development areas.

~ ~ ~

Mitigation 4.6-13: Prior to major renovation of a historically significant structure, the redeveloper of the SPRR Station and 16th Street Tower shall ensure that historically significant artifacts and features, if present, are recorded and deposited with the appropriate museum. All renovation of the exterior of a historic structure shall be consistent with the Secretary of Interior's Standards for Historic Preservation Studies.

This measure applies to Impact 4.6-4.

The SPRR (Amtrak) Station and 16th Street Tower have interior and exterior architectural elements that help to make it eligible to the NRHP. The Secretary of Interior, through the National Park Service, has published guidelines for renovation and redevelopment of historic structures. By implementing this mitigation measure, and requiring that contractors conform to the Secretary of Interior's Standards for Historic Preservation Studies, the architectural elements and features which contribute to these historic resources' eligibility will be preserved.

~ ~ ~

~

4.7 HAZARDOUS MATERIALS

Redevelopment as proposed would result in less than significant and potentially significant impacts related to a variety of issues regarding hazardous materials. With implementation of measures recommended in this document, all potentially significant impacts would be reduced to a level that is less than significant.

4.7.1 Study Area

The study area for hazardous materials is the approximately 1,800-acre redevelopment project area.

4.7.2 Regulatory Setting

This section first discusses the general federal, state and local agency regulatory oversight by category of hazardous materials applicable to the study area as a whole. It then discusses regulatory oversight for remediation at the OARB in particular. As a former military base, the OARB is subject to environmental legal requirements that differ from the non-military areas of the redevelopment project area. Prior to conveyance of a base to a non-federal entity, it is regulated primarily by federal environmental laws, many of which are administered directly by the Department of Defense. Following conveyance of OARB to non-federal entities, this property will fall within the jurisdiction of the generally applicable federal, state and local environmental laws administered by federal, state and local environmental oversight agencies. See discussion in Section 4.7.2.2, below.

4.7.2.1 Regulatory Oversight by Category of Hazardous Materials

As discussed in this EIR, hazardous materials fall into four categories: hazardous materials, hazardous wastes, contaminated soil and groundwater, and regulated building materials and components.

Hazardous materials include chemicals and products that may be harmful if improperly released to the environment or improperly handled by people. These include a broad spectrum of products, including for example pesticides, petroleum fuel products, paints and other coatings, and common household materials such as cleansers and other cleaning products.

Hazardous wastes are produced when hazardous materials are used or ready to be discarded, and may also be produced by manufacturing or other processes. These include, for example, used oil products, containers of hazardous materials that are ready to be discarded, and spent solvents or other materials from manufacturing, coating, or other hazardous materials handling activities.

Contaminated soil and groundwater is caused by land uses that included prior releases of hazardous materials or hazardous wastes into soil or sewer systems. Leaking underground

storage tanks (USTs) and sumps are common causes of such contaminated conditions, as are historic industrial activities that routinely included spills of hazardous materials or waste onto soils.

Regulated building materials and components include asbestos, electric transformers containing polychlorinated biphenyls, underground- and aboveground storage tanks (ASTs), and lead-based paints (LBP). Because the hazards associated with these building materials have generally been identified after the buildings were constructed, applicable legal requirements generally relate to the safe maintenance and removal of these materials.

These categories are all regulated under one or more federal, state or local laws. In California, federal environmental laws generally establish minimum applicable standards; more stringent state and local standards may apply. For example, California regulates a broader array of wastes as "hazardous wastes" than those regulated under federal law.

Some environmental regulatory requirements apply to all categories of hazardous materials. For example, the Occupational Health and Safety Administration (OSHA) has regulations that apply to employees working with hazardous materials and hazardous waste; to workers conducting cleanup of contaminated soil and groundwater; and to workers exposed to regulated building materials. Similarly, hazardous materials transportation requirements apply to all four categories of hazardous materials. In contrast, there are numerous environmental regulatory requirements that apply to some, but not all, four categories. For example, the regulation of products containing hazardous materials may emphasize consumer disclosure and proper handling procedures. The regulation of contamination in soil and groundwater, in contrast, may emphasize restrictions on the types of future site uses that are appropriate in a given area, or may require special construction methods, or both. Other hazardous materials laws apply depending on the nature and quantity of hazardous materials being handled.

The following sections discuss the major federal, state and local environmental legal programs relevant to each category. When a law applies to more than one category, it is not necessarily discussed in every one. Table 4.7-1 provides a list of these laws and the applicable categories.

Table 4.7-1
Hazardous Materials Laws and Regulations

Law/Regulation	Hazardous Materials	Hazardous Waste	Contaminated Soil and Groundwater	Regulated Building Materials and Components
		Federal		
Emergency Planning and Community Right to Know Act (EPCRA) 42 USC § 11001 *et seq.*	**U**	**U**		**U**
Hazardous Materials Transportation Act (HMTA), 49 USC § 1800 *et seq.*	**U**	**U**	**U**	**U**

Table 4.7-1
Hazardous Materials Laws and Regulations

Law/Regulation	Hazardous Materials	Hazardous Waste	Contaminated Soil and Groundwater	Regulated Building Materials and Components
Toxic Substances Control Act (TSCA), 15 USC § 2601 *et seq.*	U	U		U
Clean Air Act (CAA), 42 USC § 7401 *et seq.*	U	U		U
Resource Conservation Recovery Act (RCRA), 42 USC § 6901 *et seq.*		U	U	U
Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), 42 USC § 9601 *et seq.*	U	U	U	U
Defense Environmental Restoration Program (DERP), 10 USC § 2701 *et seq.*	U	U	U	
Asbestos Hazard Emergency Response Act (AHERA), 15 USC § 2641 *et seq.*	U			U
Occupation Safety and Health Act (OSH Act), 29 USC § 651 *et seq.*	U	U	U	U
Clean Water Act, 33 USC § 1251 *et seq.*	U	U	U	U
Residential Lead-Based Paint Hazard Reduction Act, 15 USC 2681 *et seq.*	U			U
Oil Pollution Act, 33 USC 2701 *et seq.*	U	U	U	U
State				
Hazardous Materials Release Response Plans and Inventory Act, Cal. Health & Safety Code § 25500 *et seq.*	U	U		U
Emergency Services Act, Cal. Government Code § 8550 *et seq.*	U	U		
Safe Drinking Water and Toxic Enforcement Act (Proposition 65), Cal. Health & Safety Code § 25249.5 *et seq.*	U			
Hazardous Waste Control Act, Cal. Health & Safety Code § 25100 *et seq.*		U	U	U
Hazardous Substances Account Act, Cal. Health & Safety Code § 25300 *et seq.*	U	U	U	U
Porter-Cologne Water Quality Control Act, California Water Code § 13000 *et seq.*	U	U	U	U

Table 4.7-1
Hazardous Materials Laws and Regulations

Law/Regulation	Hazardous Materials	Hazardous Waste	Contaminated Soil and Groundwater	Regulated Building Materials and Components
Asbestos Notification Act, Cal. Health & Safety Code § 25915(a)	U			U
Lead poisoning protection, California Health & Safety Code §§ 105250, 124160, 124165				U
PCB use, Cal. Health & Safety Code § 25122.7				U
Underground storage of hazardous substances and wastes, Cal. §§ 25280-25299.7; 25123.3; 25205.1-25205.4; 25205.6; and 25205.16.				U
Aboveground Petroleum Storage Act, Cal. Health & Safety Code § 25270 *et seq.*	U	U		U
Cal. Health & Safety Code Section 39000 *et seq.*, Bay Area Air Quality Management District regulations				U
California Occupational Safety and Health Act (Cal/OSH Act), Cal. Labor Code § 6300 *et seq.*	U	U	U	U
Local				
Oakland Municipal Code § 15.12, Cal. Fire Code	U	U	U	U
Oakland Municipal Code § 15.04, Cal. Building Code	U			U
Certified Unified Agency Programs (CUPA)	U	U	U	U

Hazardous Materials

Federal

The Emergency Planning and Community Right to Know Act (EPCRA, 42 USC § 11001 *et seq*.) requires facilities that store, use, or produce certain amounts of hazardous chemicals to provide state and local authorities with material safety data sheets, or alternatively, a list of chemicals. EPCRA also requires reporting of permitted and accidental releases of hazardous substances, and requires certain facilities to complete and submit to EPA a Toxic Chemical Release Inventory form annually.

The Hazardous Materials Transportation Act (HMTA, 49 USC § 1800 *et seq.*) governs transportation of hazardous materials. HMTA regulates any person who transports a hazardous material, or anyone who manufactures, fabricates, marks, maintains, reconditions, repairs, or

tests a package or container which is represented, marked, certified, or sold by such person for use in the transportation in commerce of certain hazardous materials.

The Toxic Substances Control Act (TSCA, 15 USC § 2601 *et seq.*) controls use and disposal of polychlorinated biphenyls (PCBs), asbestos, and LBP, and is discussed below in "Regulatory Setting, Regulated Building Materials and Components."

The Clean Air Act (42 USC § 7401 *et seq*.) Section 112(r) requires facilities that use listed substances in any single process above the threshold quantity to maintain a Risk Management Program and submit a risk management plan (RMP). The list of substances and associated thresholds are published at 40 Code of Federal Regulations Section 68.

State

The Hazardous Materials Release Response Plans and Inventory Act, also known as the Business Plan Act (California Health & Safety Code § 25500 *et seq*.), requires businesses using hazardous materials to prepare a plan that describes their facilities, chemical inventories, emergency response plans, and training programs.

The Emergency Services Act (California Government Code § 8550 *et seq*.) requires the state to develop an emergency response plan to coordinate emergency services provided by federal, state, and local agencies. This plan is administered by the California Office of Emergency Services.

The Safe Drinking Water and Toxic Enforcement Act (Proposition 65, California Health & Safety Code § 25249.5 *et seq.*) requires that any person with ten or more employees operating within the State or selling products in California (1) be prohibited from knowingly discharging listed chemicals into sources of drinking water; and (2) be required to provide a "clear and reasonable" warning before knowingly and intentionally exposing anyone to a listed chemical. This warning can be given by a variety of means, such as by labeling a consumer product, by posting signs at the workplace, or by publishing notices in a newspaper.

Local

Section 15.12 of the Oakland Municipal Code (OMC) adopts the California Fire Code (24 CCR Part 9). The Fire Code regulates storage and use of hazardous materials at commercial and industrial facilities.

Section 15.04 of the OMC adopts the California Building Code (24 CCR Part 1). The Building Code regulates how protective measures within a structure will be built and implemented.

Certified Unified Program Agencies (CUPAs) are responsible for Local regulation and enforcement of hazardous materials laws and regulations. The City of Oakland is the CUPA for the entire study area. The City's CUPA has been certified by California Environmental

Protection Agency (Cal/EPA) to implement six state environmental programs within the local agency's jurisdiction: the hazardous materials business plan/emergency response plans and inventories program; the hazardous waste program, California accidental release prevention program, the underground storage tank program, the aboveground storage tank program, and the uniform hazardous materials management plan program.

Hazardous Waste

Federal

The Resource Conservation and Recovery Act (RCRA, 42 USC § 6901 *et seq.*) regulates handling and tracking of hazardous waste from generation to disposal. Under RCRA, hazardous waste generators must comply with regulations concerning record keeping and reporting; waste storage; proper treatment and disposal; and the use of a manifest system. In California, the Department of Toxic Substances Control (DTSC) has been authorized by EPA to administer the RCRA program.

State

California's Hazardous Waste Control Act (HWCA, California Health & Safety Code § 25100 et seq.) is similar to, but is more stringent than, the federal RCRA program. The HWCA provides authority for the DTSC to regulate the transportation and disposal of hazardous wastes, and establishes standards for hazardous waste facilities. The HWCA regulates more materials as hazardous waste than the federal program and also is more stringent with regards to disposal.

Local

The City of Oakland, as CUPA, implements the hazardous waste program at the study area.

Contaminated Soil and Groundwater

Federal

CERCLA (42 USC § 9601 *et seq*.) requires cleanup of inactive or abandoned sites that are contaminated with hazardous substances. CERCLA hazardous substances are defined as those substances either specifically designated as hazardous under CERCLA, or those substances identified as hazardous under certain other laws. (42 USC § 9601(14).) The procedures required by CERCLA for responding to hazardous substance releases are detailed in the National Contingency Plan ("NCP," at 40 CFR Part 300.) CERCLA also governs the process of identifying and prioritizing the cleanup of sites contaminated by the release of hazardous substances to the environment. Through its CERCLA authority, EPA compiles the National Priorities List (NPL), a list of sites that appear to pose the most serious threats to public health or the environment. The OARB is not on the NPL list.

CERCLA specifically applies to federal facilities, and the Community Environmental Response Facilities Act (CERFA) amendments in 1992 include provisions to facilitate reuse and redevelopment of property within closed federal facilities. Generally, under CERCLA, a federal agency must take all necessary remedial actions before it can convey property because the deed must include the Section 120(h)(3) covenant that "all remedial action necessary to protect human health and the environment with respect to any [hazardous] substances remaining on the property have been taken." Transferring such clean property requires a Finding of Suitability to Transfer (FOST) before it is transferred. However, with the approval of the state governor of a Covenant Deferral Request (for property not on the NPL), the federal agency may undertake "early transfer" and issue a warranty that satisfies the covenant requirement. Such an early transfer process requires a Finding of Suitability for Early Transfer (FOSET). Finally, CERCLA also provides that state laws concerning removal and remedial action shall apply to those actions at federal facilities (42 USC § 9620(a)(4).). In California, DTSC works with the federal agency to implement CERCLA for Department of Defense facilities. See discussion regarding the HSAA, below, and in Section 4.7.2.2, below.

CERCLA was recently amended to provide $200 million a year in grants to eligible entities for inventorying, characterizing, assessing, remediating, and conducting planning related to brownfield sites (Senate Bill 350 2001). The amendment defines "brownfield site" as certain real property for which the expansion, redevelopment, or reuse is complicated by the presence or potential presence of a hazardous substance or pollutant.

The Defense Environmental Restoration Program (DERP, 10 USC § 2701) requires that the Secretary of Defense carry out environmental restoration at facilities under its jurisdiction. DERP requires the Secretary to carry out all response actions consistent with CERCLA with respect to release of hazardous substances from facilities owned by the United States, or that were owned by the United States at the time hazardous substances contaminated the site.

RCRA dictates the cleanup and closure of hazardous waste sites through its Corrective Action Program. Contaminated soils may be classified as hazardous waste once excavated or otherwise handled during the cleanup process. RCRA's land disposal restrictions prohibit the placement of hazardous waste in or on the land without appropriate treatment. RCRA also includes hazardous waste underground storage tank standards, including tank closure and removal (42 USC § 6924).

State

The California Hazardous Substances Account Act (HSAA, California Health & Safety Code § 25300 *et seq.*) is similar to CERCLA. The HSAA authorizes the Cal/EPA Department of Toxic Substances Control (DTSC) to order and/or oversee the clean up contaminated sites and hazardous substances releases. The DTSC has oversight of the remediation required at the OARB and makes a recommendation to the Governor regarding the federal government's early transfer (FOSET transfer) process. DTSC must review and approve remediation proposed for

the OARB pursuant to the requirements of the HSAA, including as referenced requirements that are also imposed under CERCLA. In particular, DTSC must review and approve a Remedial Action Plan/Risk Management Plan (RAP/RMP), which defines the remediation goals, establishes remediation actions and describes health protective measures. The remedy selection process is guided by the NCP under CERCLA. See discussion regarding CERCLA, above, and in Section 4.7.2.2, below.

The Porter-Cologne Act (California Water Code § 13163) authorizes the State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) to coordinate water-quality related investigations of state agencies. The SWRCB and the RWQCBs also have jurisdiction to engage in site cleanups (California Health & Safety Code § 25355). The redevelopment project area is within the jurisdiction of RWQCB Region 2.

California Government Code Section 65962.5 requires the Office of Permit Assistance to compile a list of potentially contaminated sites throughout the state. The project area encompasses sites included on the list (the Cortese List).

Local

Regulated Building Materials and Components

The City of Oakland Urban Land Redevelopment (ULR) Program Guidance Document (City of Oakland 2000) includes a three-tiered risk-based corrective action process. Tiers 1 and 2 consist of numerical cleanup levels in "look-up" tables that are applicable to properties that involve particular land uses, types of chemical releases, and geologic and hydrogeologic conditions. Tier 3 of the ULR program outlines a methodology for calculating site-specific remediation goals that incorporate human health exposure parameters that are specific to Oakland. The ULR program also provides for a computerized system to track and enforce land use restrictions. The Community and Economic Development Agency (CEDA) is responsible for implementation of the ULR Program. See discussion under Section 4.7.2.2, below.

Federal

Asbestos

The Occupational Safety and Health Act (OSH Act, 29 USC § 651 *et seq.*) authorizes the Secretary of Labor to issue occupational health and safety standards that apply to every employer in the private sector. The administering agency, the OSHA, creates rules for workplace safety and health, and enforces the standards. OSHA has promulgated health standards and control requirements for asbestos (29 CFR § 1910.1001).

Title II of TSCA, the Asbestos Hazard Emergency Response Act (AHERA, 15 USC § 2641 *et seq.*), requires EPA to set standards for responding to the presence of asbestos in schools. AHERA also requires asbestos contractors and analytical laboratories to be certified, and

schools to use certified persons for abatement work. Training and accreditation requirements also apply to inspectors, contractors, and workers performing asbestos abatement work in all public and commercial buildings.

The Clean Air Act (42 USC § 7401 *et seq*.) regulates asbestos as a hazardous air pollutant. Under authority of the Clean Air Act, EPA regulates the demolition and renovation of asbestos-containing buildings and disposal of asbestos-containing waste. (40 CFR § 61.140.)

PCBs

TSCA (15 USC § 2605 *et seq*.) regulates PCBs. Transformers containing oil with 500 or greater parts per million (ppm) PCBs are defined as PCB transformers. Transformers containing between 50 and 500 ppm PCBs are classified as PCB contaminated (40 CFR § 761.2). Storage and disposal of PCBs must be in accordance with disposal requirements published at 40 CFR Section 761.60. PCB spills must be dealt with in accordance with EPA regulations, found at 40 CFR Section 761.120 *et seq.* EPA requires all owners of PCB transformers to register the transformers with EPA's Office of Pollution Prevention and Toxics.

Lead-Based Paint

Title IV of TSCA, the Residential Lead-Based Paint Hazard Reduction Act of 1992 (15 USC § 2681 *et seq.*), requires identification of LBP hazards, defining levels of lead allowed in various products, and establishing state programs for the monitoring and abatement of lead exposure levels, including training and certification for lead abatement workers.

RCRA regulates the management and disposal of hazardous waste, including LBP debris (42 USC § 6901). RCRA requires that generators of LBP debris test the debris for toxicity characteristics. LBP debris is any component, fixture, or portion of a residence or other building coated wholly or partly with LBP. EPA has promulgated guidelines for the renovation and remodeling of buildings or other structures when these activities might create a hazard. Guidelines are found at 40 CFR Section 745.227.

OSHA regulations require that workers not be exposed to lead in concentrations greater than the permissible exposure limit, listed at 29 CFR Section 1910.1025.

Underground Storage Tanks

RCRA Subtitle I (42 USC § 6991) regulates USTs containing petroleum products and those hazardous substances included in CERCLA. The statute and associated regulations require owners and operators to comply with technical design and construction requirements, corrective action requirements, and financial responsibility requirements.

RCRA Sections 6903(33), 6922, and 6924 also regulate USTs containing hazardous waste. Owners and operators must comply with the federal tank design, construction, secondary containment, operating, inspection, closure, and post-closure requirements.

Aboveground Storage Tanks

Federal laws that regulate ASTs include the Clean Water Act (33 USC § 1251 *et seq*.), the Oil Pollution Act (33 USC § 2701 *et seq.*), the Clean Air Act (42 USC § 7401 *et seq*.), and RCRA.

State

Asbestos

In California, the Asbestos Notification Act (California Health & Safety Code § 25915(a)) requires any building owner who knows that asbestos-containing materials are present in the building to provide written notices to the owner's employees and to other owners. California laws generally follow the federal requirements for asbestos removal and asbestos air monitoring. Hazardous substance removal criteria for asbestos are found at Health & Safety Code Sections 25914.1 through 25914.3.

The California Occupational Safety and Health Act (Cal/OSH Act, California Labor Code § 6300 *et seq.*) governs occupational safety and health in both the public and private sectors workplaces. The California plan is federally approved, and generally adopts the standards of the federal OSH Act. The Cal/OSH Act includes some additional standards, which are generally more stringent than the federal requirements, and governs occupational safety and health in the workplace. The California Department of Industrial Relations Division of Occupational Safety and Health (Cal/OSHA) has promulgated asbestos standards, found in Title 8 of the California Code of Regulations (CCR): Section 1529 discusses asbestos exposure in construction work; Section 5208 applies to occupational exposure in all industries; and Section 341.6 *et seq.* discusses the requirement that an employer engaging in asbestos work must apply for and obtain a registration prior to commencement of the work.

PCBs

In California, the Hazardous Waste Control Act (California Health & Safety Code § 25122.7) regulates disposal of PCBs. In California, PCBs are regulated by both federal and state rules. EPA enforces the federal regulations for PCB disposal and storage in California, and Cal/EPA administers and enforces the state's additional requirements for PCBs as hazardous waste under the state's hazardous waste regulations. Liquid hazardous wastes containing PCBs at concentrations equal or greater than 50 milligrams per liter are subject to the state's land disposal restrictions.

Lead-Based Paint

The California Health & Safety Code authorizes promulgation of regulations to protect against lead poisoning in residential buildings (California Health & Safety Code §§ 105250, 124160, 124165). California regulations require that lead hazard evaluations of residential buildings be conducted by a certified lead inspector/assessor (17 CCR § 36000). Similarly, abatement for

residential buildings must be conducted by a certified lead supervisor or a certified lead worker (17 CCR § 36100).

Under the Cal/OSH Act governing occupational health and safety in the workplace, Cal/OSHA has promulgated standards for lead in construction (8 CCR § 1532.1).

Underground Storage Tanks

Underground storage of hazardous substances is regulated by California Health & Safety Code Sections 25280 to 25299.7. The chapter establishes standards for the construction of USTs containing hazardous substances and establishes a program for inspection, testing, and upgrading existing USTs. California's underground storage tank rules cover petroleum and hazardous substance underground tanks, including heating oil tanks and farm tanks with capacities over 1,100 gallons.

Underground storage of hazardous waste in California includes the federal rules, and several more stringent state standards (California Health & Safety Code § 25123.3; 25205.1 to 25205.4; 25205.6; and 25205.16).

Aboveground Storage Tanks

The Aboveground Petroleum Storage Act (California Health & Safety Code § 25270 to 25270.13) regulates aboveground tanks used to store crude oil and petroleum products in liquid form.

Local

Asbestos

The California Health & Safety Code Section 39000 *et seq.* authorizes the Bay Area Air Quality Management District (BAAQMD) to promulgate regulations for control of air pollution of all sources, other than emissions from motor vehicles. BAAQMD has promulgated requirements for renovation and demolition of buildings with asbestos-containing materials. Regulation 11-2-303.8 requires that a survey be performed prior to demolition to determine the presence of regulated asbestos containing material. BAAQMD Regulation 11, Rule 2 requires notifying BAAQMD at least 10 working days prior to commencement of any demolition or renovation involving removal of 100 square feet per linear foot or greater of regulated asbestos containing material.

Underground and Aboveground Storage Tanks

The City of Oakland CUPA administers California's USTs and ASTs laws.

4.7.2.2 Regulatory Oversight for Remediation of the OARB

The ORA, as successor-in-interest to the OBRA, will assume responsibility from the Army for addressing most environmental matters that remain at the OARB after transfer, including implementing remediation required under CERCLA, the HSAA, and other applicable laws and regulations. It is anticipated that the Army will retain responsibility for radiologic compounds, unexploded ordnance, and chemical and biologic warfare agents, although the presence of these materials is not expected at the OARB.[1] The Army and the OBRA are presently in discussions regarding responsibility for completing the investigation and remediation of submerged lands and lands not being transferred to the OBRA, and it is anticipated the Army will retain responsibility for the environmental condition of these areas; in the alternative, these areas will be addressed as part of the DTSC oversight and review process which is applicable to the remainder of the OARB property being transferred to the OBRA. Under the Defense Base Closure and Realignment Act, the Army also still retains ultimate liability under CERCLA for hazardous substance releases to the extent that unknown or significant liabilities attributed to the Army are identified in the future at the OARB.

The DTSC is the primary state agency overseeing investigation and cleanup of the OARB. Representatives of the OBRA and the ORA have held many discussions, meetings, and negotiations with the DTSC and the Army regarding the remediation process to be followed after transfer of the OARB is completed. These efforts have culminated in a proposed RAP/RMP proposed by the OBRA that recognizes the planned future commercial/industrial uses of the OARB, and provides for risk-based remediation of soil and groundwater for the portion of the base that will be transferred to the OBRA, the ORA, and ultimately to the Port and other Developers. The RAP/RMP must be reviewed and approved by the DTSC, with a public participation process, under the HSAA. Implementation of the RAP/RMP will be required by a Consent Agreement between the DTSC, the OBRA, and the ORA.

The Consent Agreement prescribes a binding legal process by which all required remedial actions will be completed under the oversight of the DTSC. In order to achieve transfer before all remediation is complete and to satisfy the Army's Covenant responsibility under CERCLA, this Consent Agreement and RAP/RMP along with the associated federal documents must then go to the Governor with a request to approve the Army's CERCLA Covenant Deferral Request. The Governor's approval is required for the transfer (FOSET transfer) of the OARB.

The Army must also review and approve the FOSET transfer in conformance with its own CERCLA compliance obligations. It is anticipated the Army will fund, in full or in part, remediation required under CERCLA at the OARB, and that remediation funding will be provided on a reimbursement basis pursuant to an Environmental Services Cooperative Agreement entered into by the Army, the OBRA and the ORA. It is also anticipated that "cost cap" and environmental liability insurance will be obtained to protect the OBRA and other City

[1] Additionally, the Army may retain liability for remedial activities at the East Bay Regional Park District (EBRPD) Gateway Park and for any contaminated marine sediments located near the storm drain outfalls at the OARB.

entities, as well as the Army, from the risks of environmental cleanup cost exceedences and other covered claims.

Remedial Action Plan/Risk Management Plan Process

The RAP/RMP is the heart of the early transfer procedure of the OARB. The understanding of environmental conditions, establishment of remediation goals, and selection of remedial actions are accomplished in the RAP. The RMP is a companion document to the RAP. The RMP describes the health protective measures to be implemented in the future, during and after redevelopment, for identified chemical release sites, land uses and potential exposure pathways. The use of a RMP is typically included in Brownfields projects where commercial/industrial uses are planned — like those for the OARB. The RMP includes obligations on property owners and tenants to always perform the measures prescribed in the document to mitigate potential exposures to residual contamination in soil or groundwater. The property owner must also update information and modify the measures in the RMP based on whether changes in conditions are encountered, or if changes in property use, statutes, or available chemical toxicity information occur. For the OARB, there are both RAP Sites and RMP Implementation Area categories.

The RAP/RMP defines the target risk-based remediation goals for use during and after redevelopment of the OARB and establishes the remedial actions for identified and reasonably anticipated locations where releases have occurred that necessitate response when compared with the agency-approved remediation goals. The RAP/RMP approach adopted by the OBRA, consistent with the City of Oakland ULR program and other applicable requirements, allows for the phasing of the investigation and remediation of most locations at the OARB to coincide with implementation of planned infrastructure upgrades and redevelopment activities. This integrated remediation/redevelopment program assures that affected subsurface conditions are fully addressed in conjunction with planned redevelopment uses and allows for substantial economies of scale in completing subsurface earthwork activities for remediation purposes in tandem with site excavation and grading work needed for redevelopment. It is anticipated that residual concentrations of hazardous substances and petroleum constituents that remain after remediation and redevelopment activities are completed are fully protective of human health and the environment.

DTSC and other state and local agencies have approved many redevelopment projects in the San Francisco Bay Area for commercial/industrial properties that contain residual concentrations of hazardous substances and petroleum constituents, such as those found on the OARB. These types of redevelopment projects are often referred to as “Brownfields” and are facilitated by the City of Oakland’s ULR program and its associated guidance document**.**

Brownfields redevelopment projects incorporate a range of techniques (*e.g.*, institutional controls such as restrictions on groundwater usage and restrictions on residential redevelopment, removal actions requiring the excavation and removal of impacted soils or

groundwater, and engineering controls such as maintenance of caps or cover materials over deeper impacted soils or building design features such as vapor barriers) that comprise the remedial actions to be implemented at particular locations or applied to the property as a whole. The remedial actions can consist of tasks that are conducted in the near term to abate known, significant impacts to soil and groundwater, or the remedial actions can include health-protective measures to be implemented over time, including institutional controls, like restrictions on land or groundwater uses. Such remedial actions are implemented to achieve agency pre-approved, site-specific remediation goals that are supported by human health risk analysis and, if appropriate, ecological risk analysis.

The remedy selection process is guided by the National Contingency Plan (40 CFR § 300 *et seq*.) (NCP), which explains that the goals of remedy selection under CERCLA are to develop and implement remedial actions that protect human health and the environment, maintain protection over time, and minimize untreated waste (40 CFR § 300.430(a)(1)(i)). To help meet these goals, remedies for contaminated are selected that will achieve medium-specific remedial action objectives (RAOs). Because protectiveness may be achieved by preventing exposure (such as capping an area or limiting access) as well as by reducing contaminant levels, RAOs should consider both risk-based remediation goals and potential exposure pathways (U.S. EPA 1988). RAOs should reflect the reasonably anticipated future land uses because this leads to practicable and cost-effective remedial alternatives (U.S. EPA 2001b). In addition, U.S. EPA (2001b) has found that integrating realistic assumptions of future land use into remedial actions is an important step toward encouraging cleanup and redevelopment of contaminated properties.

OARB Remedial Action Plan Sites

In the draft RAP/RMP submitted by the OBRA for DTSC and Army consideration, RAP Sites are defined as those locations with known or potential chemical releases that may not be sufficiently characterized or remediated as part of activities performed during or after redevelopment. Examples of RAP Sites include the tarry residue beneath much of Building No. 1 and the adjacent parking lot, as well as VOC-impacted groundwater at Building No. 807, Buildings No. 808 and 823, and Building No. 99. See discussion in Section 4.7.4, below. Full integration of remediation and redevelopment activities at these RAP Sites is not generally feasible because of the greater time required to complete required remediation activities. For example, greater amounts of time are potentially needed to implement active remediation measures that are capable of reducing VOCs in groundwater to concentrations that achieve applicable remediation goals. Alternatively, if active measures are not selected as remedies to reduce VOCs concentrations in areas with impacted groundwater, engineering controls can be designed and incorporated into new building construction to mitigate the vapor intrusion exposure pathway that potentially exists at locations near Building No. 807, Buildings Nos. 808 and 823, and Building No. 99.

A range of remedial alternatives was evaluated for RAP Sites in the RAP/RMP. Recommended remedies range from excavation and offsite disposal of impacted soils, to active remediation of groundwater conditions, to monitoring or maintenance of existing conditions. The RMP also includes health and safety requirements and other ongoing measures to address post-remediation environmental conditions. Appendix 4.7 provides a comparative summary of remedial alternatives for seven RAP sites.

Risk Management Plan Implementation Area

The RMP Implementation Area consists of the remainder of the OARB, including, for example, numerous locations which involve documented or suspected small releases of petroleum hydrocarbons to soil. Petroleum releases have impacted groundwater to a minor extent at some of these sites. In response, routine groundwater monitoring is being conducted to fulfill closure requirements imposed by RWQCB. Such sites are common at former industrial properties undergoing redevelopment (*i.e.*, Brownfields) in the San Francisco Bay Area. Developers, contractors, and governmental agencies have found that these types of releases can be easily managed during new construction through application of a RMP.

A RMP is sometimes referred to as a Contingency Plan, Soil Management Plan, or a Remediation and Risk Management Plan. Irrespective of the name given to the document, the RMP can be considered analogous to an Operation and Maintenance Plan under CERCLA. The Operation and Maintenance Plan is a typical component of remedial actions and includes protocols for conducting inspections, performing routine sampling, maintaining institutional (*e.g.*, covenants, groundwater use restrictions) and engineering controls (*e.g.*, cover integrity, wells), and fulfilling reporting obligations (U.S. EPA 2001c). The objectives and contents of the RMP are similar. The RMP for the OARB will describe the health protective measures to be implemented in the future, during and after redevelopment, for identified chemical release sites, land uses, and potential exposure pathways. Institutional controls will obligate owners and tenants of the OARB to update information in the RMP based on conditions encountered, or changes in land uses, environmental statutes, or chemical toxicity information.

The NCP at 40 CFR § 300.430(a)(1)(iii)(B) makes clear that containment or use of covers is an appropriate remedial action for these kinds of releases (*i.e.*, low-level threat sites). Buildings, asphalt roadways, concrete pavement, imported clean soil, and other cover types existing and planned at the OARB adequately protect human health against direct contact with petroleum hydrocarbons and other contaminants of concern identified at RMP locations. This fact, coupled with available use history information and environmental data that indicate the RMP sites identified at the OARB consist primarily of petroleum hydrocarbon releases that have affected a small quantity of soil, makes the RMP sites relatively straightforward to address as they are encountered during or after redevelopment. For example, properly trained workers can be mobilized to excavate identified areas of contaminated soil for subsequent reuse or disposal at an off-site, permitted waste management facility.

For these reasons, the OBRA proposes to address RMP locations in a phased manner that is consistent with the schedule for redevelopment of the OARB. In the event that the nature and extent of the releases at RMP locations are found to differ significantly from the conditions described in the RAP, the appropriateness of response measures contained in the RAP will be re-evaluated for such specific RMP locations. The RMP, which is provided as a companion document to the RAP, specifies the situations under which response measures will be re-evaluated in consultation with DTSC.

A range of remedial alternatives was evaluated for RMP Implementation Areas in the RAP/RMP. Recommended remedies range from excavation and offsite disposal of impacted soils, to monitoring or maintenance of existing conditions, to no further action. The RMP also includes health and safety requirements and other ongoing measures to address post-remediation environmental conditions. Appendix 4.7 provides a comparative summary of remedial alternatives for RMP Implementation Areas.

Soil Remediation Action Objectives

Proposed soil RAOs for the OARB are as follows:

- Maintain existing conditions at the OARB to prevent direct contact with known or potentially impacted soil prior to implementation of remedial actions or redevelopment.
- Remove, or remove and treat, tarry residue at ORP/Building No. 1 area to eliminate hazards associated with this source material and to allow planned land uses consistent with the Amended Reuse Plan.
- Remove or treat impacted soil that interferes with planned land uses, or is encountered during redevelopment or through post-redevelopment activities, or otherwise to the extent necessary to achieve site-specific, soil remediation goals designated in the RAP.
- Contain impacted soil that will not unreasonably interfere with planned land uses by maintaining existing cover or constructing new cover.

Groundwater Remediation Action Objectives

Proposed groundwater RAOs for the OARB are as follows:

- Implement institutional controls, alone or in combination with site-specific engineering controls, to prevent incidental ingestion or dermal contact with impacted groundwater under existing and planned land uses consistent with the Reuse Plan.
- Treat VOC-impacted groundwater that interferes with planned land uses or as otherwise needed to achieve site-specific, groundwater remediation goals, or apply engineering controls to new structures such that hypothetical exposure posed by vapor intrusion is not greater than remediation goals designated in the RAP or as otherwise necessary to allow planned redevelopment.

- Prevent further significant increases of metals and other non-volatile COC concentrations in groundwater.

Determination of Acceptable Risk-based Soil Cleanup Goals Under the Urban Land Redevelopment Program

With the exception of the RAP Sites, which will be remediated on an accelerated basis independent of redevelopment, remediation at the OARB sub-district is expected to occur as existing structures and paved surfaces are demolished for new construction and contaminated soil is subsequently exposed. Achieving consensus among stakeholders on what degree of contamination constitutes an acceptable risk is a primary factor in determining the concentrations of contaminants that are permissible to leave in cleaned soil at the OARB. Through the ULR program, the City of Oakland has explored the issue of acceptable risk with members of the community, and representatives of federal, state, and local regulatory agencies charged with enforcing environmental regulations. The ULR program is fully funded by U.S. EPA Region 9, included extensive involvement from the community as well as state regulatory agencies including the DTSC and the RWQCB, and is intended to facilitate the cleanup and redevelopment of Oakland's contaminated properties, which are often referred to as "Brownfields."

As background, in 1996, staff from the City of Oakland Environmental Services Division met with representatives of the West Oakland Environmental Justice Pilot Project, the Mayor's office, and the Rose Foundation. The purpose of this meeting was to determine what kind of feedback was desired from the community and which types of individuals and organizations should convene the Community Review Panel to evaluate the objectives of the ULR program. On the basis of the meeting, several organizations were contacted directly, and a public notice soliciting applications for membership on the panel was published in the *Oakland Tribune* on July 31, 1996. Members of the Community Review Panel ultimately included individuals from the African American Development Association, GEI Consultants, People United for a Better Oakland, Northern California Minority Business Opportunity Community, Sierra Club, Urban Habitat Program, and Uribe & Associates. The panel met twelve times between September 1996 and July 1997 and presented its recommendations in the Community Review Panel report, dated August 7, 1997, entitled *Consensus Recommendations for Implementing the Oakland Urban Land Redevelopment Program*.

Although the panel expressed that the ideal would be the removal of all contaminants from Oakland communities, the panel recognized that the resources to achieve this ideal simply do not exist. The panel concluded that stalling redevelopment will likely result in a greater public health threat, and larger environmental, social, and economic costs to the affected community than implementation of risk-based cleanup. The Community Review Panel therefore recommended that the ULR program adopt cleanup levels based upon conservative assumptions that do not result in an incremental lifetime cancer risk greater than 10^{-5}.

The recommendations of the Community Review Panel ultimately led the City of Oakland to include a set of tiered cleanup levels into the ULR program. Tier 1 presents a conservative, health protective set of cleanup levels that are based on an individual COC "target" risk of 10^{-6}. Tier 1 cleanup levels apply to properties where information on environmental conditions is limited. Tier 2 cleanup levels are based on a target risk of 10^{-5}. Tier 2 cleanup levels generally apply to properties where geologic and hydrogeologic conditions and uses are better understood.

U.S. EPA has stated that remediation is generally not warranted for contaminated property if the cancer risk to an individual is less than 10^{-4}. However, if remediation is undertaken at such a site, U.S. EPA has expressed a preference for cleanups that achieve a 10^{-4} to 10^{-6} "target" risk range, with 10^{-5} risk level being the midpoint of this target range. Additionally, the State of California has adopted 10^{-5} as the "no significant risk" level for protecting persons from contaminates in drinking water, and exposure to contaminates in consumer products and commercial establishments under the Safe Drinking Water and Toxic Enforcement Act of 1986, which is better known as "Proposition 65." The DTSC, in implementing the HSAA, has the legal authority to require cleanups that achieve a 10^{-4} to 10^{-6} "target" risk range.

Given the precedents set by the City of Oakland, U.S. EPA, and the State of California, the OBRA has decided to establish a media-specific individual remediation goal that corresponds to a 10^{-6} incremental lifetime cancer risk for each potential carcinogenic COC identified at the OARB. Remedial actions implemented at each OARB location are planned to achieve these individual carcinogenic COC remediation goals for the proposed uses at the OARB. The cumulative carcinogenic risk of COCs (associated with potentially complete exposure pathways) remaining in soil and groundwater at each OARB location after implementation of remedial actions will not exceed a cumulative, incremental lifetime human health risk of 10^{-5}.

If this remediation goal is approved by the DTSC under the HSSA in a Draft RAP/RMP process, achieving these requirements would then become enforceable in the Consent Agreement put in place prior to transfer of the OARB. Any changes to these remediation requirements would be subject to review and approval by the DTSC, and would trigger further public participation and processing requirements under the HSAA and CEQA.

Determination of Acceptable Risk-based Groundwater Cleanup Goals Under the Urban Land Redevelopment Program

The area comprising the OARB was primarily marshland before 1916. Much of the area was filled to construct the OARB beginning in 1941. Gravelly sand fill, reportedly imported from quarries near Lake Temescal and Oak Knoll Naval Hospital, is encountered below buildings and paved surfaces on the OARB and extends to a depth of approximately 5 feet below ground surface (bgs). A second fill layer exists between approximately 5 to 15 feet bgs. This second layer of fill consists of fine-grained sand that was hydraulically dredged from San Francisco Bay. Groundwater is generally encountered between 5 to 7 feet bgs in these fill layers, which

comprise the shallow water-bearing zone at OARB. Beginning at approximately 15 feet bgs, a sequence of clay on the order of 10-feet thick, referred to as Young Bay Mud, underlies the shallow water-bearing zone. The Young Bay Mud clay is not very permeable and restricts downward movement of groundwater to the next deeper water-bearing zone that is located at a depth of approximately 25 feet bgs. This deeper water-bearing zone is referred to as the Merritt Sand.

Groundwater at the OARB is of poor quality due to the proximity of the base to San Francisco Bay. Although no hazardous substances have been detected in water samples collected from the five monitoring wells completed into the Merritt Sand beneath the OARB, seawater intrusion results in total dissolved solids (TDS) concentrations that are greater than 10,000 mg/L in groundwater in the Merritt Sand. Seawater has also impacted the shallow water-bearing zone. The mean TDS concentration is reported to be 4,600 mg/L for 43 monitoring wells completed into the shallow water-bearing zone at the OARB (IT Corp. 2000). The TDS concentrations in the shallow water-bearing zone and Merritt Sand make the groundwater unsuitable for potable use.

For TDS in drinking water, the State of California Department of Health Services (DHS) has promulgated a recommended secondary Maximum Contaminant Level (MCL) of 500 mg/L and a short-term secondary MCL of 1,500 mg/L (22 CCR § 64449). Although DHS recommends that TDS concentrations in drinking water be below 500 mg/L, TDS concentrations as high as 1,000 mg/L are acceptable if DHS considers it "neither reasonable nor feasible to provide more suitable waters" (22 CCR § 64449). Excursions to the short-term level of 1,500 mg/L are acceptable only if on a temporary basis pending construction of new treatment facilities or development of acceptable new water sources.

The RWQCB, Region 2, acknowledges the poor quality of groundwater near the OARB and has proposed a formal determination that groundwater along the Oakland shoreline, including groundwater under the OARB, cannot be used for drinking water supply. The RWQCB based this determination on the fact that groundwater is brackish and meets the exemption criteria under SWRCB Resolution No. 88-63. Under this resolution, SWRCB considers water with a TDS greater than 3,000 mg/L to "be unsuitable, or potentially unsuitable, for municipal or domestic water supply." The RWQCB (1998) specifically stated in a letter to the Army that the exemption criteria contained in Resolution No. 88-63 applies to the shallow water-bearing zone at the OARB. The ULR Community Review Panel (1997) supports the RWQCB findings.

Given the widespread recognition that TDS renders groundwater at the OARB nonpotable, proposed cleanup levels for hazardous substances in the shallow water-bearing zone will not consider MCLs for drinking water. Instead, groundwater cleanup goals for the OARB are proposed to be governed by the protection of indoor commercial workers and outdoor industrial workers from inhalation of volatile organic chemicals (VOCs) that may escape from groundwater and migrate upward through soil into ambient air. In connection with remedies to reduce VOC concentrations in the shallow water-bearing zone so VOCs do not pose a potential inhalation

threat, institutional controls will be implemented to prohibit extraction of groundwater for drinking water supply at the OARB.

Institutional controls are non-engineering measures designed to limit exposure to hazardous substances left in-place or to ensure the effectiveness of the chosen remedy. Institutional controls include land use restrictions, which can also be referred to as deed restrictions. Deed restrictions and land use restrictions are catchall phrases for legal controls such as easements, restrictive covenants, and zoning ordinances. These controls either prohibit certain kinds of site uses or notify potential owners or tenants of the presence of hazardous substances remaining on-site at concentrations that are not protective of all uses.

The City of Oakland ULR program has established a computerized system that ensures land use restrictions are enforced so properties with residual contamination are not redeveloped for unintended uses unless additional cleanup is performed. The computerized system tracks permits from filing to issuance and provides the user with a permitting and inspection history. The CEDA maintains the system. CEDA is responsible for operations related to development, inspection, and enforcement of zoning, planning, building, and housing codes within the City of Oakland. The computerized system allows permits to be properly routed and held, if necessary. The purpose of these procedures is to provide the appropriate City of Oakland staff with the opportunity to review permit applications for work that may either conflict with land use restrictions or trigger further cleanup under an approved remedial action plan.

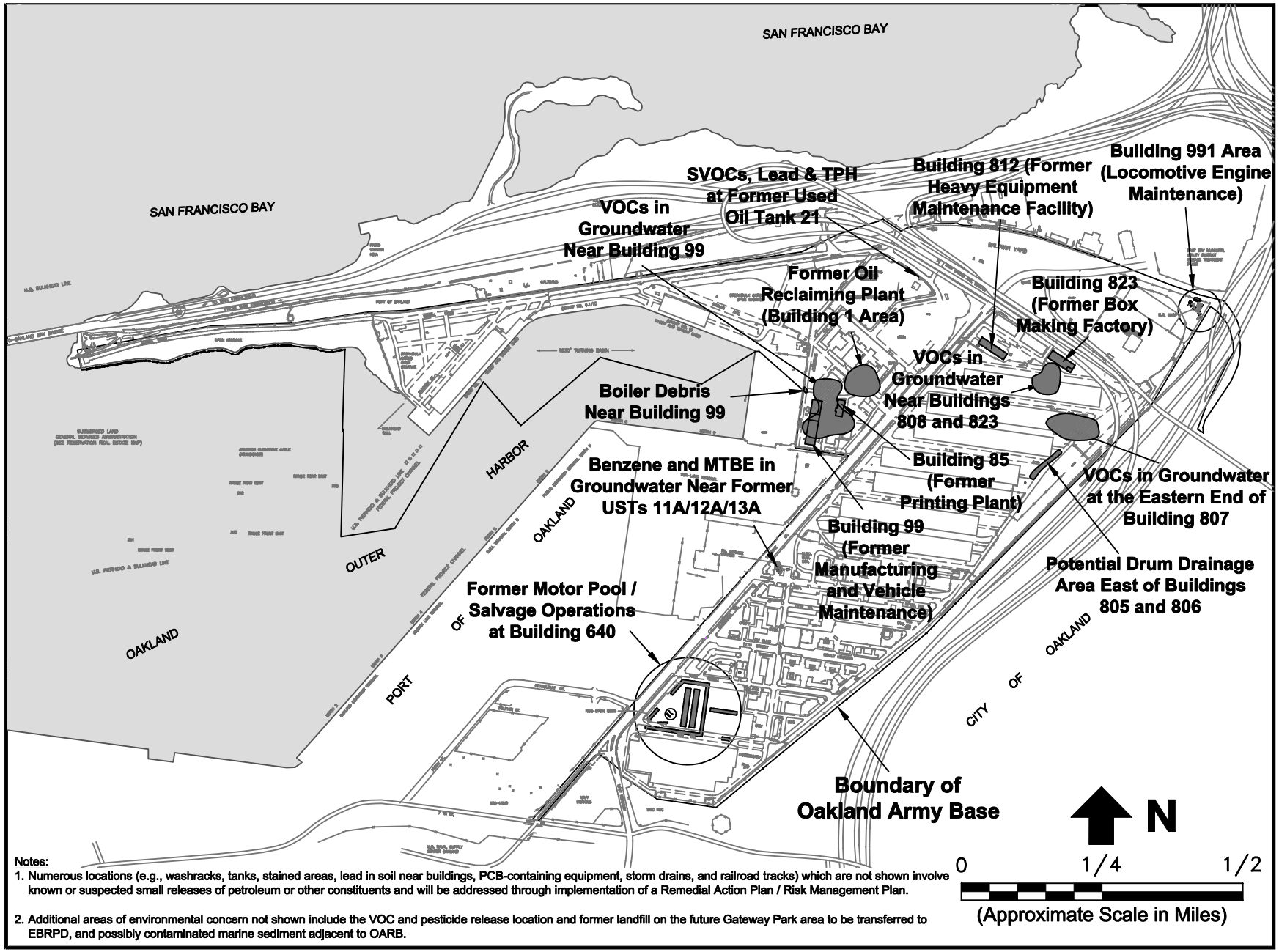
4.7.3 Regional Setting

The study area is located within a developed area that includes residential, recreational, and commercial/industrial areas. Hazardous materials are transported into the region by truck, rail, and ship, and are used by industrial and service businesses throughout the region. Contaminated property is found throughout the region. Contaminated property in the region has resulted from prior industrial activity and improper management of hazardous substances.

4.7.4 Local Setting

This section discusses each sub-district with respect to hazardous materials issues, hazardous waste issues, contaminated soil and groundwater issues and regulated building materials issues at the study area. Figures 4.7-1 illustrates the environmental conditions on the OARB sub-district, Figure 4.7-2 depicts the environmental conditions on the Maritime and 16th/Wood sub-districts.

Environmental conditions and the site history of the OARB sub-district have been identified in previous investigations and studies, as set forth in Appendix 4.7 and discussed relative to the OARB sub-district below. For the Maritime and 16th/Wood sub-districts, an environmental database search was performed by Environmental Data Resources, Inc. (EDR 2002). These



Notes:

1. Numerous locations (e.g., washracks, tanks, stained areas, lead in soil near buildings, PCB-containing equipment, storm drains, and railroad tracks) which are not shown involve known or suspected small releases of petroleum or other constituents and will be addressed through implementation of a Remedial Action Plan / Risk Management Plan.

2. Additional areas of environmental concern not shown include the VOC and pesticide release location and former landfill on the future Gateway Park area to be transferred to EBRPD, and possibly contaminated marine sediment adjacent to OARB.

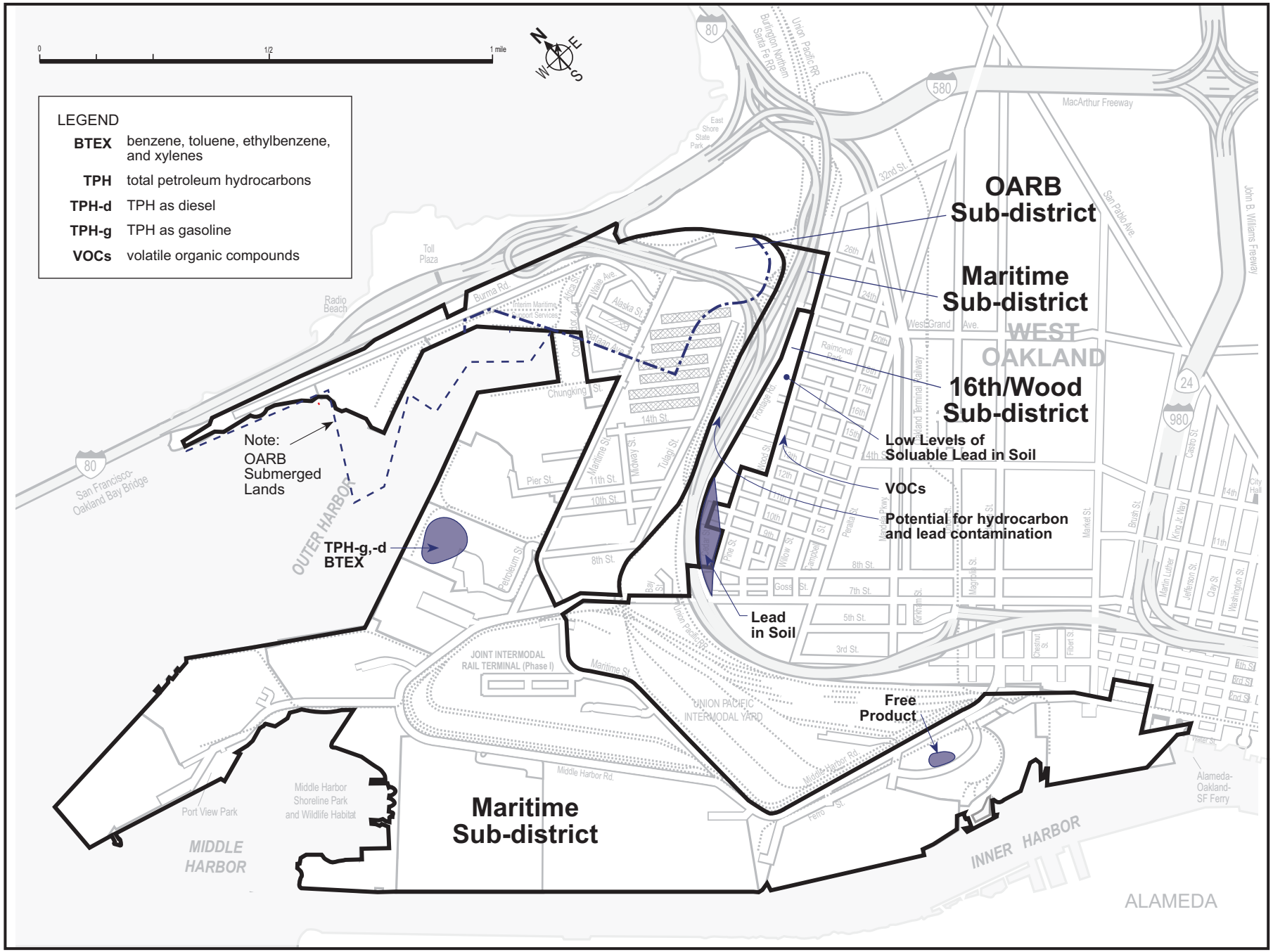
Source: Erler & Kalinowski, Inc.

g. borchard & associates

OARB Redevelopment Plan EIR

Figure 4.7-1 Locations of Potential Environmental Concern on OARB

April 2002



OARB Redevelopment Plan EIR

Figure 4.7-2 Potential Soil and Groundwater Contamination, Maritime and 16th/Wood Sub-Districts

April 2002

g. borchard & associates

types of database searches query a wide range of federal, state, and local databases to identify sites that pose potential hazardous materials, hazardous wastes, or contaminated soil and groundwater concerns. The mere presence of a site/property on one or more of these lists does not mean that an impact exists; the potential concern(s) posed by a site identified by the database search must be evaluated individually. For example, a site may be identified on an underground storage tank (UST) list, but may already have been remediated. These types of database searches focus on potential contamination concerns; hazardous materials storage and hazardous waste generation information is provided only because releases of hazardous materials/wastes can result in soil and/or groundwater contamination.

The database search for the Maritime and 16th/Wood sub-districts centered at the intersection of Maritime and 14th Streets and covered all of the 16th/Wood sub-district and most of the Maritime sub-district. Approximately 68 sites that had associated database records were identified. Of these, 44 were located within the Maritime or 16th/Wood sub-districts. An additional 223 "orphan" sites, listed in the databases but either missing information or having addresses that could not be located by EDR, were also identified. Of these, further research indicated that 37 are located within the Maritime or 16th/Wood sub-districts, numerous others were located well outside of the two sub-districts, nine were vessels, and 18 addresses could not be located during the additional research. Two of the 37 located within the study area were appropriately remediated. Specific sites are discussed relative to the Maritime and 16th/Wood sub-districts below.

OARB Sub-District, Hazardous Materials

Hazardous materials currently present at the OARB are most likely limited to those associated with the industrial and commercial activities occurring in the sub-district. These materials may include such items as paints, oils, solvents, automotive fluids, compressed gases, ammonia for refrigeration, and lead-acid batteries. These materials are typically present in small quantities, as required to support the tenant activities. The existing interim leases require tenants to comply with all applicable laws and regulations pertaining to hazardous materials management. The Oakland Fire Department (OFD) provides hazardous materials spill response services in Oakland. The OFD's primary hazardous materials response team is based in Station No. 3 on 14th Street.

OARB Sub-District, Hazardous Wastes

Hazardous wastes are generated from many common industrial and commercial activities. In addition, contaminated soil and/or groundwater could be classified as a hazardous waste once removed from the ground, if it meets any of the regulatory criteria for hazardous waste. Currently, due to the limited level of activity at the OARB, the amount of hazardous waste present is expected to be minimal. Hazardous wastes currently present at the OARB are likely to include waste oil, and other maintenance-related chemicals and wastes. In addition, due to the age of the OARB, asbestos-containing materials (ACM) and LBP may be present. ACM and

LBP issues are discussed in the section entitled "regulated building materials." It is anticipated that some amount of volume of hazardous soil requiring off-site removal and/or on-site management will be regulated hazardous waste and must be managed as such.

OARB Sub-District, Contaminated Soil and Groundwater

In most instances, contamination of soil and groundwater at the OARB is limited because Army operations involved mostly warehousing and shipping of cargo overseas as opposed to manufacturing activities. Identified chemical impacts derive mostly from the use of petroleum products for activities that supported the OARB's primary military mission as a distribution center. Other support activities that may have resulted in chemical releases included maintaining and fueling railroad locomotive engines and trucks that transported cargo, draining fluids from vehicles for overseas shipment, and repairing and servicing vehicles, equipment, and base facilities (IT 2001a)[2].

The most significant subsurface contamination found at the OARB is evidently due to operation of the oil reclaiming plant (ORP) that was active in the 1920s and 1930s. The ORP was demolished prior to Army occupancy. (IT 2000d.) The ORP was situated below and adjacent to the current Building No. 1 site. Oily residue from the ORP was deposited in an area near where Building 1 now stands. See further discussion below under RAP Site 1 for Building No. 1. Additionally, there appears to be a landfill area and VOC-impacted area on the Gateway Park site, which is to be transferred to the EBRPD as well as possible contaminated marine sediments near the sanitary sewer outfalls. Currently, these areas are not part of the OARB RAP/RMP, since the Army may retain liability.

The draft RAP/RMP prepared by the OBRA identifies known or possible chemical release areas (*i.e.*, hazardous substances, and petroleum hydrocarbons and related constituents). As noted above, the identified areas on the OARB are divided into RAP Sites and the RMP Implementation Area. Both RAP Sites and the RMP Implementation Area are discussed below. The RAP Site discussion examines the issues surrounding each of the seven RAP sites. The RMP Implementation Area discussion examines the use history, and nature and extent of contamination for each of the eight types or groups of RMP locations.

[2] Contamination issues at the OARB discussed herein were identified primarily from the Basewide Environmental Baseline Survey for Oakland Army Base (EBS), by Foster Wheeler Environmental Corp., September 1996, the Preliminary Assessment/Site Inspection (PA/SI) by Kleinfelder, Inc., February 1998, remedial investigations, studies and activities undertaken by the Army, and various other investigations undertaken by other entities. See Appendix 4.7 for a summary of these documents. In those documents, the Army divided the OARB into 26 areas, which were referred to as BRAC parcels. The Army also organized the BRAC parcels by seven operable units (OUs) for purposes of consolidating investigative and remedial actions at the base. OU 6 was reserved for future use and no BRAC parcels were ever placed there. However, BRAC parcels and OUs have no current significance as the corresponding property boundaries or subdivisions were not surveyed or recorded. Therefore, contaminated sites at the OARB are referenced herein by the designations assigned on Army maps and facility records to the tank, structure, or building that was involved with a given release. In addition to the surveys, studies and reports listed above, the Army and EKI plan to perform a Phase II investigation.

Remedial Action Plan Sites. The following discussion identifies the seven OARB RAP sites, and describes conditions at each site.

RAP Site 1: Former ORP/Building No. 1 Area. The former ORP consisted of a building and several aboveground tanks. Review of historical aerial photographs taken in 1931 and 1939 show the ground to be stained around the building and tanks. IT (2001e) has postulated that dumping of oily residue from waste oil recovery operations caused the staining observed in the historical photographs. The oily residue was apparently covered by fill imported by the Army to construct Building No. 1 in 1941.

A portion of the oily residue is a pliable, acidic semi-solid that demonstrates some mobility in the subsurface. In 1994, the asphalt parking lot between Wings 1 and 2 of Building No. 1 buckled due to oily residue that flowed to the surface. The Army removed the material and repaired the parking lot. Four years later, in 1998, the Army excavated this same area in an effort to eliminate the oily residue. The oily residue could not be completely excavated because it extended under Wing 2 of Building No. 1.

In 2000, a video camera inspection of a sanitary sewer line that runs through the parking lot found oily residue had infiltrated the sewer line through joints in the pipe. Also in 2000, oily residue was observed to have migrated to the surface beneath the crawl space of Wing 1 of Building No. 1, approximately 120 feet to the southwest where the oily residue was first noted in the parking lot in 1994. The oily residue seemed to have exuded through a small gap between a wooden piling that supports the building and an edge of the concrete slab that exists below the building to discourage habitation by burrowing rodents and other vermin. The oily residue was removed. Army representatives have indicated that the oily residue has again been observed beneath the crawl space of Building No. 1 in March 2002. IT (2001e) described the physical appearance of oily residue found beneath the crawl space of Building No. 1 as the following:

> *The substance had a black skin that was stiff and slightly resilient, appearing to be an oxidized layer over a softer interior. When the outer layer was penetrated, a clear watery liquid welled up in the hole and bubbled and squirted out if under sufficient pressure. The clear liquid reacted with the concrete slab, producing a faint hissing and bubbling. A test with pH paper indicated a very strong acid (pH near zero). Faint traces of sulfurous and nitrous gases were noted.*

Laboratory analysis (IT 2000d) of the oily residue has confirmed its acidic nature. Lead has been measured at a concentration as high as 11,800 mg/kg in the oily residue. The material also contains polycyclic aromatic hydrocarbons (PAHs), PCBs, polychlorinated dibenzodioxins (PCDDs), and polychlorinated dibenzofurans (PCDFs) at concentrations of concern. The oily residue does not appear to be contaminated with VOCs, although one sample of fill that overlies the oily residue contained 5.4 µg/kg of 1,2,3-trichloropropane (TCP).

IT (2001e) describes the oily residue that has migrated to the surface as a "tar-like substance" or "soft, pliable, non-viscous black solid." However, the most common form of the oily residue observed in soil samples collected from borings and trenches is a material that is characterized as a "dark to light brown fluid with the consistency and look of motor oil." The thickness of oily residue in the subsurface varies from less than 0.5 feet to at least 3 feet. The full depth of oily residue has not been determined at all locations. In the draft feasibility study that considered the former ORP/Building No. 1 area, IT (2001e) estimated the in-situ volume of oily residue to be approximately 6,000 cubic yards (cy) that exists primarily between 3.5 to 5.5 feet bgs. IT also estimated the in-situ volume of TCP-impacted fill overlying the oily residue to be roughly 2,000 cy distributed from ground surface to a depth of 3.5 feet bgs over an approximate 13,700 square foot (sf) area. The volume estimates by IT are uncertain and the actual quantities of oily residue and any TCP-impacted soil that must be addressed by remedial actions may be greater or less than estimates by IT.

RAP Site 2: VOCs in Groundwater at the Eastern End of Building No. 807. VOCs in the shallow water-bearing zone at the eastern end of Building No. 807 were discovered in 1992 during the drilling of foundation piers for a prefabricated building (Camp Dresser & McKee 1996). Detected VOCs in groundwater in this area consist primarily of vinyl chloride, cis-1,2-dichloroethene (cis-1,2-DCE), trans-1,2-dichloroethene (trans-1,2-DCE), trichloroethene (TCE), and 1,1,2,2-tetrachloroethane. The VOCs are believed to be have been released as a result of the Army's past practice of allowing drums of solvent, paint, or other chemicals that were damaged during shipping to drain along the railroad tracks in this area of the Knight Railyard. The Army's Preliminary Assessment/Site Inspection (PA/SI) attributes the following statement to an environmental assessment of the OARB conducted by the United States Army Toxic and Hazardous Materials Agency (USATHMA) in 1988:

> *In the past, damaged containers were placed adjacent to the tracks at the Knight Railyard. The containers were allowed to drain on the railroad ballast rock in this area, and any material which did not drain eventually was placed inside other containers for transport and disposal at authorized disposal sites. OARB changed this procedure after it was identified to management personnel as a potential problem. The installation then provided lined drums throughout the warehouses to receive any leaking or damaged containers.*

(Kleinfelder 1998.) The location where VOC-impacted groundwater was encountered at the eastern end of Building No. 807 is, however, approximately 200 feet northeast of the area identified by USATHMA in its 1988 assessment as the location where the Army reportedly drained damaged containers.

Maximum VOC concentrations detected in shallow groundwater at the eastern end of Building No. 807 are vinyl chloride at 442 µg/L, cis-1,2-DCE at 2,020 µg/L, trans-1,2-DCE at 300 µg/L, TCE at 363 µg/L, and 1,1,2,2-tetrachloroethane at 200 µg/L in water samples collected from monitoring well ICFMW202. Nine monitoring wells in the shallow water-bearing zone define the

lateral extent of VOC-impacted groundwater. Review of water level and analytical data for these wells indicates that VOCs are not migrating. The limited extent of VOC migration in groundwater may reflect the fact that the hydraulic gradient in the shallow water-bearing zone is essentially flat (IT 2000b). Investigations by the Army do not indicate that a significant chemical source remains in soil at this area.

RAP Site 3: VOCs in Groundwater Near Buildings Nos. 808 and 823. Vinyl chloride and lesser concentrations of other VOCs are present in shallow groundwater in an area north of Building No. 808 and south of Building No. 823. No significant soil contamination has been identified and the source of the VOCs is not known. Possible sources include Building No. 823, and storm drains and sanitary sewers that run through the area. Building No. 823, and storm drains and sanitary sewers are identified as potential chemical release sites and are discussed below as RMP Implementation Area Group 6 and 7, respectively.

Maximum VOC concentrations detected in shallow groundwater near Buildings Nos. 808 and 823 are vinyl chloride at 267 µg/L, cis-1,2 DCE at 13 µg/L, trans-1,2 DCE at 3.6 µg/L, TCE at 4.1 µg/L, and 1,1-dichloroethene ("1,1-DCE") at 2 µg/L. These VOCs in shallow groundwater are not migrating. Except for the southern edge of VOC-impacted groundwater in this area, the lateral extent of contamination in the shallow water-bearing zone has been delineated. OBRA will define the southern edge of VOC-impacted groundwater in this area as part of its planned Phase II investigation.

RAP Site 4: VOCs in Groundwater Near Building No. 99. An area of the shallow water-bearing zone near Building No. 99 is impacted with VOCs. The predominant VOCs detected in groundwater are vinyl chloride and cis-1,2-DCE. No significant soil contamination has been identified and the source of the VOCs is not known. Possible sources include Building No. 99 and storm drains and sanitary sewers, discussed below as RMP Implementation Area Group 6 and 7, respectively.

Vinyl chloride and cis-1,2-DCE have been detected at maximum concentrations of 29 µg/L and 41 µg/L, respectively. The impact of vinyl chloride to shallow groundwater in this area has been fully delineated. The lateral extent of cis-1,2-DCE has been defined except for a portion of the east edge of the area containing cis-1,2-DCE in groundwater. Further delineation of impacts to shallow groundwater near Building No. 99 will be part of the Phase II investigation.

RAP Site 5: Benzene and MTBE in Groundwater near Former USTs 11A/12A/13A. Building No. 828 was a former Army vehicle service station. Three 5,000-gallon gasoline USTs, designated USTs 11/12/13, were installed west of Building No. 828 in 1969. These tanks were replaced with three 6,000-gallon gasoline USTs, designated 11A/12A/13A, in 1990. The Army removed tanks 11A/12A/13A in 1999. Following the tank removals, significant concentrations of petroleum hydrocarbons, and benzene, toluene, ethylbenzene, and xylenes (BTEX) remain in soil and shallow groundwater near the location of the former tanks. Methyl tertiary butyl ether (MTBE), which is a fuel oxygenate, is also detected in the shallow water-bearing zone near

Building No. 828. Results from recent monitoring well sampling (IT 2002c) show MTBE concentrations as high as 10,000 µg/L have been detected in groundwater. Recent maximum concentrations of other fuel constituents include TPH measured as gasoline at 26,400 µg/L, benzene at 1,880 µg/L; toluene at 3,910 µg/L, and xylenes at 3,510 µg/L.

RAP Site 6: Building No. 991 Area. In 1942, the Army constructed Building No. 991 in the northeastern corner of the OARB. The building was used from 1942 to 1997 to repair, clean, and fuel bcomotive engines (IT 1999). Extensive chemical use and handling has occurred at this area. As a result, petroleum hydrocarbons and lesser concentrations of other contaminants of concern have impacted soil and groundwater in the vicinity of Building No. 991, including wetlands outside of the redevelopment project area.

Within the locomotive engine maintenance shop is a lubrication pit and sump. The sump drained to a gravel-filled trench adjacent to the west wall of Building No. 991 and through an oil/water separator (IT 1999). According to the PA/SI, the oil/water separator discharged to an undersized septic tank that caused the associated leach field to clog. A sample of sediment collected from the inside of the drain line from the septic tank contained 7,300 mg/kg of petroleum hydrocarbons measured as motor oil, 190 µg/kg of PCBs, and various metals (IT 1999).

A 10,000-gallon AST located outside of Building No. 991 supplied diesel fuel to a dispenser inside the building. In May 1997, an estimated 780 gallons of diesel fuel spilled while a tanker truck was supplying the AST (IT 1999). Over 430 tons of impacted soil was excavated, but contaminated soil was not removed near a railroad trestle because of the potential for weakening its structural integrity.

Chemical releases may have occurred near Facility 992, which was formerly located west of Building No. 991. Waste oil and naphtha solvent were stored in this facility. IT (1999) reports that naphtha solvent was used to clean engine parts.

From 1984 to 1995, engines were reportedly washed with water and water-based detergent on the railroad tracks in front of Building No. 991. Until the late 1970s, engines had been washed on a concrete slab southeast of Building No. 991. A sump, connected to the slab, discharged wash water to the off-site wetlands situated between the railroad tracks. Besides cleaning engines, pesticide application equipment was occasionally rinsed on the slab (IT 2002b).

RAP Site 7: Building No. 99. Building No. 99 was constructed in 1918 and used by Union Construction Company for ship manufacturing until the mid 1930s (IT 2000d, 2000f). From the mid 1930s until the Army's acquisition of the property in 1941, Pacific Coast Engineering Company conducted metalworking operations in Building No. 99 that were related to production of structural iron and piping. During that time, the northern portion of the building contained a furnace, and blacksmith and machine shops. The middle portion of the building was used for plate rolling and the southern portion of the building contained a plate shop. Metal plates were marked, cut, shaped, and fastened inside the building (IT 2000d).

In 1941, the Army apparently converted Building No. 99 to a vehicle and electrical maintenance shop and installed a metal shop and paint room in the building (IT 2000d). A report by the Army Industrial Hygiene Laboratory, dated December 1944, indicates that Building No. 99 also contained a jitney repair shop; truck repair shop for welding and "metallizing" (*i.e.*, spraying metal); and a shop where hot copper pipe was pickled in a 10 percent by weight sulphuric acid solution, and where metal brazing, silver soldering, and "lead burning" were carried out. According to this Army report, sand blasting was performed outside the building and dust produced by the operation was allowed to blow about without any attempt to control it. The exact location of the sand blasting area is unknown.

The Army has advanced four borings beneath Building No. 99 that are identified as ICF10S10, ICF10S11, ICF10S12, and ICF10S13. Soil samples collected from these borings were analyzed for VOCs, PAHs, TPH, and metals. Analytical results of these samples do not suggest significant releases have occurred from the building. Minor concentrations of VOCs, PAHs, and TPH were measured in soil samples collected from borings ICF10S10, ICF10S11, ICF10S12, and ICF10S13. No metals were detected in soil samples collected from the borings at concentrations greater than naturally occurring levels reported for common soil types in Oakland.

Groundwater in the Building No. 99 area has been extensively investigated, and VOC and petroleum hydrocarbon impacts to the shallow water-bearing zone are generally well characterized, as discussed above under RAP Site 4. Additional groundwater contamination attributable to Building No. 99 is not anticipated. Given the use history of this building, the OBRA and the Army will conduct sampling as part of Phase II investigations to confirm the findings of available data that show no significant chemical releases in soil are associated with Building No. 99.

Other known or potential chemical release sites near Building No. 99 include groundwater impacted by vinyl chloride and cis-1,2-DCE, discussed above under RAP Site 4, boiler debris, Building No. 85 and storm drains and sanitary sewers, discussed below as RMP Implementation Area Groups 6 and 7. USTs B, C, and Q; a paint shop and paint storage shed; and a vehicle washrack (*i.e.*, Facility 98) with an associated oil/water separator were also formerly located by Building No. 99. These former sites are within the RMP Implementation Area, discussed below.

Risk Management Plan Implementation Area. The following discussion identifies the eight OARB implementation areas, and describes conditions for each.

RMP Implementation Area Group 1: Washracks, Sumps, Oil/Water Separators, and Miscellaneous Sites. A total of 85 washracks, sumps, oil/water separators, and miscellaneous items, such as incinerators, chlorinators and Building No. 590, have been identified at 55 sites on the OARB. The lower number of actual sites is due to the fact that many of the structures are often connected to one another. For example, a washrack is often connected to a sump or oil/water separator. This Group is further divided into four subgroups: (1) sites requiring the

removal of an existing subsurface structure, such as petroleum pipelines, prior to redevelopment; (2) sites requiring additional characterization prior to redevelopment; (3) sites where residual, impacted soil will be removed when encountered during infrastructure installation or redevelopment; and (4) sites with no currently identified environmental issues but which will be inspected for undiscovered contamination in accordance with the soil management protocols in the RMP for the OARB. Petroleum hydrocarbons and metals in soil are the known or suspected contaminants of concern at most of these sites.

RMP Implementation Area Group 2: Tanks. A total of 77 USTs and ASTs have been identified at 44 sites on the OARB. Similar to washracks, sumps, oil/water separators, and miscellaneous items, the lower number of actual sites is due to the fact that certain tanks were clustered together. The tank sites are further divided into three subgroups: (1) tank sites that potentially require the removal of an existing tank prior to redevelopment; (2) former tank sites where residual, impacted soil will be excavated and disposed when encountered during infrastructure installation or redevelopment; and (3) former tank sites with no currently identified environmental issues but which will be inspected for undiscovered contamination in accordance with the soil management protocols in the RMP for the OARB.

Petroleum fuels and related constituents in soil are the known or suspected contaminants of concern at the majority of these sites. Most former tank sites have been closed by RWQCB. The natural attenuation of petroleum hydrocarbons in shallow groundwater is being monitored at 7 sites under RWQCB supervision. On behalf of the OBRA, Innovative Technical Solutions, Inc. (ITSI) evaluated the potential quantities of contaminated soil that may still remain at the former tank sites. ITSI (2001) estimates that the total volume of petroleum hydrocarbon-containing soil at all tank sites may be on the order of 4,000 cy. These petroleum residuals will be addressed by the soil management protocols in the RMP.

RMP Implementation Area Group 3: Historical Spills and Stains. Review of Army documents and historical aerial photographs indicate that numerous spills and stains have been observed over the years at the OARB. Possible chemical releases range from stained pavement caused by minor leakage from parked vehicles to spills of hazardous substances. Historical spills and stains are considered to be a basewide RMP issue. Soil excavated during new construction will be inspected for contamination. Protocols for inspecting and managing contaminated soil during and after redevelopment are specified in the RMP.

RMP Implementation Area Group 4: Lead in Soil Around Buildings. Federal statute defines paint to be lead-based if it contains lead at concentrations greater than 1.0 mg/cm^2 or 5,000 mg/kg. However, paint manufactured before 1978 may still contain significant amounts of lead even if does not meet the federal definition of LBP (United States Department of Housing and Urban Development 1995). The EBS identified the buildings that may contain LBP based upon the age of construction. ACE (1999) conducted a LBP investigation of buildings at the OARB. Other structures likely contain LBP given their age of construction listed in the EBS but were not

included in the LBP investigation by ACE (EBS 1996). Requirements for managing shallow soil containing LBP or potentially containing LBP at the OARB will be incorporated in the RMP.

RMP Implementation Area Group 5: Former PCB-Containing Equipment Sites. The PA/SI and EarthTech utility survey include inventories of PCB-containing equipment at the OARB. These inventories list approximately 100 pieces of electrical equipment that may be contaminated with PCBs. Requirements for managing PCB-containing equipment at the OARB will be incorporated in the RMP.

RMP Implementation Area Group 6: Former Industrial and Chemical Handling Sites. Seven locations have been identified at the OARB where former industrial activities or chemical handling took place, for which little or no subsurface environmental data are currently available. Although no significant contamination is known to exist at these locations, historical operations suggest the potential for chemical releases. Further investigation will be performed to characterize environmental conditions at the below sites. The intent of such further investigation is to confirm that these sites have little or no environmental impairment, and can be appropriately addressed through implementation of the RMP. A location will be reclassified as a higher priority RAP Site if investigative findings indicate a chemical release has occurred that may serve as an ongoing source of contamination or has affected groundwater. Data pertaining to many of the below locations will be obtained as part of the Phase II investigations to be performed by the OBRA and the Army.

Boiler Debris Near Building No. 99. The Army encountered debris while removing buried waste oil piping in Corregidor Street west of Building No. 99. The debris consisted of ACM and lesser amounts of charred wood, possible slag, burned coke material, and refractory brick, which the Army believes originated from a boiler (IT 2002a). Approximately 15 tons of soil mixed with the so-called “boiler debris” was excavated by the Army during removal of the waste oil piping and disposed as a non-RCRA hazardous waste. The lateral extent of debris in soil near Building No. 99 has not been delineated (IT 2002a) and no chemical analyses of the debris remaining in soil have been done to confirm that the debris does not contain contaminants of concern that pose a risk to human health and the environment. Thus, this area has been identified for early investigation.

Building No. 85. A 1943 map of the OARB designates Building No. 85 as the area engineer’s office. The building appears to have been used chiefly to carry out administrative functions. However, review of floor plans, dated 25 April 1960, show Building No. 85 was equipped with a photograph-processing laboratory. IT (2000d) states that Building No. 85 was also historically used as a printing plant, but no basis for this statement was provided. IT may be referring to the photograph-processing laboratory when it concludes that the building was a printing plant. The OBRA and Army will investigate soil and groundwater conditions at Building No. 85 during the planned Phase II investigations to confirm that no significant releases associated with printing inks or solvents have occurred.

Building No. 812. The Army constructed Building No. 812 in 1944. The Army describes the use of this building as an "ordnance" maintenance shop until 1950, which included a welding booth, machine shop, and two repair and grease areas. The term "ordnance," as applied by the Army to the OARB and certain other embarkation installations in the San Francisco Bay Area, did not mean ammunition or explosives, but instead referred to vehicles and other mechanized equipment shipped from the installations (Hamilton and Bolce 1946). The notion that the term "ordnance" pertains to vehicles is consistent with the use history of Building No. 812.

Review of Army historical equipment records reveals the building contained various metal working equipment, including drill presses, metal cutting machinery, lathes, a milling machine, and a shaper. By 1969, Building No. 812 had been transformed to include a tune-up and lube area, tire shop, battery shop, parts room, office machine repair shop, sheet metal shop, mechanical and welding maintenance shop, and a large centralized crane area through the center of the building. Metal cold cleaning apparently occurred within Building No. 812 (IT 2000d). Drums containing new and used petroleum products were stored outside on pallets with no secondary containment (Kleinfelder 1998b). Used oil tank 8A was formerly located at the southwest corner of Building No. 812.

No significant contamination has been identified near Building No. 812 based upon the results of soil gas sampling conducted during the PA/SI, and soil and groundwater testing related to the removal of used oil tank 8A. Soil gas samples contained low concentrations of VOCs. Soil from the excavation pit of used oil tank 8A contained a maximum petroleum hydrocarbon concentration of 250 mg/kg. Residual petroleum hydrocarbons of 450,000 µg/L were measured in water present in the pit at the time of excavation, but no petroleum hydrocarbons or related constituents were detected in groundwater samples collected from borings placed in the shallow water-bearing zone outside of the boundaries of the pit.

Despite the fact that no residual sources of contamination to soil or groundwater at Building No. 812 have been found, the site is identified for investigation because of its industrial use history.

Building No. 823. Building No. 823 first appears on a 1943 map of the OARB. Army historical documents show that Building No. 823 contained a paint room and paint booth in the southeast corner of the building, a finishing room, and a carpenter shop. A report by the Army Industrial Hygiene Laboratory, dated December 1944, indicates Army personnel stripped paint with chemicals that included chlorinated solvents. IT (2000d) states that Building No. 823 was also used as a heavy equipment maintenance facility, but the locations and types of equipment and chemicals that were involved with this operation are unknown. Identified chemical release sites near Building No. 823 include former UST A and the VOC-impacted groundwater near Building Nos. 808 and 823, discussed above under RAP Site 3.

Besides petroleum hydrocarbons and related constituents associated with UST A, no residual chemical sources in soil have been identified at Building No. 823. Although the available data do not suggest that significant chemical releases have occurred at the building, the OBRA and the

Army will conduct additional testing as part of the planned Phase II investigations to confirm this finding given the use history of the building.

Potential Drum Drainage Area East of Building Nos. 805 and 806. USATHMA (1988) identified the area adjacent to the Knight Railyard that is east of Building Nos. 805 and 806 as the specific location where Army personnel reportedly allowed damaged drums of chemicals to drain onto railroad track ballast in the past. To date, no testing has focused on determining if the potential drum drainage area east of Building Nos. 805 and 806 has been impacted by chemical releases. The OBRA and the Army intend to test this area as part of the Phase II investigations.

Former Motor Pool and Salvage Operations at Building No. 640. World War II era maps of the OARB show a motor pool and salvage area existed in the area where Building No. 640 currently stands. The motor pool and salvage area included a gasoline station, a motor repair shop, several grease racks and washracks, vehicle storage sheds, and several salvage warehouses. Review of Army historical records indicate these facilities were demolished and Building No. 640 was constructed by 1945. No soil or groundwater samples have been collected near or within the former motor pool and salvage area. This site will be as part of the planned Phase II investigations by OBRA and the Army.

Benzidine at Former Used Oil Tank 21. Former used oil tank 21 was part of Facility 16, which was constructed in 1986 for preparing privately owned vehicles for overseas transport (IT 2000d). Facility 16 also included a washrack and an oil/water separator. Used oil tank 21 was a UST situated partially beneath the washrack that stored oil drained from vehicles before transport. Used oil tank 21, washrack, and oil/water separator were removed in December 1997. Contaminated soil beneath the UST contained petroleum hydrocarbons, lead, and PAHs, which are contaminants of concern typically associated with used oil releases. Excavation of contaminated soil discovered in the area was completed by March 1997 (Remedial Constructors, Inc. 1997).

Benzidine was reportedly measured at 48,000 µg/kg prior to excavating contaminated soil. Benzidine is not typically found in used oil and its detection at this former tank site is unique at the OARB. The United States Department of Health and Human Services, Agency for Toxic Substances and Disease Registry (ATSDR); (1995) states that benzidine was used primarily to produce dyes for cloth, paper, and leather. Benzidine has not been manufactured for sale in the United States since the mid 1970s. Major dye companies in this country no longer make dyes that have benzidine as an ingredient given concerns about the potential carcinogenic effects of the chemical.

Testing by the Army after completing excavation activities at former used oil tank 21 did not detect benzidine in soil or groundwater, but analytical method reporting limits of collected samples were higher than concentrations at which benzidine is considered to be a potential human health risk. Thus, the former used oil tank 21 area is identified for early investigation and

possible further remediation because available data are insufficient to conclude that benzidine is not still present in soil and groundwater at concentrations of concern.

RMP Implementation Area Group 7: Storm Drains and Sanitary Sewers. ICF Kaiser Engineers, Inc. (1999) reports that the storm drain system at the OARB consists of 107,484 linear feet (lf) of pipe. The storm drains convey water to San Francisco Bay through 13 outfalls. Most water discharged from the outfalls appears to originate from the OARB with one notable exception. Outfall 8b receives large flows from the City of Oakland through a 36-inch diameter storm drain that enters the base from West Grand Street and through a 42-inch diameter storm drain from the nearby EBMUD wastewater treatment plant (EarthTech 2000).

The sanitary sewer system consists of approximately 25,000 lf of pipe (ICF Kaiser Engineers, Inc. 1999). Four pump or lift stations located throughout the base convey sewage to the EBMUD wastewater treatment plant. The flat topography of the OARB prevents sewage from flowing by gravity to the EBMUD plant (EarthTech 2000.)

Several studies (EarthTech 2000; ICF Kaiser Engineers, Inc. 1999; Radian 1997a, 1997b) indicate that both the storm drain and sanitary sewer systems are in poor condition. Video camera inspections have been performed of portions of the storm drain and sanitary sewer systems that lie north of 14th Street. These prior inspections reveal that approximately 45 percent of the storm drain pipe and 60 percent of the sanitary sewer pipe that have been examined have defects. Defects are defined as pipe with sags; plant root intrusion; sections that have cracked, developed holes, or collapsed; or joints that have separated or become misaligned. Moreover, EarthTech (2000) notes that the exceptionally flat grades of the storm drain and sanitary sewer systems allow sediments to accumulate and block the insides of pipes.

Sediment that builds up in the catch basins or inlets to the storm drains is periodically removed (ICF Kaiser Engineers, Inc. 1999). Testing of this sediment reveals that it often contains petroleum hydrocarbons, lead, and other metals that are reflective of road grime, which likely washes into the catch basins. PCBs and pesticides have occasionally been detected in the sediment. Contaminated sediment from the OARB has likely been discharged to San Francisco Bay in the past. It is unknown if such discharge is ongoing because improvements in storm water management practices (*e.g.*, periodic removal of sediments from catch basins, better chemical handling, and reductions in the frequencies of chemical spills) have likely decreased the contaminant quantities that are transported through the storm drains.

The past presence of contaminants in storm drains and sanitary sewer systems combined with breaches in the pipes of these systems may have allowed contaminants of concern to leak into soil and groundwater that surround the pipes. However, based on its investigative findings, ICF Kaiser Engineers, Inc. (1999) concluded that only localized contamination in soil and groundwater exists near storm drains and sanitary sewers.

EarthTech evaluated the storm drain and sanitary sewer systems to determine their compatibility with planned redevelopment of the OARB. EarthTech (2000) finds that both

systems will have to be almost completely replaced because they are in poor condition and undersized. Chapter 3: Description, states that the storm drain and sanitary sewer systems of the OARB will be repaired and/or replaced. Therefore, it is anticipated that the localized soil and groundwater contamination associated with existing storm drains and sanitary sewers, as described in Army reports, can be adequately addressed as part of infrastructure replacement in accordance with the RMP.

However, further investigation is appropriate to determine if significant quantities of contaminated sediment are still being discharged through outfalls to San Francisco Bay. In its guidance for managing contaminated sediment risks, U.S. EPA (2002) states that continuing sources of significant sediment contamination should be controlled as early as possible. The existing storm drains and sanitary sewers are identified as a basewide issue for investigation so the need, if any, for interim remedial actions can be assessed. Environmental conditions associated with marine sediments situated next to base outfalls will be addressed separately and will not be considered in the RAP/RMP.

RMP Implementation Area Group 8: Railroad Tracks. Approximately 26 miles of railroad track remain at the OARB. In addition, former railroad track ballast is covered with imported gravel in the former Baldwin Railyard. According to U.S. EPA (2001a 1997a), typical contamination in old railyards such as those that exist at the base include:

- Petroleum hydrocarbons from spillage during fueling operation and repetitive minor leakage from engines and rail cars.
- PCBs from the hydraulic systems of locomotive engines and electrical equipment.
- Metal dust from brake shoes and other friction sources.

In addition, surface soil may become contaminated with creosote, pentachlorophenol (PCP) or chromated copper arsenate (CCA) that originate from preservatives that are often applied to railroad ties (Felton and DeGroot 1996; U.S. EPA 1993). Herbicides sprayed near tracks for weed control are also of potential concern.

No surface or shallow soil samples have been analyzed to assess the potential contamination near railroad tracks at the OARB (*i.e.*, within the sub-ballast or interface between ballast and underlying fill). Given the large total mileage of track present at the base, early sampling is warranted to determine if contaminants of concern in surface soil are widespread along the tracks. The OBRA intends to conduct such preliminary sampling during its planned Phase II investigation.

OARB Sub-District, Regulated Building Materials

Regulated building materials present at the OARB include LBP, Asbestos, PBCs and ASTs/USTs. With respect to LPB, some buildings at the OARB have tested positive for LBP and others are assumed to have LBP due to their age. (EBS 1996; ACE 1999.) Additionally, shallow

soils around these buildings may be impacted by lead. See discussion above under RMP Sites Group 4, for further information. With respect to asbestos, prior surveys indicate that asbestos and asbestos-containing materials (ACM) exist within buildings, structures and utilities at the OARB. (EBS 1996; ACE 1999.) As for PBCs, this chemical may be present in older transformers, capacitors, and light ballasts. PCB transformers, PCB-contaminated transformers, and other oil-filled equipment are considered to be a hazardous waste once taken out of service. See discussion above regarding RMP Implementation Area Group 5. Finally, with respect to ASTs and USTs, such tanks are known to be present at the OARB. Many have already been closed and/or removed. However, some ASTs and USTs remain, and there may be some residual soil contamination that remains. See discussion above regarding RMP Implementation Area Group 2.

Maritime Sub-District, Hazardous Materials

Hazardous materials in the maritime sub-district are also associated with the commercial and industrial activities occurring there. In addition to the common maintenance and fabrication activities that use relatively small quantities of hazardous materials, hazardous materials may also be brought in as cargoes by ship, truck, or rail. Because the hazardous materials cargoes are only transiting the maritime sub-district, there are no specific records regarding the types and quantities of hazardous materials that may be present in the area at any given time. As noted earlier, hazardous materials transportation is extensively regulated under federal law.

The environmental database search (EDR 2002) indicated that there is one RCRA generator in the Maritime sub-district. In addition, the EDR report identified four active USTs, which are likely to contain petroleum products or other hazardous materials. As discussed earlier, the database search only covered a portion of the Maritime sub-district; however, the findings are likely to be representative of the types of concerns identified in the sub-district. RCRA large quantity generators generate more than 1000 kilograms/month (kg/month) of hazardous wastes; small quantity generators generate 100 to 1000 kg/month. RCRA generators typically also store hazardous materials (*i.e.*, the materials used in the processes that ultimately generate hazardous wastes). An additional three active UST and three RCRA small quantity generator sites were shown on the "orphan" sites list for the Maritime sub-district.

Maritime Sub-District, Hazardous Waste

The types of hazardous waste present at the maritime sub-district are expected to be similar to those encountered at the OARB sub-district. They are likely to include waste oil, other waste automotive fluids, and other maintenance-related chemicals and wastes. The Schnitzer Steel automotive recycling facility in the maritime sub-district likely generates somewhat larger volumes of hazardous wastes, possibly including asbestos wastes resulting from old brake pads, as a result of its vehicle dismantling operations. In addition, due to the age of many of the structures in the maritime sub-district, ACM and LBP may be present. ACM and LBP issues are also discussed in the section entitled "regulated building materials."

As noted above, the EDR report indicated that there is one RCRA generator in the Maritime sub-district (as well as three "orphan" sites), as well as four active USTs (as well as three "orphan" sites). Some of these USTs may contain hazardous wastes. There are also seven sites on the HazNet database, indicating that hazardous wastes have been generated at these seven locations. An additional 20 "orphan" sites in the Maritime sub-district were listed on the HazNet (18) and/or RCRIS small generator (3) databases, indicating that they generate or dispose of hazardous wastes. One site was on both the HazNet and RCRIS lists, thus generating 21 listings for 20 sites.

Maritime Sub-District, Contaminated Soil and Groundwater

The EDR report identified numerous potential contaminated soil and groundwater concerns in the Maritime sub-district, as would be expected in an area that is currently and has historically been an industrial area. These potential concerns include 10 leaking/historical USTs, five documented spills or accidental releases, and two other sites with contamination. There are 14 sites on the Cortese List in the portion of the Maritime sub-district covered by the database search (these include one site on the CHMIRS database, three sites on the LUST/historical tanks database, three on the active UST list, three on the HazNet database, and one on other contamination databases). An additional 26 "orphan" sites in the Maritime sub-district were listed on the one of the leaking underground storage tank (LUST), Cortese, SLIC, historical tank, and/or CHMIRS databases, indicating that they either had or may have had releases. Three of these sites had multiple database listings. Some specific sites are discussed below.

Berth 24. The former Mobil Oil site located at Berth 24 is under an RWQCB order for investigation and remediation of contaminated soil and groundwater (RWQCB Order 99-063). Elevated levels of petroleum-related compounds were detected in groundwater in this area (ICF Kaiser 1997; RWQCB 1999). Free product has also been found at the site. Detected constituents include BTEX as well as TPH measured as gasoline (TPH-g) and diesel (TPH-d). Elevated levels of TPH-g and BTEX are present on most of Berth 24; elevated levels of TPH-d are confined to a smaller area in the eastern portion of the berth. High levels of methane, resulting from anaerobic biodegradation of the TPH and BTEX compounds, are present in the surficial soils. Investigation of the plume suggests that it is largely limited to Berth 24, although the southern edge of Berth 23 may also be impacted.

Port of Oakland Outer Harbor Area USTs. USTs have been removed from at least six locations in the Port of Oakland Outer Harbor area (Port of Oakland 2001a). Localized groundwater contamination associated with some of these USTs was identified. Typical constituents in groundwater included TPH-g, TPH-d, and BTEX compounds. Where contamination was identified, concentrations were generally relatively low, and confined to the immediate vicinity of the tank.

Former Fleet and Industrial Supply Center, Oakland. Extensive groundwater investigations have been conducted at FISCO. The potential concerns associated with groundwater were

divided into CERCLA-type releases and UST-related releases. A Remedial Action Plan (RAP), specifying the required remaining remedial activities for the CERCLA-type releases, has been completed. The only requirement in the RAP is that a deed restriction be placed on a small portion of the property, prohibiting use of shallow groundwater as a source of drinking water (this deed restriction is consistent with the de-designation of the Oakland Shoreline zone as a source of drinking water as proposed by the SFRWQCB). Less than five percent of the property is covered by the deed restriction.

In addition to the CERCLA-type releases, 10 UST sites at FISCO have not been closed. Additional groundwater characterization has recently been completed, and a closure report for these 10 sites is currently being prepared by the Port of Oakland (Port of Oakland 2001b).

Former Union Pacific Roundhouse Property. Several investigations have been performed at this site (Kleinfelder 1999). A free product plume is present on the groundwater in the north-central portion of the former UP Roundhouse property. The estimated location of the free product corresponds to the location of a large former above-ground fuel storage tank. Investigation at the site has shown the presence of TPH-d in soil and groundwater, localized elevated concentrations of lead and antimony in soil, and very low levels of select aromatics and PAHs in groundwater (Kleinfelder 1999, 2000). Finally, a soil gas investigation showed high levels of methane in soil gas in the area of the free product plume (Kleinfelder 1999).

Schnitzer Steel. Schnitzer Steel is currently operating under an RWQCB cleanup and abatement order that prohibits removing a concrete cap at the site (Corps and Port of Oakland 1998). In accordance with RWQCB requirements, the facility has installed a cut-off wall to prevent migration of contaminated groundwater to the Bay.

Union Pacific (former Southern Pacific) Desert Railyard. The former SPRR (now UP) Desert railyard located between the Ⱡ880 and the OARB (the Desert Yard) is included in the study area. It is the proposed site of the Central Station. No information is available on the Desert railyard.

Maritime Sub-District, Regulated Building Materials

Due to the ages of the buildings in the maritime sub-district, many are likely to contain ACM and LBP. In addition, oil-filled electrical equipment may contain PCBs. All ACM and LBP associated with the former buildings at the former FISCO facility were abated prior to demolition of the buildings. In addition, any PCB/PCB-containing equipment at the former FISCO facility was removed prior to transfer.

16th/Wood Sub-District, Hazardous Materials

The environmental database search (EDR 2002) indicated that there are no RCRA generators or active USTs in the 16th/Wood sub-district. No active UST and or RCRA small quantity generator sites were shown on the "orphan" sites list for the 16th/Wood sub-district.

Nevertheless, hazardous materials may exist in the 16th/Wood sub-district, and they would be associated with the commercial and industrial activities occurring there. In addition to the common maintenance and fabrication activities that use relatively small quantities of hazardous materials, hazardous materials may also be brought in as cargoes by truck or rail (*i.e.*, be brought into and temporarily stored at the Desert Yard). Because these hazardous materials cargoes are only transiting the sub-district, there are no specific records regarding the types and quantities of hazardous materials that may be present in the area at any given time.

16th/Wood Sub-District, Hazardous Waste

As noted above, the EDR report indicated that there are neither RCRA generators nor active USTs in the 16th/Wood sub-district. There are also no sites on the HazNet database in this sub-district. No "orphan" sites in the 16th/Wood sub-district were listed on the HazNet or RCRIS databases. Nevertheless, the types of hazardous waste present at the 16th/Wood sub-district are expected to be similar to those encountered at the OARB and Maritime sub-districts. They are likely to include waste oil, other waste automotive fluids, and other maintenance-related chemicals and wastes. In addition, due to the age of many of the structures in the 16th/Wood sub-district, ACM and LBP may be present.

16th/Wood Sub-District, Contaminated Soil and Groundwater

The EDR report identified numerous potential contaminated soil and groundwater concerns in the 16th/Wood sub-district, as would be expected in an area that is currently and has historically been an industrial area. These potential concerns include one leaking UST, one documented spill or accidental releases, and six other sites with contamination. There are four sites on the Cortese List in the portion of the 16th/Wood sub-district covered by the database (including two sites from other contamination databases). One additional "orphan" site in the 16th/Wood sub-district was listed as being on the CHMIRS (spill) database, indicating that it had or may have had a release.

A large number of sites that pose a potential concern are located in the vicinity of the 16th/Wood sub-district. These sites could result in contamination at the 16th/Wood sub-district if contaminant migration occurs. For example, approximately 10 sites identified by the EDR report are located within one to two blocks of the eastern boundary of the 16th/Wood sub-district.

Former Amtrak Station/14th and Wood Street Area. A remedial site evaluation (RSE) was completed for this property in October 2000 (WEST 2000). The RSE incorporated information from four prior investigations. The area covered by the RSE has had a wide range of historical uses, including a foundry; a train station with associated rail facilities (including maintenance facilities); automobile repair, painting, and dismantling; warehousing and trucking; and other commercial and industrial uses. Several USTs, and a former oil sump are known to have been located on the property.

The RSE showed that the following classes of constituents had been detected at the property: TPH-diesel, BTEX, slightly elevated levels of lead, soluble lead above hazardous waste thresholds, and certain chlorinated organic compounds in soil and/or groundwater. Based on a review of the site data, the RWQCB concluded that, with few exceptions, residual site chemical concentrations are below the relevant RBSLs for commercial/industrial uses. The exceptions are a residue found in a floor drain, certain areas on the property with elevated levels of TPH, the soluble lead, and the chlorinated organic compounds found in soil and groundwater. The TPH and soluble lead would be managed during site development. The floor drain residue would also be removed during site development. The chlorinated hydrocarbons are apparently limited in extent. The RWQCB believes that the chlorinated compounds found may not have originated on-site, and will ask the City of Oakland to conduct an investigation of the source and extent. The RWQCB will also require a soil management plan to address the management of known contaminants during construction.

Former Phoenix Ironworks Property. Several subsurface investigations have been completed at the former Phoenix Ironworks Property (Riedel 1995; IT 2000). These investigations show that elevated levels of lead, including soluble lead, are present in the soil at the site. Elevated levels of lead were generally detected in the soil immediately below the concrete slab. In addition, a dark-stained sand high in heavy petroleum hydrocarbons has been found in certain borings immediately below the concrete slab (IT 2000). Soluble lead levels detected in certain areas are sufficiently high that excavated soil would be classified as a federal and California hazardous waste. Elevated levels of certain metals have also been detected in groundwater, primarily along the eastern and southern perimeter of the property (IT 2000). Very low levels of cVOCs have been detected in soil and groundwater.

16th/Wood Sub-District, Regulated Building Materials

Due to the ages of the buildings in the 16th/Wood sub-district, many are likely to contain ACM and LBP. In addition, oil-filled electrical equipment may contain PCBs.

4.7.5 Impact Analysis Methodology

The impact assessment methodology used focused on the potential health effects and environmental impacts from the release of hazardous materials or wastes during demolition/construction or operation of proposed redevelopment activities. Impacts were evaluated consistent with the level of information available regarding such activities. The evaluation analyzes potential exposure to workers based on construction procedures in areas where hazardous materials or wastes are known or expected to exist.

Impacts of operation associated with redevelopment, including exposure to existing hazardous materials on site as well as hazardous materials which may be used on site in the future, is consistent with available information, including the Redevelopment Plan and the Reuse Plan. Complete assessment of potential health risks associated with future site uses requires precise

information on the type of use for each specific area. Relatively small changes in the project description (*e.g.*, relocating a building 200 feet, or locating a sensitive use such as a daycare center to a different building) could result in substantial changes in future risk estimates. Future use information has not been precisely developed, and information on potential health risks resulting from redevelopment is based on existing documents that assess general proposed construction practices and development of the project area. No new health risk assessments were performed, and it is assumed that data in the existing assessments is accurate.

Although specific contaminants and concentrations may vary across the redevelopment project area, the types of impacts expected, and therefore, the general response actions and approaches to mitigation would be consistent throughout the redevelopment project area. The impacts are based on an evaluation of the potential exposures and associated risks to human health and the environment during demolition of existing buildings, structures and other improvements, and removal of existing utilities, rail infrastructure, and other land improvements. Impacts associated with installation of utilities and other public improvements, including rail improvements, construction of new facilities, and renovation of existing facilities that contain hazardous materials, are also evaluated. There is no method to estimate precisely the types of hazardous materials that would be used on site after completion of the development, but such uses would be regulated by current laws and regulations.

Significance Criteria

Remediation and redevelopment would have a significant impact on the environment if it would:

- Create a substantial hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a substantial hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within ¼ mile of an existing or proposed school;
- Be located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5, or be another known or suspected contaminated site that would (1) create a significant hazard to the public or the environment, (2) exceed the acceptable excess cancer risk range of 1×10^{-5} for commercial or industrial land uses as set forth in the City of Oakland Urban Land Redevelopment Program Guidance Document (City of Oakland 2000), or (3) exceed the acceptable excess cancer risk range set in the National Contingency Plan (1×10^{-6} to 1×10^{-4}) for other uses.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

4.7.6 Impacts

Benefits

Remediation and redevelopment would result in repair and/or replacement of the contaminated sanitary sewer pipelines at the OARB and further remediation of site contamination as provided for in the OARB RAP/RMP to be approved by DTSC and as otherwise required by regulatory agencies. Remediation of the project area to meet ULR standards throughout the project area would reduce the health risks currently posed by hazardous materials, hazardous wastes and soil and groundwater contamination by removing or capping in combination with other institutional controls. Use of these methods with the proper construction and disposal techniques would reduce the potential for future environmental damage and allow for safe reuse. Additionally, redevelopment activities would include removal of LPB-impacted, ACM-impacted and PBCs-impacted materials in and around buildings to be demolished or renovated. Finally, old ASTs and USTs, as well as any associated soil contamination would be removed. Removal of LBP, ACM, and PBCs from structures and utilities on the property, and removal of ASTs/USTs would eliminate potential hazards associated with these materials. Generally, redevelopment would require remediation of soil and groundwater contamination, which is a benefit.

~ ~ ~

Impacts

Hazardous Materials

Impact 4.7-1: Routine use or accidental release of hazardous materials during remediation, construction and operations could expose people or the environment to these materials.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

Remediation and construction workers and future commercial/industrial tenants and visitors occupying newly constructed or renovated facilities may be exposed to hazardous materials such as small quantities of gasoline, solvents, diesel fuel, oil and grease, hydraulic fluid, ethylene glycol, welding gases, and paint routinely used in construction or industrial/commercial operations. Hazardous materials may enter the study area via cargo on ships, trains or trucks. The type and quantity of hazardous materials that may be used in, stored or transported through the area would vary over time. Improper management of hazardous materials or accidental release could pose a substantial hazard to human health and the environment. However, management of hazardous materials during construction and operations shall comply with applicable laws; therefore, this impact is considered less than significant.

~ ~ ~

Impact 4.7-2: Hazardous or acutely hazardous materials (AHMs) may be handled or emitted within ¼ mile of an existing or proposed school.

Significance: Potentially significant

Mitigation 4.7-1: For use of hazardous materials within ¼ mile of an existing or proposed school, business operators shall prepare Business Plan, update annually, and keep on file with the Oakland Fire Department.

Mitigation 4.7-2: For use of AHMs within ¼ mile of an existing or proposed school, in addition to a Business Plan, business operators shall prepare, implement, and update a Risk Management and Prevention Plan (RMPP) on at least an annual basis.

Residual Significance: Less than significant

Exposure to hazardous materials, emissions, substances, wastes or AHMs and emissions, substances or wastes has the potential to create a substantial hazard to human health. Currently, the Head Start School program and the Oakland Military Institute are located within the OARB sub-district. No other schools are within ¼ mile of the redevelopment project area boundary, and none are known to be proposed to be located within ¼ mile. Based on proposed General Plan land use classifications and zoning, use of hazardous materials or AHMs is possible within the redevelopment project area. A hypothetical accidental spill of a hazardous material could occur during loading or unloading operations, storage, chemical feed operations, or waste collection. Because ultimate land uses and the use of hazardous materials or AHMs within ¼ mile of known school facilities are not definite, the impact is considered potentially significant. With implementation of Mitigation Measures 4.7-1 and 4.7-2, the impact would be minimized, and the residual impact is considered less than significant.

~ ~ ~

Hazardous Waste

Impact 4.7-3: Routine generation and management of hazardous waste or accidental release of hazardous waste during remediation, construction and operation could expose people and the environment to these wastes.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

Remediation and construction workers and future commercial/industrial tenants and visitors occupying newly constructed or renovated facilities may be exposed to hazardous waste such as small quantities of waste used oil, waste automotive fluids, and waste paint routinely

generated during construction or industrial/commercial operations. The quantity of hazardous waste generated and stored within the area would vary over time. Improper management or accidental release of hazardous waste could pose a substantial hazard to human health and the environment. Management of hazardous waste during remediation, construction and operations shall comply with applicable laws and legal requirements, including but not limited to the remediation requirements, and health and safety and other measures, required under the approved RAP/RMP; therefore, the impact is considered less than significant. In addition, Mitigation Measure 4.15-1 requires development and implementation of a site-specific Water Quality Protection Plan, which requires use of Best Management Practices. While Mitigation Measure 4.15-1 is primarily intended to avoid or minimize impacts to surface water, its implementation would also avoid or minimize impacts from potential accidental releases to humans and the broader environment.

~ ~ ~

Contaminated Soil and Groundwater

Impact 4.7-4: Site preparation, remediation and development of areas that contain contaminated soil and groundwater could expose remediation and construction workers, and future utility workers, tenants, and visitors to soil and groundwater contamination conditions.

Significance: Potentially significant

Mitigation 4.7-3: Implement RAP/RMP as approved by DTSC, and if future proposals include uses not identified in the Reuse Plan and incorporated into the RAP/RMP, or if future amendments to the remediation requirements are proposed, obtain DTSC and City approval.

Mitigation 4.7-4: For the project area not covered by the DTSC-approved RAP/RMP, investigate potentially contaminated sites; if contamination is found, assess potential risks to human health and the environment, prepare and implement a clean-up plan for DTSC or RWQCB approval, prepare and implement a Risk Management Plan, and prepare and implement a Site Health and Safety Plan prior to commencing work.

Residual Significance: Less than significant

Since implementation of the RAP/RMP approved by DTSC is proposed as part of the project for the OARB, and the RAP/RMP requires remediation to be fully protective of human health and the environment for the proposed future uses of the OARB, no further mitigation is required for the OARB unless either (1) future use proposals include those that were not identified in the Reuse Plan and incorporated into the RAP/RMP; or (2) future amendments are proposed to the remediation requirements included in the approved RAP/RMP. In either of these two

circumstances, required remediation includes obtaining the DTSC and City approval for proposed changes in full conformance with applicable legal requirements including but not limited to the HSAA and CEQA.

Specific contaminants and concentrations may vary across the redevelopment project area. Nevertheless, the types of impacts expected, and therefore, the general response actions and approaches to mitigation would be consistent throughout the redevelopment project area. With respect to the OARB and as described in greater detail above, the process across the redevelopment project area would mirror the RAP/RMP process that is already underway at the OARB. With respect to the OARB sub-district, pursuant to HSAA Chapter 6.8, the OBRA has proposed a RAP/RMP. The OBRA's remedial goal is to remediate soil and groundwater contamination consistent with the City of Oakland ULR Program 10^{-5} remedy with appropriate land use restrictions. This RAP/RMP must be approved by DTSC, which has the legal discretion to impose remedies falling within the 10^{-4} and 10^{-6} risk range.

For the other sub-districts and areas not included in the DTSC-approved RAP/RMP, prior to beginning redevelopment-related activities, potentially affected areas shall be investigated, potentially including additional studies or site characterization activities, as required by the regulatory agencies (DTSC or RWQCB). Once contaminated areas are identified, potential human health risks from contaminants of concern based upon realistic future land use shall be assessed, health risk-based and environmental risk-based cleanup goals shall be established, and a determination regarding the need for additional site assessment work shall be made.

The potential risks associated with affected areas shall be assessed in accordance with regulatory agency guidance and approvals and may result in remediation requirements. Such cleanup plans shall address each area where soil or groundwater is contaminated above ULR goals could be encountered during redevelopment. The clean up plan, the names of which vary based on the type and source of contamination and the legal framework for the particular oversight agency, shall specify measures to be taken to protect workers and the public from exposure to potential contamination and certify that the proposed remediation measures, including removal, disposal, stabilization and/or institutional controls are protective of human health and the environment and implemented in accordance with federal, state and local requirements. Additionally, a Risk Management Plan may be required by the oversight agency to address site redevelopment activities and operations and provide an enforcement structure to be in place during and post-construction. Finally, a Site Health and Safety Plan shall be prepared in accordance with the OSHA and Cal/OSHA regulations. Off-hauling of contamination shall comply with applicable laws, and construction hours shall be limited as provided for in Mitigation Measure 4.5-1. Additionally, potential odor impact measures, and dust or other nuisance conditions from remediation-related truck traffic is provided for in Mitigation Measure 4.3-13, and safety concerns are addressed in Mitigation Measure 4.9-3.

Implementation of these measures would reduce the impact to less than significant.

~ ~ ~

Impact 4.7-5: Potential exposure to contaminants in soil and groundwater remaining in place after remediation could be a hazard to future residents, employees and visitors.

Significance: Potentially significant

Mitigation 4.7-5: For the project areas not covered by the DTSC-approved RAP/RMP, remediate soil and groundwater contamination consistent with the City of Oakland ULR Program and other applicable laws and regulations.

Mitigation: Measures 4.7-3 and 4.7-4, described above.

Residual Significance: Less than significant

The City of Oakland ULR Program has determined that reducing the target risk level to 1×10^{-5} for commercial or industrial land uses in combination with appropriate institutional controls would reduce the risk to future residents, employees, and visitors to less than significant. Within the OARB area covered by the DTSC-approved RAP/RMP, implementation will result in avoidance of any potentially significant impact to future commercial/industrial/maritime/utility workers, and site visitors. Moreover, the measures required for the areas not covered by the DTSC-approved RAP/RMP, (Measure 4.7-4) would evaluate and control potential human health risks form contaminants of concern in the redevelopment project area and will sufficiently address this potential impact. In addition, Mitigation Measures 4.14-1 and 4.14-2, which prohibit the installation of groundwater wells for any purpose other than construction de-watering and remediation and require that even for construction de-watering and remediation use of those wells be minimized, will reduce the potential for contaminants to migrate to other underlying groundwater aquifers, thus lessening the impact to future residents, employees and visitors to less than significant.

~ ~ ~

Regulated Building Materials

Impact 4.7-6: Workers and others could be exposed to LBP in buildings, ACM or PCBs during demolition, remediation, renovation and site work activities.

Significance: Potentially significant

Mitigation 4.7-6: Buildings and structures constructed prior to 1978 slated for demolition or renovation that have not previously been evaluated for the presence of LBP shall be sampled to determine whether LBP is present in painted surfaces, and the safety precautions and work

practices as specified in government regulations shall be followed during demolition.

Mitigation 4.7-7: Buildings, structures and utilities that have not been surveyed for ACM, shall be surveyed to determine whether ACM is present prior to demolition or renovation, and the safety precautions and work practices as specified in government regulations shall be followed during demolition.

Mitigation 4.7-8: Buildings and structures proposed for demolition or renovation shall be surveyed for PCB-impacted building materials, and the safety precautions and work practices as specified in government regulations shall be followed during demolition.

Residual Significance: Less than significant

The presence of LBP, ACM and PCBs are known or suspected in buildings, structures and utilities in all sub-districts. All structures on the OARB will be demolished as a result of redevelopment, and other structures throughout the redevelopment area may also be demolished. Some buildings, such as the Amtrack Station in the 16th and Wood sub-district will be renovated. Release of LBP, use of which was prohibited in 1978, into the environment as dust or flakes during building demolition or renovation could lead to human exposure through inhalation or ingestion. Demolition or renovation activities could also cause asbestos fibers to be released as ACM is disturbed. Finally, demolition may also expose workers or others to PCB-impacted building materials.

Exposure to LBP, ACM or PCBs during demolition or renovation of buildings, structures and utilities could create a substantial hazard to human health. This is considered a potentially significant impact. With implementation of Mitigation Measures 4.7-6 through 4.7-8, including following safety precautions and work practices as specified in government regulations, this impact would be minimized, and the residual impact is considered less than significant.

~ ~ ~

Impact 4.7-7: Workers or others could be exposed to hazardous materials and contamination in and around ASTs and USTs during remediation and redevelopment activities.

Significance: Potentially significant

Mitigation 4.7-9: For ASTs/USTs on the OARB, implement the RAP/RMP, which incorporates the steps enumerated below.

Mitigation 4.7-10: For the remainder of the redevelopment project area (non-OARB areas), if an AST or UST is encountered, it would be closed in place or removed and the soil would be tested and remediated, if necessary, pursuant to regulatory approvals and oversight.

Residual Significance: Less than significant

Both ASTs and USTs are known to have been present on the OARB and in the redevelopment project area generally. Many have been removed from the OARB and the redevelopment project area, but others may remain. For the OARB, implementation of the RAP/RMP would address the risk of exposure to a tank that is unexpectedly encountered, disturbed or damaged during construction. For the remainder of the redevelopment project area, if an AST or UST is discovered during construction activities, it would be closed in place or removed according to the guidelines of the DTSC, RWQCB and CUPA. Like the RAP/RMP for the OARB, such requirements include removing and properly disposing of any remaining hazardous materials in the tank, having the tank removal supervised by regulatory agencies, testing the soil under the tank for contamination, recycling or disposing of the discarded tank and filing a tank removal closure report. Encountering an AST or UST during construction is considered a potentially significant impact. With implementation of Mitigation Measures 4.7-9 and 4.7-10, including following safety precautions and work practices as specified in government regulations, this impact would be minimized, and the residual impact is considered less than significant.

~ ~ ~

Impact 4.7-8: Workers or others could experience direct contact exposure to LBP-contaminated soil, concrete, and pavement surrounding buildings that have LBP.

Significance: Potentially significant

Mitigation 4.7-11: For LBP-impacted ground on the OARB, implementation of RAP/RMP to be approved by DTSC as part of the project will result in avoidance of this potentially significant impact. For the remainder of the redevelopment project area, sampling shall be performed on soil or paved areas around buildings that are known or suspected to have LBP, and the safety precautions and work practices specified in government regulations shall be followed.

Residual Significance: Less than significant

Soil, concrete, or pavement surrounding buildings that are known or suspected to have LBP may be contaminated as the result of both natural weathering, and of sand blasting and scraping for maintenance purposes. It is expected that, if present, lead particles would be in the uppermost 2 feet of soil, unless there has been historical soil movement at the site. In most

cases, there has been no sampling to evaluate the possible presence of lead in shallow soil near affected buildings. In all sub-districts, there exists potential for exposure to LBP in soils, concrete, or pavement in concentrations that could pose a substantial hazard to human health. With implementation of Mitigation Measures 4.7-11, the impact would be minimized, and the residual impact is considered less than significant.

~ ~ ~

Impact 4.7-9: Workers or others, or the environment could be exposed to lead, asbestos or PCBs through off-site transport of soil and building materials from demolition and construction.

Significance: Less than significant

Lead-contaminated, ACM-contaminated or PCB-contaminated soil and building materials from building demolition and other construction activities will be transported off-site for disposal. Should this waste/debris be handled improperly during transport or disposal, a potential exists for lead exposure to human health or the environment. However, contractors shall comply with all applicable hazardous waste laws at the time of demolition and hauling, which will reduce the impact to less than significant.

~ ~ ~

Impact 4.7-10: During interim or future use of existing buildings, people could be exposed to ACM or other environmental hazards.

Significance: Potentially significant

Mitigation 4.7-12: The condition of identified ACM shall be assessed annually, and prior to reuse of a building known to contain ACM.

Mitigation 4.7-13: No future tenancies shall be authorized at the OARB for use categories that are inconsistent with the Reuse Plan without an updated environmental analysis and DTSC approval as provided for in the RAP/RMP.

Mitigation 4.7-14: For the remainder of the redevelopment project area (non-OARB areas), any building that has not been surveyed for ACM but potentially contains ACM shall be surveyed to determine whether ACM is present prior to demolition, renovation or reuse.

Residual Significance: Less than significant

For the OARB, baseline environmental analyses have been completed to support current interim uses of existing structures, including numerous commercial, trucking, warehouse and

other tenants, the Oakland Military Institute, and transitional housing used for formerly-incarcerated women and their families and for various homeless service providers including an overnight shelter. Other environmental hazards may also be encountered by future interim occupants of existing OARB structures, and completion of a baseline environmental evaluation to identify and abate such hazards prior to occupancy by tenants will mitigate such hazards. Interim occupancy by future tenants who may propose land uses which are inconsistent with the Reuse Plan, and thus may not have been considered in the DTSC-approved RAP/RMP, shall occur only after DTSC approval as provided for in the RAP/RMP in order to assure that such future non-conforming tenants are protected from other environmental hazards. As stated above, for the remainder of the redevelopment project area, any building that has not been surveyed for ACM but potentially contains ACM shall be surveyed to determine whether ACM is present prior to demolition, renovation or reuse.

Inhalation of asbestos fibers from ACM poses a hazard to human health. Exposure of people to damaged, friable ACM (such as pipe, boiler and other utilities insulation, wallboard, and ceiling tiles) could pose a substantial hazard. Should this occur, it would be considered a significant impact. Because presence of ACM in many buildings and the degree of human exposure are not definite, this impact is considered potentially significant. With implementation of Mitigation Measures 4.7-12, 4.7-13 and 4.7-14, the impact would be minimized, and the residual impact is considered less than significant.

~ ~ ~

Impact 4.7-11: Workers could be exposed to polychlorinated biphenyls (PCB) and PCB-contaminated equipment during remediation, construction and future operations.

Significance: Potentially significant

Mitigation 4.7-15: Known PCB transformers or PCB-contaminated transformers at the OARB shall be removed, monitored and/or maintained in accordance with applicable laws and regulations.

Mitigation 4.7-16: Oil-filled electrical equipment in the redevelopment project area that has not been surveyed shall be investigated prior to the equipment being taken out of service to determine whether PCBs are present.

Mitigation 4.7-17: PCB-containing or PCB-contaminated equipment taken out of service shall be handled and disposed in compliance with applicable laws and regulations.

Residual Significance: Less than significant

Oil-filled electrical equipment throughout the redevelopment project area may be contaminated with PCB. In addition to transformers, common electrical equipment filled with dielectric fluids (oil) includes light ballasts, capacitors, and hydraulic fluids (found in elevators and hydraulic lifts). Improper maintenance, storage, or disposal of this equipment could result in a substantial hazard to human health or the environment. Because it is expected that these materials would be maintained, stored, and disposed properly, this impact is considered potentially significant. With implementation of Mitigation Measures 4.7-15 through 4.7-17, the impact would be minimized, and the residual impact is considered less than significant.

~ ~ ~

4.7.7 Mitigation

Implementation of the following mitigation measures will avoid, minimize, reduce, rectify, or compensate for significant impacts of remediation and redevelopment.

Hazardous Materials/Hazardous Wastes

Mitigation 4.7-1: For use of hazardous materials within ¼ mile of an existing or proposed school, prepare Business Plan, business operators shall update annually, and keep on file with the Oakland Fire Department.

This measure applies to Impact 4.7-2.

A business plan details the types and quantities of chemicals stored at a given location, the storage location and types of storage containers, and the emergency response equipment available at the property (*e.g.*, location of fire extinguishers and fire hydrants). It also provides a map showing the location of all of these items as well as major utilities (*e.g.*, water, electricity).

~ ~ ~

Mitigation 4.7-2: For use of AHMs within ¼ mile of an existing or proposed school, in addition to a Business Plan, business operators shall prepare, implement, and update a Risk Management and Prevention Plan (RMPP) on at least an annual basis.

This measure applies to Impact 4.7-2.

An RMPP is a plan to address the risks of accidental release of acutely hazardous chemicals present at a site. The plan inventories the chemicals that exceed aggregate amounts above a regulatory threshold and develops measures to ensure that that there is an adequate safety program to prevent their release. The RMPP is submitted to the local oversight agency and then goes through a public review process prior to approval by the agency. It is kept on file with Oakland Fire Department.

~ ~ ~

Contaminated Soil and Groundwater

Mitigation 4.7-3: Implement RAP/RMP as approved by DTSC, and if future use proposals include uses not identified in the Reuse Plan and incorporated into the RAP/RMP or if future amendments to the remediation requirements are proposed, obtain DTSC and City approval.

This measure applies to Impact 4.7-4 and Cumulative Impact 5.7-1.

~ ~ ~

Mitigation 4.7-4: For the project areas not covered by the DTSC-approved RAP/RMP, investigate potentially contaminated sites, if contamination is found, assess potential risks to human health and the environment, prepare and implement a clean up plan for DTSC or RWQCB approval, prepare and implement a Risk Management Plan and prepare and implement a Site Health and Safety Plan prior to commencing work.

This measure applies to Impact 4.7-4 and Cumulative Impact 5.7-1.

Since implementation of the RAP/RMP approved by DTSC is proposed as part of the project for the OARB, and the RAP/RMP requires remediation to be fully protective of human health and the environment for the proposed future uses of the OARB, no further mitigation is required for the OARB unless either (1) future use proposals include those that were not identified in the Reuse Plan and incorporated into the RAP/RMP or (2) future amendments are proposed to the remediation requirements included in the approved RAP/RMP. In either of these two circumstances, required remediation includes obtaining the DTSC and City approval for proposed changes in full conformance with applicable legal requirements including but not limited to the HSAA and CEQA.

Specific contaminants and concentrations may vary across the redevelopment project area. Nevertheless, the types of impacts expected, and therefore, the general response actions and approaches to mitigation would be consistent throughout the redevelopment project area. With respect to the OARB and as described in greater detail above, the process across the redevelopment project area would mirror the RAP/RMP process that is already underway at the OARB. With respect to the OARB sub-district, pursuant to HSAA Chapter 6.8, the OBRA has proposed a RAP/RMP. The OBRA's remedial goal is to remediate soil and groundwater contamination consistent with the City of Oakland ULR Program 10^{-5} remedy with appropriate land use restrictions. This RAP/RMP must be approved by DTSC, which has the legal discretion to impose remedies falling within the 10^{-4} and 10^{-6} risk range.

For the other sub-districts and areas not included in the DTSC-approved RAP/RMP, prior to beginning redevelopment-related activities, potentially affected areas shall be investigated, potentially including additional studies or site characterization activities, as required by the regulatory agencies (DTSC or RWQCB). Once contaminated areas are identified, potential human health risks from contaminants of concern based upon realistic future land use shall be

assessed, health risk-based and environmental risk-based cleanup goals shall be established, and a determination regarding the need for additional site assessment work shall be made.

The potential risks associated with affected areas shall be assessed in accordance with regulatory agency guidance and approvals and may result in remediation requirements. Such cleanup plans shall address each area where soil or groundwater is contaminated above ULR goals could be encountered during redevelopment. The clean up plan, the names of which vary based on the type and source of contamination and the legal framework for the particular oversight agency, shall specify measures to be taken to protect workers and the public from exposure to potential contamination and certify that the proposed remediation measures, including removal, disposal, stabilization and/or institutional controls are protective of human health and the environment and implemented in accordance with federal, state and local requirements. Additionally, a Risk Management Plan may be required by the oversight agency to address site redevelopment activities and operations and provide an enforcement structure to be in place during and post-construction. Finally, a Site Health and Safety Plan shall be prepared in accordance with the OSHA and Cal/OSHA regulations. Off-hauling of contamination shall comply with applicable laws, and construction hours shall be limited as provided for in Mitigation Measure 4.5-1 in order to prevent night-time glare. Additionally, potential odor impact measures, and dust or other nuisance conditions from remediation-related truck traffic is provided for in Mitigation Measure 4.3-13, and safety concerns are addressed in Mitigation Measure 4.9-3.

~ ~ ~

Mitigation 4.7-5: For the project areas not covered by the DTSC-approved RAP/RMP, remediate soil and groundwater contamination consistent with the City of Oakland ULR Program and other applicable laws and regulations.

This measure, as well as Measures 4.7-3 and 4.7-4, applies to Impact 4.7-5.

The City of Oakland ULR Program has determined that reducing the target risk level to 1×10^{-5} for commercial or industrial land uses in combination with appropriate institutional controls would reduce the risk to future residents, employees, and visitors to less than significant. Within the OARB area covered by the DTSC-approved RAP/RMP, implementation will result in avoidance of any potentially significant impact to future commercial/industrial/maritime/utility workers, and site visitors. Moreover, the measures required for the areas not covered by the DTSC-approved RAP/RMP, (Measure 4.7-4) would evaluate and control potential human health risks form contaminants of concern in the redevelopment project area and will sufficiently address this potential impact. In addition, Mitigation Measures 4.14-1 and 4.14-2, which prohibit the installation of groundwater wells for any purpose other than construction de-watering and remediation and require that even for construction de-watering and remediation use of those wells be minimized, will reduce the potential for contaminants to migrate to other underlying

groundwater aquifers, thus lessening the impact to future residents, employees and visitors to less than significant.

~ ~ ~

Regulated Building Materials

Mitigation 4.7-6: Buildings and structures constructed prior to 1978 slated for demolition or renovation that have not previously been evaluated for the presence of LBP shall be sampled to determine whether LBP is present in painted surfaces, and the safety precautions and work practices as specified in government regulations shall be followed during demolition.

This measure applies to Impact 4.7-6 and Cumulative Impact 5.7-1.

~ ~ ~

Mitigation 4.7-7: Buildings, structures and utilities that have not been surveyed for ACM, shall be surveyed to determine whether ACM is present prior to demolition or renovation, and the safety precautions and work practices as specified in government regulations shall be followed during demolition.

This measure applies to Impact 4.7-6 and Cumulative Impact 5.7-1.

~ ~ ~

Mitigation 4.7-8: Buildings and structures proposed for demolition or renovation shall be surveyed for PBC-impacted building materials, and the safety precautions and work practices as specified in government regulations shall be followed during demolition.

This measure applies to Impact 4.7-6 and Cumulative Impact 5.7-1.

~ ~ ~

Mitigation 4.7-9: For ASTs/USTs on the OARB, implement the RAP/RMP, which incorporates the steps enumerated in Measure 4.7-10 below.

This measure applies to Impact 4.7-7 and Cumulative Impact 5.7-1.

~ ~ ~

Mitigation 4.7-10: For the remainder of the redevelopment project area (non-OARB areas), if an AST or UST is encountered, it would be closed in place or removed and the soil would be tested and remediated, if necessary, pursuant to regulatory approvals and oversight.

This measure applies to Impact 4.7-7 and Cumulative Impact 5.7-1.

Both ASTs and USTs are known to have been present on the OARB and in the redevelopment project area generally. Many have been removed from the OARB and the redevelopment project area, but others may remain. For the OARB, implementation of the RAP/RMP would address the risk of exposure to a tank that is unexpectedly encountered, disturbed or damaged during construction. For the remainder of the redevelopment project area, if an AST or UST is discovered during construction activities, it would be closed in place or removed according to the guidelines of the DTSC, RWQCB and CUPA. Like the RAP/RMP for the OARB, such requirements include removing and properly disposing of any remaining hazardous materials in the tank, having the tank removal supervised by regulatory agencies, testing the soil under the tank for contamination, recycling or disposing of the discarded tank and filing a tank removal closure report.

~ ~ ~

Mitigation 4.7-11: For LBP-impacted ground on the OARB, implementation of a RAP/RMP to be approved by DTSC as part of the project will result in avoidance of this potentially significant impact. For the remainder of the redevelopment project area, sampling shall be performed on soil or paved areas around buildings that are known or suspected to have LBP, and the safety precautions and work practices specified in government regulations shall be followed.

This measure applies to Impact 4.7-8 and Cumulative Impact 5.7-1.

~ ~ ~

Mitigation 4.7-12: The condition of identified ACM shall be assessed annually, and prior to reuse of a building known to contain ACM.

This measure applies to Impact 4.7-10.

~ ~ ~

Mitigation 4.7-13: No future tenancies shall be authorized at the OARB for use categories that are inconsistent with the Reuse Plan without an updated environmental analysis and DTSC approval as provided for in the RAP/RMP.

This measure applies to Impact 4.7-10.

For the OARB, baseline environmental analyses have been completed to support current interim uses of existing structures, including numerous commercial, trucking, warehouse and other tenants, the Oakland Military Institute, and transitional housing used for formerly-incarcerated women and their families and for various homeless service providers including an overnight shelter. Other environmental hazards may also be encountered by future interim occupants of existing OARB structures, and completion of a baseline environmental evaluation to identify and abate such hazards prior to occupancy by tenants will mitigate such hazards. Interim occupancy by future tenants who may propose land uses which are inconsistent with the Reuse Plan, and thus may not have been considered in the DTSC-approved RAP/RMP, shall

occur only after DTSC approval as provided for in the RAP/RMP in order to assure that such future non-conforming tenants are protected from other environmental hazards. As stated above, for the remainder of the redevelopment project area, any building that has not been surveyed for ACM but potentially contains ACM shall be surveyed to determine whether ACM is present prior to demolition, renovation or reuse.

Mitigation 4.7-14: For the remainder of the redevelopment project area (non-OARB areas), any building that has not been surveyed for ACM but potentially contains ACM shall be surveyed to determine whether ACM is present prior to demolition, renovation or reuse.

This measure applies to Impact 4.7-10 and Cumulative Impact 5.7-1.

~ ~ ~

Mitigation 4.7-15: Known PCB transformers or PCB-contaminated transformers at the OARB shall be removed, monitored and/or maintained in accordance with applicable laws and regulations.

This measure applies to Impact 4.7-11.

In addition, surface and subsurface contamination from any PCB equipment that remains in use should be investigated and remediated in compliance with all applicable laws and regulations.

~ ~ ~

Mitigation 4.7-16: Oil-filled electrical equipment in the redevelopment project area that has not been surveyed shall be investigated prior to the equipment being taken out of service to determine whether PCBs are present.

This measure applies to Impact 4.7-11.

Equipment found to contain PCBs should be part of an ongoing monitoring program. Surface and subsurface contamination from any PCB equipment shall be investigated and remediated in compliance with applicable laws and regulations.

~ ~ ~

Mitigation 4.7-17: PCB-containing or PCB-contaminated equipment taken out of service shall be handled and disposed in compliance with applicable laws and regulations.

This measure applies to Impact 4.7-11.

Equipment filled with dialectic fluid (oil) including transformers, ballast, etc. containing more than 5 ppm PCBs is considered a hazardous waste in California.

~ ~ ~

~

4.8 POPULATION, HOUSING, AND EMPLOYMENT

Redevelopment would result in benefits to study area economics and housing, as well as in one less than significant impact related to population growth. Mitigation is not warranted, and none is recommended.

4.8.1 Study Area

The study area for analysis is the approximately 1,800-acre redevelopment project area, plus the limits of logical demographic and economic units that are located entirely or partially within the project area (*e.g.*, census tracts).

4.8.2 Regulatory Setting

Federal

Housing. The U.S Department of Housing and Urban Development (HUD) manages programs intended to improve the quantity and quality of housing, and to improve communities in general via the provision of grant monies to states and cities. In 2001, HUD allocated approximately $4.4 billion to eligible jurisdictions.

One HUD program is the Community Development Block Grant (CDBG) Program, authorized under Title I of the Housing and Community Development Act of 1974 (42 United States Code 5301). Under the CDBG Program, HUD allocates grants to eligible metropolitan cities and urban counties ("entitlement communities") for neighborhood revitalization, to expand affordable housing and economic opportunities, and to improve facilities and services that principally benefit low- and moderate-income persons. In 2001, HUD allocated approximately $1.7 billion to entitlement communities under the CDBG Program (HUD 2001a).

HUD also administers the HOME Investment Partnerships Program, signed into law in 1990 as Title II of the Cranston Gonzalez National Affordable Housing Act (program regulations are at 24 Code of Federal Regulations Part 92). Under the HOME program, HUD allocates grants to states and local governments exclusively to create affordable housing for low-income households. Recipients may choose from a broad range of eligible activities: provide funds for purchase or rehabilitation, build or rehabilitate units for the rental market; acquire and improve sites; demolish dilapidated housing for replacement by HOME-assisted development; and pay relocation expenses. In 2001, HUD allocated approximately $53.5 million under the HOME Program (HUD 1998; 2001b, c).

HUD administers the Housing Opportunities for Persons with AIDS (HOPWA) Program, authorized by the AIDS Housing Opportunity Act (42 USC 12901). The program is governed by the HOPWA Final Rule (24 CFR Part 574) and the Consolidated Submissions for Community Planning and Development Programs, Final Rule (24 CFR Part 91). Under the HOPWA Program, HUD allocates grants to local governments to provide housing assistance and related

supportive services for low-income persons with HIV/AIDS and their families. In 2001, HUD allocated approximately $229.4 million under the HOPWA Program (HUD 2001d).

Finally, HUD administers the Emergency Shelter Grant (ESG) Program; the authority of this program is based on the McKinney-Vento Homeless Assistance Act (42 USC §§ 11371-11378). The program is intended to be the first step in a continuum of assistance to prevent homelessness and to enable homeless persons and families to move toward independent living. Using the CDBG Program formula as the basis of allocation, HUD grants monies to eligible jurisdictions for the following: rehabilitation or conversion of buildings to homeless shelters; operating expenses; essential services; and homeless prevention activities (HUD 2001e).

State/Regional

Housing, Redevelopment. Under California Community Redevelopment Law, 20 percent of the tax increment generated annually by redevelopment project areas within a jurisdiction must be used by the redevelopment agency to increase, improve, and preserve the community's supply of affordable housing for persons of low and moderate income (Health and Safety Code § 33334.2). An agency has flexibility in accruing and dispersing these funds. The agency is obligated to dedicate 20 percent of the total annual increment to housing from all project areas within its jurisdiction (called the housing "set-aside"); each project area may contribute more or less than 20 percent. In addition, the Agency has discretion over the appropriate location of housing: units financed by the increment from a specific project area does need not be located within that project area.

Housing, Fair-Share. In response to state-wide population and household growth, and to ensure availability of decent and affordable housing, the State of California enacted laws (Government Code §§ 65580-65589.8) that require the State Department of Housing and Community Development (HCD) to determine each region's share of state housing need. In turn, regional councils of government are required to periodically distribute the state-identified housing need for their region (Government Code § 65584(a)).

Local

Housing, Redevelopment. In December 2001, the Oakland Redevelopment Agency adopted a resolution increasing the affordable housing set-aside to 25 percent for Oakland redevelopment project areas that meet a debt-coverage threshold ratio of 1.2 (120 percent).

The Housing Element of the *Oakland General Plan* (City of Oakland 1992) takes a problem-oriented approach to examining Oakland housing, and puts forth goals and policies intended to resolve the identified problems. Those goals and policies relevant to this redevelopment program are included in Appendix 4.1 of this document.

4.8.3 Regional Setting

The region under consideration is the City of Oakland. Information regarding the existing regional setting is from statistics compiled by and projections prepared by the Association of Bay Area Governments (ABAG), and from the U.S. Census. Compared to Alameda County, in which Oakland is located, Oakland currently experiences higher vacancy rates and lower housing ownership rates; during the redevelopment build-out period Oakland is projected to experience lower population growth, and substantially lower jobs growth than the county.

Population

The population of the City of Oakland in 2000 was 399,484. By year 2020, total Oakland population is expected to grow by approximately 10.1 percent, to 440,000 (ABAG 2001a; ABAG 2001b). This rate of growth is substantially less than that projected for Alameda County—15.6 percent—for the same 20-year period (ABAG 2001b; Hausrath Economics Group 2002).

Housing

In 2000, there were 157,508 housing units in the City of Oakland. Approximately 95.7 percent, or 150,790, of these units were occupied (this represents the number of households in the City); 41.4 percent were owner-occupied (ABAG 2001a). These occupancy rates were lower than those of Alameda County, which were 96.9 percent total occupancy, and 57.4 percent owner-occupied (ABAG 2001c). In January 2001, the median price of an Oakland home was approximately $254,000, or 27.4 percent less than the median home price across Alameda County of $350,000 (East Bay Almanac 2001).

In 2000, the City of Oakland received $17.8 million from HUD for community and housing development, including the following funding sources:

HUD Program	2000 Oakland Allocation
CDBG	10.7
HOME	4.9
ESG	0.4
HOPWA	1.8
Total	**$17.8 million**

Source: HUD 2001f.

Housing Fair-Share

In October 1999, the HCD issued regional housing "goal" numbers. The nine-county Bay Area region's share of statewide housing need was determined to be approximately 230,745 units. In June 2001, ABAG issued its regional Housing Needs Determination (RHND) for 2001 through 2006. The RHND allocated approximately 46,795 units to Alameda County; of these, 7,735 were allocated to Oakland. In addition, the RHND allocated Oakland units by income category are as follows:

Income Category	Number of Units Allocated
Very Low	2,238
Low	969
Moderate	1,959
Above Moderate	2,567
Total	**7,733**

Source: ABAG 2001d.

Employment

In November 2001, the total number of employed persons in the City of Oakland was 185,830; the unemployment rate was 8.8 percent. The Oakland unemployment

rate was higher than that of Alameda County, 5.6 percent, for the same period (California Employment Development Department [EDD] 2001a). From 2000 to 2020, Oakland job growth is projected to be approximately 21.4 percent; this is substantially lower than that projected for Alameda County, 28.3 percent, for the same time period (ABAG 2001b).

4.8.4 Local Setting

For housing, the current setting is described below. For population and employment, both the current setting, and the setting in 1995 (the alternative baseline year) are described below. The analysis of impacts to population and employment uses an alternative baseline for only the Oakland Army Base portion of the project area.

The discussion of local setting and impacts uses the following terms:

- **Direct jobs** are those directly resulting from a source. These jobs are often, but are not necessarily located proximate to their source. Direct jobs are those that would not occur without redevelopment, and may include workers in project area offices, cargo truck drivers, etc.
- **Indirect/induced jobs** are those resulting from economic activity related to the direct source. These jobs support the source of direct economic activity, and include jobs such as business machine sales/maintenance, restaurant workers, etc.
- **Local jobs** are those, whether direct or indirect/induced, which are physically located within the redevelopment project area.

Population, Setting

Year 2000 population of the study area was zero—the entire area was in non-residential use. In 2001, the Phoenix Lofts project was completed at 2nd and Brush streets, providing 20 loft units. Assuming ABAG's person-per-household estimate of approximately 2.6 persons per Oakland household in 2000 (ABAG 2001b), total study area 2001 population would be 52 people. The entire population is located within the Maritime sub-district.

Population, Alternative Baseline

In 1990, there was an estimated on-base family population of 392 persons (Herman Zillgens Associates 1995). This does not include transient military personnel in training. In the absense of more current estimates, this analysis assumes a permanent population of 392 persons at the OARB in the baseline year of 1995.

Housing

Year 2001 housing units in the study area include the 20 Phoenix loft units located in the Maritime sub-district. In addition, the Base has 112 unoccupied military family units as well as enlisted and single officer quarters, located in the Port development area (Corps 2001). These

quarters are either barracks or dormitory style, and are not habitable as household or family units. The interim leasing program does not include housing.

Employment, Setting

In 2000, there were no employed residents within the study area. An estimate of the number of jobs located within the study area in 2000 ("local jobs") is as follows:

Study Area Local Jobs, 2000	
Gateway Development Area:	890
Port Development Area:	440
Maritime sub-district:	1,850
16th/Wood sub-district:	100
Total	**3,280**

Source: HEG 2001.

Employment, Alternative Baseline

In 1995, approximate total local jobs at the OARB were 2,045, including 1,910 civilian and 135 military jobs (Corps 2001). Total local OARB jobs in 1995 were approximately 705 greater than in 2000. Ordinarily it would be expected that direct jobs associated with the OARB would be greater than local jobs. However, the Army's EIS did not report direct job numbers. Therefore, local job numbers are used.

Study Area Direct Baseline Jobs OARB: 1995; Maritime and 16th/Wood: 2000	
OARB sub-district:	2,045
Maritime sub-district:	9,100
16th/Wood sub-district:	100
Total	**11,245**

Source: OARB sub-district—Corps 2001.
Maritime sub-district—Port of Oakland 2002.
16th/Wood sub-district: HEG 2001.

An estimate of total study area baseline employment is as follows (note that local and direct jobs for the OARB are treated as the same, in the absence of information regarding all direct OARB jobs):

4.8.5 Impact Analysis Methodology

As allowed by the California Environmental Quality Act (CEQA), where relevant, the analysis of impacts of community reuse of a military base may be based on environmental conditions that existed at the time the federal government made the decision to close the base, rather than current existing conditions. For the OARB, this decision was made in 1995. The analysis of impacts to population and employment use this alternative baseline for only the OARB portion of the project area.

Estimates of jobs generated by redevelopment throughout the project area are derived from an employment model developed specifically for the OARB area redevelopment project area. The model and results are included as Appendix 4.8 of this EIR.

Significance Criteria

Redevelopment would have a significant impact on the environment if it would:

- Induce substantial population growth in an area, either directly or indirectly;

- Displace substantial numbers of existing housing units, necessitating the construction of replacement housing elsewhere; or

- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Not all criteria above apply to redevelopment as proposed. A small permanent resident population is located on the boundary of the Maritime sub-district. Redevelopment would not displace or otherwise affect that population. No substantial permanent population exists that could be directly displaced by redevelopment.

The unoccupied 112 military family units located within the Port development area were always military housing not available to the community as affordable housing. In addition, the enlisted and officers quarters are not suitable as community housing. Removal of these structures does not displace affordable community housing, or necessitate the construction of replacement housing.

4.8.6 Impacts

Benefits

Housing. Redevelopment of the project area would occur under a tax increment financing framework. Pursuant to Section 33334.2 of the Health and Safety Code (Community Redevelopment Law), the ORA would dedicate 20 percent of the tax increment generated city-wide to increase, improve, and preserve the supply of low- and moderate-income housing in the City. Should the project area achieve a 120 percent debt coverage ratio, the City would increase the amount dedicated to housing to 25 percent. This influx of monies for affordable housing would be a benefit to Oakland housing.

Redevelopment would result in construction of approximately 375 live-work units in the 16th/Wood sub-district. Depending on their date of their construction, these units could assist the City in fulfilling its fair-share of regional housing units under the current RHND cycle (through 2006), or future RHND cycles. This would be a benefit to local and regional housing.

Employment. Redevelopment would provide the opportunity to substantially increase the number of available jobs in West Oakland. As described in Chapter 3: Description, the project area has historically suffered from blighted conditions and associated economic depression. These conditions could worsen as a result of the closure of the OARB. Redevelopment has the potential to generate substantial numbers of jobs in this area, and therefore to improve the physical and economic condition of West Oakland, and of the City and its citizens as a whole. The addition of jobs is a substantial and important benefit of redevelopment.

Table 4.8-1 provides summarizes the result of the analysis of employment generation for the redevelopment program. Details of this analysis are located in Appendix 4.8. Redevelopment as proposed is expected to generate approximately 16,400 gross direct (14,270 net) and 29,700 indirect/induced jobs, a total of approximately 46,100 gross (43,970 net) new jobs. Net jobs

account for those jobs that would be eliminated by redevelopment in the OARB and 16th/Wood sub-districts, which will be substantially re-built under redevelopment as proposed. In 2020, the redevelopment project area is expected to encompass approximately 13,920 local jobs, an increase of approximately 10,640 local jobs over the setting condition.

Taking into account the number of alternative baseline (1995) local jobs at the OARB (2,045) less 2000 local OARB jobs (890 + 440 = 1,330), or 715 local jobs, net local jobs at the OARB sub-district due to redevelopment would be 5,625 (6,150 + 190 – 715).

Table 4.8-1
Redevelopment Job Generation, Baseline Compared to 2020

	OARB				
Direct Jobs[a]	**Gateway**	**Port**	**Maritime**	**16th/Wood**	**Total**
Baseline[b]	1,025	1,020	9,100	100	11,245
2020[c]	6,135	1,330	13,170	4,880	25,515
Difference	5,110	310	4,070	4,780	14,270
Percent, Net Direct Jobs	35.8	2.2	28.5	33.5	100.0
Local Jobs					
2000	890	440	1,850	100	3280
2020	6,150	190	2,760	4,820	13,920
Difference	5,260	-250	910	4,720	10,640
Percent, Local Jobs	49.4	-2.4	8.6	44.4	100.0

Sources: Economic Model for OARB Redevelopment (Appendix 4.8).
2020 Local jobs, Port of Oakland 2001; HEG 2001.

Notes:

[a] Assumes roughly equal distribution of OARB baseline jobs between the Gateway and Port development areas.

[b] The baseline for impact analysis of direct jobs comprises the 1995 alternative baseline for the OARB and the 2000 setting for the Maritime and 16th/Wood sub-districts.

[c] Because the OARB and 16th/Wood sub-districts will be substantially or entirely re-built under redevelopment, their 2000 direct jobs will be replaced with redevelopment jobs; the Maritime sub-district will not be re-built, and the increase in employment for that sub-district due to redevelopment is in addition to year 2000 direct jobs.

The HEG model identifies more local jobs in the Gateway area than would the program economic model.

Impacts

Impact 4.8-1: Redevelopment could induce population growth in Oakland.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

Build-out of the project area, including generation of substantial jobs, and construction of dwelling/work units, would attract people to the Oakland area.

As people are attracted to new jobs generated by redevelopment, they will increase population as well as demand for housing across the City. Housing developed as part of the redevelopment program would attract new residents to the 16th/Wood sub-district. Therefore, redevelopment has the potential to increase the population of Oakland.

The 14,270 net new direct jobs generated by project area redevelopment would attract employees and their families to the area. ABAG projects that between 2000 and 2020, the number of Oakland jobs will increase by 29,450; estimated net jobs generated by the proposed redevelopment program represent approximately 49 percent of that total. The City of Oakland regional traffic model estimates that citywide, 42 percent of Oakland jobs are filled by residents. Based on the historical trend, about 4,470 of the projected 10,640 new local jobs (or 42 percent) from redevelopment would be filled by Oakland residents (and the remainder by commuters in-migrating from other communities). Conservatively assuming one-third of the Oakland employees are new residents attracted to Oakland by redevelopment-generated local jobs, approximately 1,475 new employees would be attracted to Oakland. In 2020, ABAG projects there will be 205,500 employed residents and 165,010 households in Oakland, or approximately 1.3 employed residents per household. Therefore, the creation of jobs and attraction of workers is projected to increase the need for housing by approximately 1,135 units. Less the 375 dwelling units planned for the 16th/Wood sub-district, net housing demand attributable to redevelopment would be 760 units. ABAG projects that between 2000 and 2020, the number of Oakland households (occupied housing units) would increase by 4,820; housing demand generated by the proposed redevelopment program would represent approximately 15.7 percent of that projection.

ABAG projects that in 2020, the average number of persons per Oakland household would be 2.6. Because live/work units generally are not family housing, and do not represent the household norm, using the ABAG projection would provide a conservative estimate of approximately 975 persons residing in the 16th/Wood sub-district at build-out. In addition, the remaining 760 units needed for attracted workers would result in an increase in population Oakland-wide of approximately 1,975 persons. The total new residents attracted to Oakland by redevelopment housing and local employment opportunities is expected to be approximately 2,650 by year 2020. Accounting for the OARB baseline year population of 392, net increase in population due to redevelopment would be approximately 2,260 persons. ABAG projects that between 2000 and 2020, the Oakland population would increase by 40,515 persons; net population increases generated by the proposed redevelopment program would represent approximately 5.5 percent of that projection.

Redevelopment as proposed could induce housing demand and population growth, well within that projected by ABAG for the build-out period. Thus, the impact to population growth is considered less than significant.

~ ~ ~

4.8.7 Mitigation

Redevelopment would not result in significant impacts, and mitigation is not warranted.

~ ~ ~
~

4.9 PUBLIC SERVICES AND UTILITIES

Public services include those services addressing community needs, and are usually provided by local or regional government, although the government may privatize these services. Public services include fire and emergency response, police protection, schools, libraries, and solid waste recycling, hauling, and disposal.[1] In addition, hospitals, which serve community need, may be publicly or privately operated, and are included in the discussion of public services. Utilities may be privately or publicly owned and operated, and include wastewater collection, transport, treatment, and discharge; stormwater collection, transport, possibly treatment, and discharge; water treatment and supply; telecommunications, and power (gas and electricity).

Redevelopment would result in substantial benefits to all utility systems and would eliminate or minimize leakage problems associated with aging water, stormwater, and sanitary sewerage systems. With implementation of measures recommended in this section, the potentially significant and significant impacts would be mitigated to a level that is less than significant.

4.9.1 Study Area

The study area for utilities and public services is the approximately 1,800 redevelopment project area, and the service areas of public service providers and utilities that service the redevelopment project area.

4.9.2 Regulatory Setting

Federal

Public Services: Emergency Response. The Federal Emergency Management Agency (FEMA) is an independent agency of the federal government, established in 1979 via executive order. FEMA's mission is as follows:

> *to reduce loss of life and property and protect our nation's critical infrastructure from all types of hazards through a risk-based, emergency management program of preparedness, response and recovery.*

FEMA provides direction and assistance to state and local governments, but does not regulate approaches to emergency planning or response.

Utilities: Water. The objective of the Clean Water Act (CWA, 33 United States Code [USC] §§ 1251 *et seq.*) is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters . . ." and it requires states to establish water quality standards to protect designated uses for all waters of the nation. In practice, implementation of many aspects of the CWA under the United States Environmental Protection Agency (EPA) has been delegated to

[1] Note that public parks are discussed in Section 4.10: Recreation and Public Access.

the states. This includes regulation of discharges from private industry and public facilities, such as wastewater treatment plants.

The Safe Drinking Water Act (SDWA, 42 USC §§ 300f *et seq.*) is the primary federal law regulating drinking water quality; it establishes standards intended to protect public health, safety, and welfare. The EPA implements the SDWA, which delegates its authority under the SDWA to the states.

State

Public Services: Emergency Response. California Government Code Section 8607(a) authorizes establishment of the Standardized Emergency Management System (SEMS). Title 19, Division 2, Chapter 1 of the California Code of Regulations (CCR, §§ 2400-2540) defines SEMS, including its purpose, scope, structure, and applicability. SEMS is intended to standardize response to emergencies involving multiple jurisdictions or multiple agencies. Local government must use SEMS in order to be eligible for state funding of response-related personnel costs occurring in response to an emergency incident.

Public Services: Solid Waste. The California Integrated Waste Management Board (IWMB) is responsible for achieving a 50 percent diversion of waste from landfills by 2000. The IWMB works directly with local agencies and businesses to reduce waste at the source, and encourage recycling.

Utilities: Water Supply. The California Urban Water Management Planning Act, Division 6, Part 2.6 of the California Water Code, requires that an understanding of urban water demands and efficient use of water are to be actively pursued by water suppliers. Section 10610.4 of the Act requires water suppliers to actively pursue efficient use of available water supplies, and Section 10620 establishes the requirement for every urban water supplier to prepare and adopt an urban water management plan (UWMP). Each UWMP must do the following:

- describe the suppliers' services area;
- identify and quantify (to the extent practicable) existing and planned water sources;
- describe the reliability of water supplies;
- describe opportunities for exchanges or transfers of water;
- quantify past, current, and projected water use; and
- describe and evaluate the supplier's water demand management measures.

These plans are updated every five years.

Senate Bill 610 recently amended the California Environmental Quality Act (CEQA, PRC §§ 21000 *et seq.*) to require that projects of a certain magnitude or greater, (i.e., 500 unit-plus-residential development or hotel; 500,000 square feet or more of commercial space or shopping

center; 650,000 square feet or more of industrial park) to comply with Section 10910 of the California Water Code, which requires an assessment of water supply.

The requirements for contents of the water supply assessment are found at California Water Code Section 10910, and include an identification of any existing water supply entitlements, water rights, or water service contracts and a description of the quantities of water received in prior years by the public water system.

If no water has been received in prior years by the public water system under the existing water supply entitlements, water rights, or water service contracts, the public water system, the assessment must also include an identification of the other public water systems or water service contract holders that receive a water supply or have existing water supply entitlements, water rights, or water service contracts, to the same source of water.

Government Code Sections 65601 through 65607, Water Reuse, codify the Recycled Water in Landscaping Act, which requires municipalities to adopt an ordinance requiring use of recycled water for landscaping uses where recycled water of appropriate quality is made available by the water purveyor. In January 2002, The Oakland City Council adopted the Water Reuse Ordinance (adding new §16.08.303(I) to the City's Subdivision Ordinance), which applies to development meeting all of the following criteria:

- The site is located within an ordinance-designated Water Reuse Area.
- The development requires land subdivision of five or more parcels.
- New water hook-ups from the East Bay Municipal Utility District (EBMUD) are required.
- Development includes common, or shared, areas that will be plumbed.

The City's ordinance identifies the entire redevelopment project area as located within a Water Reuse Area (City of Oakland 2001, 2002).

The Port of Oakland is currently in the process of developing a ordinance functionally equivalent to the City's (Port of Oakland 2002).

Utilities: Water Quality. The Porter-Cologne Water Quality Control Act (Division 87 of the California Water Code §§ 13000 *et seq.*; California Code of Regulations [CCR] Title 23, Subchapter 15) provides the basis for water quality regulation within California. This act establishes the authority of the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCBs). The study area is located within the jurisdiction of the San Francisco Bay Region RWQCB (Region 2), which conducts planning, permitting, and enforcement activities under the Act. The Act also authorizes waste discharge requirements for municipal wastewater treatment facilities through the National Pollution Discharge Elimination System (NPDES) program. The RWQCB grants and administers NPDES permits under a provision of the Act, which established effluent limitations and water quality requirements for wastewater plant discharges. In 2000, the SWRCB began to more stringently

evaluate the RWQCBs' effectiveness in controlling urban runoff. In turn, the RWQCBs began to require new construction to include "post-construction controls" in project design. Such controls may be implemented via a variety of techniques intended to provide primary treatment of stormwater prior to its discharge to the storm sewer system.

The Department of Health Services (DHS) regulates drinking water and implements the Safe Drinking Water Act. The DHS oversees public water systems. California's regulations for domestic water quality and monitoring, including primary and secondary drinking water standards, are contained in Title 22, Division 4, Chapter 15 of the California Code of Regulations (also Health and Safety Code).

The state requires that public water systems meet two groups of water quality standards: primary and secondary drinking water standards. Primary drinking water standards, known as Maximum Contaminant Levels (MCLs), are legally enforceable standards that regulate contaminants which could threaten public health. Secondary drinking water standards are used to regulate contaminants that affect the taste, odor, and appearance of water, and are enforceable for new potable water sources.

The California RWQCB, San Francisco Bay Region, has established water quality objectives to define the level of water quality to be maintained for designated beneficial uses. Water designated for use as domestic or municipal supply shall not contain concentrations of constituents in excess of the limits specified in Title 22 of the California Code of Regulations. The RWQCB has proposed to de-designate groundwater in the project area as a potential source of municipal drinking water.

Utilities: Telecommunications and Power. The California Public Utilities Commission (CPUC) regulates privately owned telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. It is the responsibility of the CPUC to: assure California utility customers safe, reliable utility service at reasonable rates; protect utility customers from fraud; and promote a healthy California economy. The Public Utilities Code, adopted by the Legislature, defines the jurisdiction of the California Public Utilities Commission (CPUC 2001).

Local

The Land Use and Transportation Element (LUTE) of the *Oakland General Plan* describes Oakland services and some utilities, identifies providers, and presents an outlook on the long-term provision of services. The General Plan does not include specific goals or policies regarding service systems or utilities relevant to the redevelopment program.

The Environmental Services Division of the Oakland Public Works Agency manages the Oakland Recycles Program. This program provides information and guidance to residents, businesses, schools, and contractors regarding source reduction and recycling.

4.9.3 Regional Setting

The region under consideration is the City of Oakland. The following discussion is based on information from the LUTE and other sources.

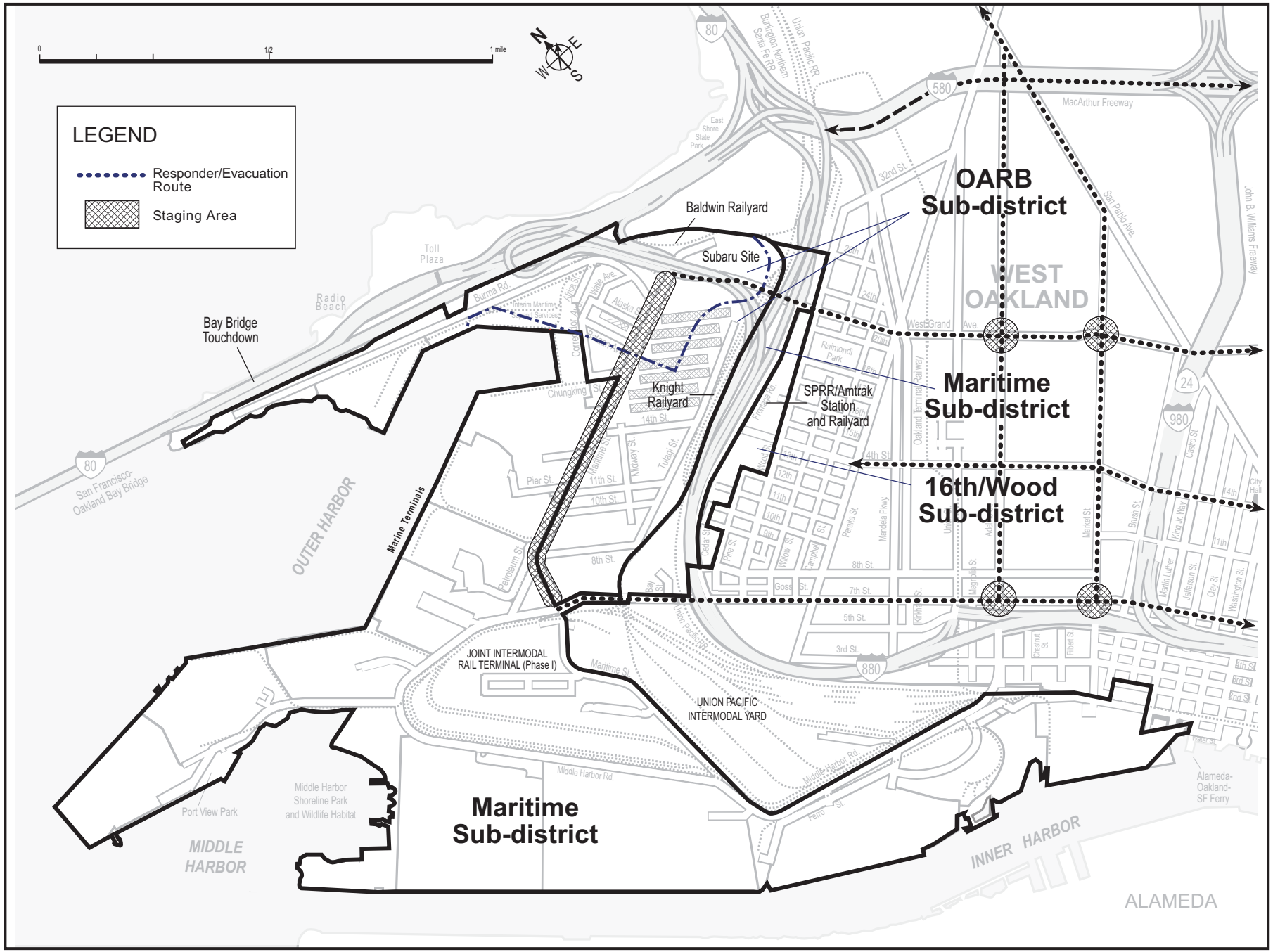
Public Services

Fire, Hazardous Materials Incident Response. The Oakland Fire Department (OFD) provides fire and local emergency response (rescue, hazardous materials ["hazmat"] response, and first responder emergency medical services) throughout the City. Three battalions and 26 fire stations serve the City. Each is equipped and staffed for fire suppression and first responder hazmat response; one station is staffed and equipped with hazmat experts; most stations are also equipped and staffed for emergency medical response (see below). The OFD is budgeted to have 492 full-time firefighters (131 on duty at any given time), and 67 support staff. The OFD goal is to respond to fires within seven to nine (7 to 9) minutes (OFD 2002).

Emergency Response. The OFD Office of Emergency Services (OES) is responsible for coordination of response to a wide-spread emergency. The OES prepares, maintains, and updates the City's Response Concept, a written plan that describes how OES intends to respond to widespread incidents (OFD 2002). The Response Concept, prepared in accordance with state requirements under the Standardized Emergency Management System (SEMS), describes the structure and role of the City's emergency management organization. The Response Concept is the emergency response plan for the City, and addresses the following topics:

- Mutual aid to and from nearby jurisdictions to provide available emergency resources
- Public information (media coordination)
- Coordination of advanced warning information
- Authority to respond
- Coordination of state and local/regional emergency operations centers
- Emergency operations
- State and federal coordination
- Recovery response

Annex H of the Response Concept includes policies and procedures for the evacuation or dispersal of people from threatened or hazardous areas during a natural disaster. Annex H includes maps of routes that would serve as the main entry to the area by emergency response personnel, as well as the main exit from the area for evacuees. These routes and emergency response staging areas are depicted on Figure 4.9-1. Industrialized land along both sides of Maritime Street are identified as staging areas, and West Grand Avenue and 7th Streets as first



OARB Area Redevelopment EIR

Figure 4.9-1 First Responder/Evacuation Routes and Staging Areas

April 2002

g. borchard & associates

responder/evacuation routes. The Response Concept and Annex H are currently under revisions, and that revision can accommodate changes to the area proposed by redevelopment (OFD 2002a).

The Response Concept is a blueprint for management of and coordination during an emergency event and its recovery. So-called "annexes" to the Response Concept include specific "on the ground" information, such as emergency response routes and evacuation routes. The Response Concept and its annexes are currently in revision, and are expected to be updated to reflect the redevelopment program (OFD 2002a).

Medical Response. Recently, medical response capabilities have been augmented as each emergency responder unit has Emergency Medical Technician (EMT) training and can provide Basic Life Support (BLS) services. The Alameda County Medical Services District contracts with American Medical Response Ambulance Company and OFD to respond to medical emergencies. In 1999, the OFD initiated a city-wide program of advanced life support paramedic training for OFD personnel, including 960 hours of classroom, hospital, and field instruction. In addition, the OFD has hired 93 licensed paramedics, all of whom have firefighter training. Currently, 21 of 26 fire companies are staffed with licensed paramedic personnel. Paramedic implementation will conclude by 2003.

Police Protection. The Oakland Police Department (OPD) provides police services throughout the City. OPD has an authorized staffing of 748 sworn officers, 426 support staff, and 25 reserve officers.

OPD operates from the downtown station at 455 7th Street and the Eastmont Substation at 73rd and Bancroft avenues. Officers patrol three areas, each commanded by a Captain of Police. Each area has two Police Service Areas (PSAs), except the North and West Oakland Area which has three PSAs. A Lieutenant of Police commands each PSA.

On each of three daily watches an officer is assigned to each of 35 police beats. All PSAs are patrolled 24 hours per day, with officers working 10-hour overlapping shifts ("watches"). The 3rd watch and 1st watch officer overlap from 9:00 p.m. to 2:00 am.

In addition, OPD operates a police boat from Fire Station No. 2 at 100 Jack London Square. Two reserve officers maintain this boat and patrol the Oakland Harbor area. The boat is primarily used to enforce boating laws, and to maintain a police presence in the Inner Harbor from the Park Street Bridge to Outer Harbor (OPD 2001 a, b).

The OPD receives approximately 74,000 emergency calls per month; the priority of each call is classified according to a four-level system. While OPD does not officially document its response time, priority calls are dispatched within one minute of receiving the call (OPD 2001c).

Schools. The Oakland Unified School District (OUSD) manages and operates 80 elementary, middle, and high schools in Oakland, serving more than 53,000 students (OUSD 2001).

Libraries. The City of Oakland Public Library is a department of the City's Life Enrichment Agency. It serves Oakland via a bookmobile serving more than 60 locations, as well as multiple permanent locations: the Main Library on 14th Street, 15 neighborhood branches, and the Second Start Adult Literacy Program on 15th Street. The Oakland Library serves an estimated population of approximately 421,000 (Oakland Public Library 2000).

Solid Waste. In 2000, the City disposed of approximately 423,000 tons of solid waste at several landfills (IWMB 2001). The City estimates the sources of solid waste as follows:

- Residences 30 percent
- Commercial 40 percent
- Industry 30 percent

Waste Management of Alameda County collects most solid waste generated within the City, and transports it to the Davis Street transfer station in San Leandro, which accepts wastes of the following types: construction/demolition, green materials, mixed municipal, tires, and wood mill. From the transfer station, approximately 76 percent by weight of the City's disposed waste is hauled to the Altamont landfill, located in eastern Alameda County, which accepts a wide variety of waste types, including asbestos-containing wastes. Contractors haul most construction and demolition debris either to recycling facilities, or to the Vasco Road landfill north of Livermore.

The California IWMB reports the Davis Street transfer station is permitted for a peak throughput of 5,000 tons per day (tpd), and in 2000 operated at approximately 3,800 tpd, or about 76 percent of its permitted throughput. Altamont landfill is permitted for a peak throughput of 11,150 tpd, and in 2000 operated at approximately 4,090 tpd, or about 37 percent of its permitted throughput (IWMB 2001). It currently has 58.9 million cubic yards of capacity, estimated to be sufficient through year 2008 (IWMB 2001; City of Oakland 1998). Vasco Road landfill is permitted for a peak throughput of 2,518 tpd, and operates at approximately 2,503 tpd, or about 99 percent of its permitted throughput (IWMB 2001). It currently has 31.9 million cubic yards of capacity, estimated to be sufficient through year 2014 (IWMB 2001; City of Oakland 1998).

From 1995 through 2000, the years for which records are available, Oakland has increased the percentage of waste recycled from 27 to 50 percent (City of Oakland Public Works Agency 2001). These estimates are similar to those of the IWMB.

Hospitals. Oakland is served by the following major hospitals:

- Children's Hospital, 747 52nd Street, Oakland;
- Alameda County Medical Center, Highland Hospital Campus, 1411 East 31st Street, Oakland;
- Kaiser Permanente Medical Center, 280 West MacArthur Boulevard, Oakland;
- Summit Medical Center, 350 Hawthorne Avenue, Oakland; and

- Alta Bates Medical Center, 2450 Ashby Avenue, Berkeley (serves North Oakland).

Utilities

Wastewater. Generally, the City of Oakland provides city-wide sewage collection services, and the East Bay Municipal Utility District (EBMUD), a publicly-owned utility, provides sewage transport (large-diameter and interceptor-level pipeline), treatment, and discharge services. The Oakland Public Works Department provides sewage collection services for approximately 39 square miles within the city. According to the LUTE, within the region, the City owns, operates, and maintains five pump stations, and approximately 4.5 million linear feet of pipeline ranging in size from 6 inches to 72 inches in diameter. The Oakland sewage collection system discharges to EBMUD's sewer interceptor system, comprising approximately 29 miles of large-diameter pipeline, ranging in size from 9 to 12 feet in diameter.

The EBMUD interceptor system transports sewage to that utility's Main Wastewater Treatment Facility (WWTF), located in northwest Oakland immediately south of the I-80/I-880/I-580 interchange (the MacArthur maze). The Main WWTF treats domestic, commercial, and industrial wastewater, and currently experiences an annual average flow of approximately 80 million gallons per day (mgd). The WWTF can provide secondary treatment for a maximum flow of 168 mgd, and primary treatment for up to 320 mgd; storage basins provide plant capacity for a short-term hydraulic peak of 415 mgd. Treated effluent is discharged from the WWTF to San Francisco Bay south of the Bay Bridge approximately one mile from the east Bay shoreline via a 102-inch-diameter deep-water outfall pipeline (EBMUD 2001a). EBMUD discharges in compliance with conditions of permits granted the District by the RWQCB under the National Pollutant Discharge Elimination System (NPDES) Program.

Stormwater. The Oakland Public Works Department operates and maintains approximately 300 miles of stormwater collection and transport pipelines ranging in size from 6 inches to 9 feet in diameter. The storm sewer pipelines are primarily reinforced concrete. The system includes approximately 9,400 inlets and 5,850 manholes. The City's stormwater system discharges to facilities owned and maintained by the Alameda County Flood Control and Water Conservation District (ACFCD), a department within the Alameda County Public Works Agency. In Oakland, ACFCD system facilities include channels, pipelines, dams, erosion control devices, pump stations, and other miscellaneous facilities, such as tide gates. The Oakland Public Works Department maintains a list of problems related to inadequate storm drainage system-wide and is currently conducting a study to assess these problems and recommend improvements.

Potable and Reclaimed Water. EBMUD serves Oakland with potable and reclaimed water from its Orinda Water Treatment Plant and its Main WWTF, respectively. In order to minimize treatment while protecting public health, it is the policy of EBMUD to provide drinking water from the highest quality source available; that source is currently the Mokelumne River. Pursuant to the requirements of the Urban Water Management Act, EBMUD prepared and adopted UWMPs in 1985, 1991, 1996, and 2001. The current plan states that total service area customer demand in 2000 was 230 mgd, and when adjusted for conservation and the use of reclaimed water, net

customer demand was 216 mgd. The UWMP projects that 2020 service area net customer demand will be 229 mgd (EBMUD 2000).

In 1993, EBMUD completed an extensive examination and analysis of its Water Supply Management Program (WSMP), that addresses EBMUD's ability to reliably serve its current and future customers through year 2020. Results of the WSMP supply and demand analysis match results of alternative analysis for the UWMP with a high level of confidence. The WSMP analysis indicates that with aggressive conservation and reclamation, EBMUD can meet its obligation to serve its current and future customers in normal rainfall years. However, in years of drought, even with aggressive conservation and reclamation coupled with 25 percent rationing throughout the service area, EBMUD predicts a shortfall in excess of 62 mgd. For more than 30 years, EBMUD has pursued a supplemental source of high-quality raw water from the American River. However, due to long-term strong political and environmental opposition to this plan, EBMUD recently entered into an agreement with the County of Sacramento and the U.S. Bureau of Reclamation to access the Sacramento River as the source of supplemental EBMUD water supplies (EBMUD 2001b).

EBMUD projects that in 2020, customers will use 14 mgd (9 billion gallons per year) of reclaimed water for landscape irrigation and for some industrial and commercial uses. Because the supply of EBMUD reclaimed water far exceeds demand, in times of drought, reclaimed water provides a much more stable source of water, not subject to rationing (EBMUD 1999a, b). EBMUD policy and regulations may require its customers and applicants to use recycled water when such water is of adequate quality and quantity, available at a reasonable cost, not detrimental to public health, and not injurious to plant, fish, or wildlife (EBMUD 1999c).

Power. Pacific Gas & Electric (PG&E) Company, a private investor-owned utility, distributes natural gas and generates and distributes electricity to nearly all areas of the City. Restructuring and deregulation of California's electric industry, combined with unanticipated growth and lack of new generation facilities, has resulted in instability of electric supply. This instability is reflected in the bankruptcy of PG&E in April 2001. It is has also resulted in rolling black-outs, events during which power is cut to specific areas for several hours at a time to reduce demand on the electric grid system. Such measures can be expected to continue during periods of peak demand until sufficient generation facilities are operational, in 2002 or 2003.

4.9.4 Local Setting

The analysis of impacts to potable water use/supply, energy consumption, and school attendance use an alternative baseline for only the OARB portion of the project area. For these factors, both the current environmental setting, and the environmental baseline in 1995 are described. For remaining factors, current setting information is provided.

Public Services

Fire and Emergency Response. Fire Stations No. 2 and No. 3 provide fire protection, hazmat response, and emergency response services to the study area. The OFD expects both stations to be staffed by licensed paramedic personnel by the end of 2002 (OFD 2001c). In addition, Station No. 2, at 100 Jack London Square (immediately east of the study area at the base of the Franklin Delano Roosevelt pier) is staffed 24 hours per day by one officer and three fire-fighters. It has one engine and one boat for fire suppression.

Station No. 3, at 1445 14th Street (approximately five blocks east of the study area) is staffed 24 hours per day by two officers and six firefighters. It has one engine and one truck for fire suppression, and houses OFD's primary hazmat response team, which provides the first response to major spills or releases of hazardous materials throughout the OFD service area (OFD 2001b).

The OFD paramedic training facility is an interim use located in OARB Building No. 590.

Police Protection. The study area is located within Oakland Police Department (OPD) Beats No. 02Y, No. 05Y, and No. 01X. The OPD provides police services to the Maritime and 16th/Wood sub-districts. Contracted private guard service currently patrol the OARB sub-district, acting as first responder; OPD provides additional support within OARB (OPD 2001).

In accordance with the terms and conditions of a City of Oakland–Port of Oakland memorandum of understanding (MOU), the Port funds two full-time commercial officer positions to enforce truck-related regulations in West Oakland.

Schools, Setting. The study area is within the boundaries of two OUSD schools: Prescott Elementary and McClymonds High. In 2000, Prescott Elementary, located at 920 Campbell Street in West Oakland, served 640 students in kindergarten through 8th grade. McCylmond High, located at 2507 Myrtle Street in West Oakland, served 819 students in grades 9 through 12 in 2000 (OUSD 2001). In addition, the Oakland Military Institute College Preparatory Academy and a Head Start facility are located in the OARB sub-district.

Based on data from the 2000 U.S. Census, an average of 0.51 school-aged child resides in each Oakland household (U.S. Department of Commerce 2000). The redevelopment project area has approximately 20 residential loft units, and this analysis estimates approximately 10 school-aged children live in the Maritime sub-district.

Schools, Alternative Baseline. In 1995, approximately 45 school children living at the OARB attended Oakland public schools. No other school-aged children lived in the redevelopment project area in 1995 (Corps 2001).

Libraries. The West Oakland branch library is located at 18th and Adeline streets in West Oakland. This branch houses the Public Library's bookmobile, and maintains free Internet access for patrons. The West Oakland branch library also sponsors several unique programs for

children, and others related to the history and culture of West Oakland. The West Oakland branch includes meeting rooms, and accommodates public forums by appointment (Oakland Public Library 2001).

Hospitals. The hospital nearest the study area is Summit Medical Center. A mental health and substance abuse facility serving military personnel is located within the Port development area of the OARB sub-district (within the Army Reserve Enclave), east of Maritime Street.

Utilities

Information for utility systems serving the OARB sub-district is summarized from the *Oakland Army Base Utility Study Utilities Systems Review* (Earth Tech 2000). For the remainder of the study area, information is generally summarized from the LUTE (City of Oakland 1998).

Throughout the redevelopment study area, a variety of entities supply resource-based utilities; these entities may or may not operate and maintain the utility systems. At the OARB, the Port of Oakland serves as the "qualified utility provider," whereby the Port operates and maintains several of the utility systems. Redevelopment project area providers and system operators are, as follows:

Utility	Supplier	System Operator (area)
Wastewater collection		City (16th/Wood) Port (OARB, Maritime)
Wastewater transport		EBMUD
Wastewater treatment		EBMUD
Stormwater collection, transport		City, Alameda County Flood Control District (16th/Wood) Port (OARB, Maritime)
Potable, reclaimed water	EBMUD	EBMUD (16th/Wood) Port (OARB, Maritime)
Solid waste		Waste Management
Electricity	WAPA	OARB, Maritime
	PG&E	16th/Wood
Gas	PG&E	PG&E
Telecommunications	Pacific Bell	Pacific Bell

Wastewater. For the entire study area, EBMUD provides sanitary sewage transport (intercepting and lift stations), treatment and disposal services. Within the 16th/Wood sub-district, the Oakland Public Works Department owns, operates, and maintains the sewage collection system. Within the OARB sub-district, the Army owns, and the Port operates and maintains the sewage collection system. In addition, there is a single septic tank at Building No. 991. In the Maritime sub-district, the Port owns, operates, and maintains the collection system. The EBMUD 102-inch outfall pipeline, a pile-supported structure, starts at EBMUD's main WWTF northeast of the OARB, traverses westerly just north of the Baldwin Yard, then immediately north of and parallel to Burma Road, and continues to its outfall point approximately one mile west of the eastern Bay shoreline. Prior to its discharge to the Bay, effluent is de-chlorinated by the addition of sodium bisulfide at a de-chlorination facility located at the Gateway Peninsula. This facility is located within a cinderblock building. Chemicals are stored in double-walled tanks, located within a bermed enclosure.

The redevelopment project area is located entirely within sewer collection basin 64 (Oakland North). Sewer collection basin 64 is subdivided into 15 numbered and one unnumbered ("X")

sewer collection sub-basins. Each numbered sub-basin encompasses a specific physical area, and its sewer flows are assigned to a single discharge point from the City's collection system to the EBMUD interceptor system, in this case EBMUD's South Interceptor. The unnumbered sub-basins represent the total area within the larger sewer collection basin not located within a numbered sub-basin, and flows are not assigned to a specific discharge point along the EBMUD transport system. Each sub-basin is allocated a certain amount of sewer flow that may be discharged to the EBMUD system, and flows within a sub-basin normally may not exceed that allocation. Should a sub-basin require more flow than its allocation, allocation may be redirected between adjacent sub-basins, or allocation assigned to the unnumbered sub-basin may be redirected to a numbered sub-basin. In total, however, flows for the larger sewer basin may not exceed that basin's allocation. In this manner, EBMUD ensures the capacity of its wastewater transport and treatment system is adequate to serve development as planned and as proposed. The portion of the project area anticipating physical redevelopment spans all or a portion of the following sewer collection sub-basins: 64-4, 64-5, 64-12, 64-13, 64-14, 64-15, and 64-X. Total gross allocation for these sub-basins is 14.2 mgd.

Stormwater. The City of Oakland Public Works Department and the ACFCD serve the 16th/Wood sub-district. The Port of Oakland owns and maintains the storm sewer system within the majority of the Maritime sub-district. The Port of Oakland is constructing its Vision 2000 Maritime Development Program along the Oakland Inner and Middle harbors. This major port and regional recreation program includes a new stormwater system subject to permit conditions imposed by the RWQCB. Within the OARB sub-district, the Army owns, and the Port operates and maintains the storm sewer system, including pipelines, manholes, 440 catch basins, and 11 outfall structures discharging to the Oakland Outer Harbor.

Potable and Reclaimed Water, Setting. The EBMUD treats potable water for the entire study area. Within the 16th/Wood and Maritime sub-districts, EBMUD also transports potable water to each customer's meter. Within the OARB sub-district, the Army owns, and the Port operates and maintains the water distribution system from two connections to the EBMUD system, one located near the intersection of 14th and Maritime streets, and the other located near the West Grand Avenue over-crossing near I-80. A 12-inch water line owned by the City of San Francisco and serving Treasure Island, is located north of OARB in the I-80 right-of-way. This line provides a third connection to the OARB, although that connection is not utilized.

EBMUD does not currently serve the study area with reclaimed water. It does plan, however, to serve the area with reclaimed water through its East Bayshore Recycled Water Project. Recommended reclaimed water pipeline routes as depicted in the project's EIR would traverse the OARB and Maritime sub-districts in Maritime Street and 7th Street, and would be located adjacent to the 16th/Wood sub-district in Wood Street (EBMUD 2001c).

Current (2001) daily water demand for the redevelopment project area is estimated at approximately 991,500 gallons per day, as follows:

Potable and Reclaimed Water, Alternative Baseline (1995). In the baseline year of 1995, actual daily water use at the OARB averaged 184,100 gallons over a 12-month period (EBMUD 2001d).

Sub-District	Gallons per Day, Rounded to Nearest 100 Gallons[2]
OARB	205,400
Maritime	760,200
16th/Wood	25,900
Total	**991,500**

Source: EBMUD 2001d.

Solid Waste. Solid waste generated within the study area is ultimately disposed at the Altamont landfill. Within the 16th/Wood and Maritime sub-districts, Waste Management of Alameda County collects solid waste, processes it through the Davis Street transfer station, and disposes it at the landfill. Within the OARB sub-district, Waste Management collects and disposes of waste at the Altamont landfill (Corps 1999).

Power, Setting. PG&E distributes natural gas to the entire study area. Within the OARB sub-district, PG&E distributes gas under "interruptible" terms, whereby delivery is subject to supply or capacity restrictions.

PG&E supplies and distributes electricity throughout the 16th/Wood sub-district and to a portion of the OARB sub-district. Within the majority of the OARB sub-district, a Port-owned 12 kV power line supplements the PG&E supply from the Western Area Power Association (WAPA)-supplied, Port-owned Davis sub-station, located on Maritime Street near 7th Street. The Port distributes 12 kV power to most of the Maritime sub-district as well as Treasure Island from its Davis sub-station. Existing feeder into the OARB switchgear can deliver 7.4 MW; the switchgear itself is rated at between twice and three times that amount. Four feeder circuits, each rated at 5.3 megavolt amperes can supply a total of 5 MW, well above historic peak demand (Corps 2001). In 1999, peak electrical demand at the OARB was 1.5 megawatts (MW) (Earth Tech 2000).

Power, Alternative Baseline (Electricity, 1995). In the 1995 baseline year, peak demand for electricity at the OARB was just under 3 MW (Corps 2001).

Telecommunications. Pacific Bell operates and maintains the telecommunications system in the redevelopment project area, and own most of the system outside the OARB sub-district. Within the OARB, Pacific Bell has a primary point of interface in Building No. 780 and an intermediate distribution frame in Building No. 1. The Army owns the remainder of the telephone infrastructure equipment at the OARB. Pacific Bell provides service to all tenants at the Base.

4.9.5 Impact Analysis Methodology

As allowed by CEQA, where relevant, the analysis of impacts of community reuse of a military base may be based on environmental conditions that existed at the time the federal government

[2] Demand for the OARB is taken from metered usage averaged over a 12-month period. Demand for the Maritime and 16th/Wood sub-districts is derived from EBMUD's "Average Land Use Demands by Location" methodology. See Appendix 4.9 for calculation of water demand estimates for 2001 and 2020.

made the decision to close the base, rather than current existing conditions. For the OARB, this decision was made in 1995. The analysis of impacts to potable water use/supply, energy consumption, and school attendance use this alternative baseline for only the OARB portion of the project area.

Significance Criteria

Redevelopment would have a significant impact on the environment if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental 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:

  Fire protection;

  Police protection;

  Schools[3]; or

  Other public facilities;[4]

- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan;
- Exceed wastewater treatment requirements of the San Francisco Bay RWQCB;
- Require or result in construction of new storm water drainage facilities or expansion of existing facilities, construction of which could cause significant environmental effects;
- Exceed water supplies available to serve the redevelopment program from existing entitlements and resources, and require or result in construction of water facilities or expansion of existing facilities, construction of which could cause significant environmental effects;
- Result in a determination by the wastewater treatment provider that serves or may serve the redevelopment program that it does not have adequate capacity to serve the redevelopment program's projected demand in addition to the providers' existing commitments and require or result in construction of new wastewater treatment facilities or expansion of existing facilities, construction of which could cause significant environmental effects;
- Be served by a landfill with insufficient permitted capacity to accommodate the redevelopment program's solid waste disposal needs and require or result in construction of

[3] While school impacts are discussed, mitigation for such impacts is limited to allowable fees as established by Government Code Section 69955.

[4] Effects to public recreation facilities are disclosed in Section 4.10: Recreation and Public Access.

landfill facilities or expansion of existing facilities, construction of which could cause significant environmental effects;

- Violate applicable federal, state, or local statutes and regulations related to solid waste;
- Violate applicable federal, state or local statutes and regulations relating to energy standards;
- Result in a determination by the energy provider that serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments and require or result in construction of new energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects; or
- Accelerate or advance the timing and extent of roadway repair requirements in and around the project area to a greater extent than would otherwise be required for roadway upkeep and repair under normal vehicular flow conditions.

Not all criteria listed above apply to proposed redevelopment, and those that do not apply are not analyzed below. Safeguards are currently in place that would prohibit wastewater treatment requirements of the San Francisco RWQCB to be exceeded. For example, EBMUD is required to operate within its RWQCB-granted NPDES permit, which includes conditions on discharge quantity and quality specifically intended to ensure that high receiving water quality results. In addition, the City of Oakland may not exceed its flow allocations in each relevant EBMUD sewer collection sub-basin; again, this measure ensures that EBMUD has both the sewage transport and treatment capacity planned to ensure high receiving water quality. The NPDES-permitted discharge quality and quantity levels in EBMUD's NPDES permit represent the legal baseline for impact analysis. As long as redevelopment as proposed would not cause EBMUD to operate outside its permit conditions, no wastewater impacts would occur.

4.9.6 Impacts

Redevelopment as proposed would include the following activities or elements that could affect public services or utilities:

Construction. Demolition of buildings, removal of pavement and asphalt, possible removal of underground infrastructure (increases in solid waste); installation of underground utilities (new storm and sanitary sewers, potable water, reclaimed water, natural gas, telecommunications, and electrical systems); construction vehicles (deterioration of local roadways).

Operations. New and increased employment centers, commercial, and residential uses, with increased daytime population and industrial activity northwest of I-880, and increased day-time and nighttime population southeast of I-880 (increased demand for fire, emergency response, police, and first medical response services; slight increase in school enrollment, library, and hospital services; increased demand for water supply and treatment and sanitary sewer transport and treatment; increased solid waste; accelerated roadway deterioration).

Benefits

Redevelopment as proposed would result in repair and/or replacement of the majority of the existing water supply, stormwater collection/discharge, and collection sanitary sewer systems. This would result in new infrastructure systems designed and constructed to modern municipal standards. Losses in leaking water lines, contamination in storm sewer pipelines, and inflow/infiltration to sanitary sewer pipelines would be substantially lowered. This would result in lower water usage, cleaner receiving waters, and lower sanitary sewer flows than would otherwise occur with reuse of the old systems, a substantial environmental benefit.

As noted in Section 4.7: Hazardous Materials, reconstruction of the existing storm sewer system would eliminate a source of environmental contamination, a substantial benefit.

~ ~ ~

Impacts

Impact 4.9-1: Construction activities and increases in employees and residents as well as increased building density would increase demand for fire, hazmat, and first responder medical emergency services.

Significance: Significant for long-term fire and first responder medical emergency response

Less than significant for hazmat response

Mitigation 4.9-1: The City and Port shall cooperatively investigate the need for, and if required shall fund on a fair-share basis construction and operation of a fire station in the OARB sub-district. Construction and operation of this fire station shall occur in accordance with all applicable measures recommended in this EIR to mitigate environmental impacts of such construction and operation.

Residual Significance: Less than significant

The redevelopment program would include activities such as demolition/de-construction, site preparation, and utilities installation that could result in a short-term increase in the need for fire, first responder medical emergency, and hazmat response services. This short-term need is not expected to require new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives, and the short-term impact to these services is considered less than significant.

As is currently the case, redevelopment could result in the transport of hazardous materials along access routes, and the transport, handling, and use of such materials within the redevelopment project area. The quantities and types of hazardous materials used in redevelopment operations are likely to differ than those currently used, but in any case,

redevelopment would not introduce new types of hazardous materials to an area. It is not expected the potential long-term need for hazardous response services would require new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives, and the long-term impact to these services is considered less than significant.

For fire, first responder medical emergency, and hazmat response services, it is possible that due to increases in both daytime and full-time populations, existing equipment and staffing may not be adequate to serve the redevelopment project area. When the City grants permits for redevelopment or subsequent redevelopment activities, the permit may include conditions requiring payment of monies to defray the costs of increased equipment or staffing of facilities needed to provide adequate services.

Although the exact type and location of redevelopment physical elements is not currently defined, redevelopment would result in replacement of old structures or vacant parcels with new structures designed to modern building codes. This would reduce the long-term need for fire response services based on structure age and type. This is counter-balanced, however, by the intensification of land uses and increased activity levels in the OARB sub-district (including the presence of more than 10,000 new local employees), the distance of the sub-district from the nearest public fire station, and the intervening elevated I-880 requires access to the site from any Oakland fire station across elevated structures. Such structures may be compromised in a major seismic event, isolating the OARB and most of the Maritime sub-districts from emergency responders. This combination of factors could result in response times unacceptable to the OFD for fire and first responder medical emergency services (OFD 2002b), requiring new facilities whose construction may have a significant impact on the environment, and the effect of redevelopment relative to fire and first responder medical emergency services is considered significant. With implementation of Mitigation Measure 4.9-1, the impact would be rectified, and the residual impact is considered less than significant. Because mitigation for this impact may be a physical facility, implementation of this measure may in itself result in significant impacts to the environment. If required, the facility would be located within the OARB sub-district, and its construction and operation would be subject to the same mitigation program as all other redevelopment activities. It is, therefore, included in the analysis of impacts for the redevelopment program as a whole. In addition, Mitigation Measure 4.3-8 is intended to address isolation of a portion of the Gateway development from emergency responders.

Section 4.8: Population, Housing, and Employment, describes the projected long-term increase in both business and residential population expected from redevelopment as proposed. This increase in the number of people working and living in the area could increase the need for first responder medical emergency services. It is not expected the potential long-term need for first responder medical emergency services would require new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives, and the long-term impact to these services is considered less than significant.

❖ ❖ ❖

Impact 4.9-2: Construction activities and increased employees and residents, as well as increased building density would increase demand for police protection services.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

During construction of redevelopment activities and subsequent activities, construction site would be security fenced. However, the presence of valuable equipment and materials may result in a short-term increase in the need for police protection/response services. This short-term need is not expected to require new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives, and the short-term impact to these services is considered less than significant.

Section 4.8: Population, Housing, and Employment, describes the projected long-term increase in both business and residential population expected from redevelopment as proposed. The net increase in the number of people working and living in the area could increase the long-term need for police protection. The long-term need for police protection services is not expected to require new or physically altered government facilities in order to maintain acceptable service ratios, response times, or other performance objectives, and the long-term impact to these services is considered less than significant.

While new or altered physical facilities that could result in an impact to the environment are not expected to be required as a result of redevelopment, it is possible that due to increases in both daytime and full-time populations, as well as increased traffic levels, existing equipment and staffing may not be adequate to serve the redevelopment project area.

❖ ❖ ❖

Impact 4.9-3: Increases in residential population could increase school enrollment in the OUSD.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

In-migration of construction workers to the redevelopment project area or immediately surrounding area as residents is not anticipated, and short-term impacts to schools would not occur as a result of redevelopment.

Redevelopment would result in 375 new live-work units in the 16th/Wood sub-district. Based on the number of students per Oakland household in the 2000 Census, this analysis assumes 0.51 student per unit, or approximately 190 students. Because live-work is generally not family housing, this estimate is conservative. Accounting for the 45 school-aged children located within

the project area at the OARB in the baseline year of 1995, the net potential increase in student population due to redevelopment is approximately 145 students.

The 16th/Wood sub-district is within the boundaries of Prescott Elementary School and McClymonds High school. The redevelopment-generated long-term need for school services is not expected to require new or physically altered government facilities in order to maintain acceptable performance objectives, and the long-term impact to these services is considered less than significant.

While new or altered physical facilities that could result in an impact to the environment are not expected to be required as a result of redevelopment, it is possible that due to increases in student population, existing equipment and staffing may not be adequate to serve the redevelopment project area. Pursuant to Government Code Section 65595, fees, charges, dedications, or other requirements imposed on development in amounts not to exceed those established by that code section considered full and complete mitigation for any school-related impacts.

❖ ❖ ❖

Impact 4.9-4: Increases in residential population could increase demand for library services.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

Redevelopment would result in 375 new live-work units in the 16th/Wood sub-district. Based on *Projections 2002,* Oakland households are expected to have and average of 2.6 persons in 2020; in addition, total population growth between 200 and 2020 is projected to be 10.1 percent (Association of Bay Area Governments [ABAG] 2001). Using the ABAG methodology, the residential population increase resulting from redevelopment would be 975 persons. Because live/work is generally not family housing, this is a conservative estimate. In 2000, the Oakland library system served 421,050 persons (Oakland Public Library 2001). Using ABAG assumptions regarding population growth, this number would increase to approximately 463,800 by 2020. Assuming all new redevelopment-generated residents become library patrons, redevelopment would represent an increase in patronage of approximately 0.2 percent, and impact to library services is considered less than significant.

While new or altered physical facilities that could result in an impact to the environment are not expected to be required as a result of redevelopment, it is possible that due to increases in student population, existing equipment and staffing may not be adequate to serve the redevelopment project area. When the City grants permits for redevelopment or subsequent redevelopment activities, the permit may include conditions requiring payment of monies to

defray the costs of increased equipment or staffing of school facilities needed to provide adequate services.

❖ ❖ ❖

Impact 4.9-5: Increases in employee and residential population could increase demand for hospital services.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

During construction, redevelopment as proposed could result in a slight short-term increase in the need for hospital services. Section 4.8: Population, Housing, and Employment, describes the projected long-term increase in both business and residential population expected from redevelopment as proposed. The net increase in the number of people working and living in the area could increase the long-term need for hospital services. The short-term and long-term need for hospital services are not expected to require new or physically altered facilities in order to maintain acceptable service ratios, response times, or other performance objectives, and the impact to these services is considered less than significant.

❖ ❖ ❖

Impact 4.9-6: Redevelopment construction could interfere with operation of the Maritime Street emergency response staging area, or with the West Grand Avenue and 7th Street evacuation routes.

Significance: Potentially significant

Mitigation 4.9-2: The Port and City shall work with OES to ensure changes in local area circulation are reflected in the revised Response Concept.

Mitigation 4.9-3: The Port and City shall require developers within their respective jurisdictions to notify OES of their plans in advance of construction or remediation activities.

Residual Significance: Less than significant

Large-scale construction, particularly relocation of Maritime Street and re-construction of the 7th Street rail structure has the potential to interfere with emergency first responder/evacuation routes. Because occurrence of this impact depends on a large scale emergency that may or may not occur, the impact is considered potentially significant. With implementation of Mitigation Measures 4.9-2 and 4.9-3, this impact would be substantially reduced, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.9-7: The new storm sewer system for the 16th/Wood sub-district would expand existing facilities.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

Redevelopment as proposed in the 16th/Wood sub-district would require that new or expanded storm drains be constructed, and that new system would tie into the existing municipal system. Because redevelopment of the 16th/Wood sub-district would be infill on currently or previously developed lands, it would not result in substantially greater impervious cover, or increased amounts of storm run-off than occurred when the area was fully developed. While the local storm drain system must be rebuilt, it would not be built with excess capacity that could induce additional growth (see Chapter 6: Consideration of Impacts of Proposed Redevelopment, for a discussion of the potential of the redevelopment program to induce growth). Physical environmental impacts of storm sewer reconstruction are taken into consideration in various locations within this chapter, depending on the environmental factor impacted or potentially impacted. Additional impacts beyond those already disclosed in this document are not anticipated.

❖ ❖ ❖

Impact 4.9-8: Redevelopment would increase potable water demand.

Significance: Significant

Mitigation 4.9-4: Individual actions with landscaping requirements of one or more acres shall plumb landscape areas for irrigation with reclaimed water.

Mitigation 4.9-5: Individual buildings with gross floor area exceeding 10,000 square feet shall install dual plumbing for both potable and reclaimed water, unless determined to be infeasible by the approving agency (City or Port).

Mitigation 4.9-6: Site design shall facilitate use of reclaimed water, and shall comply with requirements of CCR Title 22 regarding prohibitions of site run-off to surface waters.

Residual Significance: Less than significant

Redevelopment as proposed would increase employed and resident population and intensify land use within the project area in a manner that would increase water demand. Utilizing metered water usage at the OARB, and the East Bay Municipal Water District land-use based

methodology for calculating water demand for off-Base areas within the project area, total estimated water demand in 2001 is approximately 991,500 gallons per day (gpd); for the baseline year, water use was 970,200.[5] Water demand for the entire redevelopment project area in 2020 is projected to be approximately 1.5 million gallons per day (mgd); approximately 614,000 gpd in the OARB sub-district, 747,000 gpd in the Maritime sub-district, and 126,000 gpd in the 16th/Wood sub-district. Assuming 2001 demand, increased water demand due to redevelopment is projected to be approximately 495,300 gpd; assuming baseline year demand, increased water demand due to redevelopment is projected to be approximately 516,500 gpd. This analysis conservatively does not assume the OARB water system is leaking, although this would be reasonable to assume, given the system is of World War II vintage; moreover usage is higher in 2001 than in 1995, when the Base was fully operational, which may indicate that leakage is occurring and is becoming worse over time.

Pursuant to Section 10910 of the California Water Code and the requirements of CEQA, the City requested that EBMUD assess the water demand of the redevelopment program, as well as EBMUD's ability to serve that demand. The findings of the water demand and supply assessment, and EBMUD's response to the City's request is included as Appendix 4.9 to this document. The findings of the assessment conclude that EBMUD has sufficient supplies to meet the demand of the redevelopment program in years of normal rainfall. Given the findings of the water supply assessment, demand of the redevelopment program would not exceed available water supplies from existing entitlements and sources. Neither would the program require construction or expansion of water supply or treatment facilities, and the impact of redevelopment to water supplies in normal years is considered less than significant.

Under drought conditions, EBMUD would not have sufficient water to serve all customer demand within its service boundary, including the redevelopment program. This is considered a significant impact. Under drought conditions, EBMUD would ration potable water to its customers, including those located within the redevelopment project area, consistent with its most current UWMP (EBMUD 2000). Implementation of EBMUD's drought condition rationing program in combination with Mitigation Measures 4.9-4, 4.9-5, and 4.9-6, would substantially reduce demand for potable water from redevelopment during critical water supply events, consistent with EBMUD policies. The residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.9-9: Redevelopment would increase sewer flows to the EBMUD transport and treatment system.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

[5] Data of metered water use at the OARB, and the EBMUD water demand and supply assessment are included in this document as Appendix 4.9.

During wet weather events and in times when groundwater is at its highest level (*e.g.*, after one or more high-rain seasons), groundwater inflow and infiltration (I/I) to the sanitary sewer system can account for the majority of sewer flows. Moreover, groundwater in the Maritime and OARB sub-districts is normally relatively shallow. As with the water system, the OARB sewerage system is of World War II vintage; conversely, much of the Maritime sub-district system was recently installed as part of the Port of Oakland's Vision 2000 Program. All or nearly all sanitary sewer pipelines in the OARB and 16th/Wood sub-districts would be removed, and a new sewer system would be constructed as part of the redevelopment program.

Based on standard flow factors, and assuming reconstruction of large portions of the system as described above, sewer flows for the redevelopment program are estimated to be approximately 898,000 gpd, average dry weather flow (ADWF), and 2.6 mgd peak weather flow (PWWF). These protected flows would not exceed allowable sewer collection sub-basin allocations.[6] Sewer flows from the redeveloped project area would not exceed the capacity of either the sewer transport or treatment systems, and the impact is considered less than significant.

❖ ❖ ❖

Impact 4.9-10: Redevelopment would increase the quantity of solid waste, and demand for solid waste services.

Significance: Potentially significant

Mitigation: 4.9-7: To the maximum extent feasible, the City and Port shall jointly participate in a deconstruction program to capture materials and recycle them into the construction market.

Mitigation 4.9-8: Concrete and asphalt removed during demolition/construction shall be crushed on-site or at a near-site location, and reused in redevelopment or recycled to the construction market.

Mitigation 4.9-9: The City and Port shall require developers to submit a plan that demonstrates a good faith effort to divert at least 50 percent of operations phase solid waste from landfill disposal.

Residual Significance: Less than significant

While the City currently complies with waste diversion requirements of 50 percent, redevelopment activities could generate waste in quantities that could jeopardize that compliance. During construction, demolition of buildings would generate large amounts of wood, metal, ceramic, and other materials. Removal of existing building slabs, roads, and parking lots would generate substantial amounts of concrete and asphalt. It is not likely these materials would be generated in quantities that would threaten landfill capacity, but they may be produced

[6] Analysis of sewer flows on a sub-basin basis is included in this EIR as Appendix 4.9.

in quantities sufficient to hamper the City's ability to achieve mandated waste diversion goals. Because the volume and weight of construction debris cannot be estimated with accuracy, the impact is considered potentially significant. With implementation of Mitigation Measures 4.9-7, 4.9-8 and 4.9–9, the impact would be substantially reduced, and the residual impact is considered less than significant. In addition, Mitigation Measure 4.6-5, primarily intended to mitigate impacts to historic resources, would further mitigate impacts related to construction-phase solid waste.

During the operations phase, redevelopment would generate the types and quantities of solid waste typical of the types of uses anticipated: transportation, industrial, office/R&D, commercial, and live/work. An analysis of the quantity of solid waste generation, diversion, and disposal related to redevelopment is included as Appendix 4.9 to this EIR. Using waste generation factors utilized in other environmental analysis as summarized by the IWMB, redevelopment is expected to generate approximately 27,600 tons per year (tpy) of solid waste. Accounting for existing solid waste generation from the OARB sub-district (which would be replaced with new land uses) of 10,600 tpy, net solid waste generation from redevelopment would be 17,100 tpy. Accounting for Oakland's historic 50 percent diversion rate, net solid waste for disposal attributable to redevelopment would be 8,500 tpy. This is less than 2 percent of total Oakland disposal in 2000, and less than 0.3 percent of total waste disposed daily at the Altamont and Vasco Road landfills. The redevelopment-specific impact to public services relative to solid waste is considered less than significant.

❖ ❖ ❖

Impact 4.9-11: Redevelopment could increase demand for energy.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

Redevelopment would replace approximately 3.3 million square feet of enclosed building area constructed to 1940s standards, with approximately 4.1 million enclosed square feet of modern, insulated, buildings. Although square footage would increase by approximately 25 percent relative to the existing condition, due to the use of modern materials with excellent insulation capabilities, energy consumption per square foot for climate control is likely to be greatly lower than the current condition. In the absence of development details, energy use is difficult to estimate in a meaningful manner. While new land uses may require substantial power, there is excess capacity in the existing system that would allow for considerable growth (Corps 2001). PG&E can deliver up to approximately 7.4 megawatts (MW) of power to switching station that serves the area. Should this entire capacity be used, it would represent less than 0.02 percent of California electricity consumption in 2000 (California Energy Commission [CEC] 2001). Accounting for baseline year consumption (3 MW), net estimated consumption would be 4.4 MW, less than 0.01 percent of California 2000 consumption. Existing capacity is adequate to serve redevelopment, and additional facilities or sources of energy would not need to be

developed. The redevelopment-specific effect on energy resources would be less than significant.

❖ ❖ ❖

Impact 4.9-12: Both construction/remediation vehicles and increased operations vehicle activity would accelerate or advance deterioration of local roadways and the timing and extent of roadway maintenance/repair.

Significance: Significant

Mitigation 4.9-10: The Port and City of Oakland shall work cooperatively to develop an ongoing joint program to identify and evaluate impacted local roadways and identify required maintenance/repair activities. The agencies will fund needed repairs and maintenance on a fair-share basis.

Residual Significance: Less than significant

Due to their weight, heavy-duty construction/remediation vehicles and on-road equipment could accelerate deterioration of local roadways. During operations, increased activity levels would result in increased vehicle trips associated with all redevelopment sub-districts. Some of these increased trips would be extra-heavy truck trips, allowed only in the Port area. Increases in trips, which are described in Section 4.3: Transportation and Traffic, would accelerate or increase physical deterioration of local roads, which is considered a significant impact. With implementation of Mitigation Measure 4.9-10, the impact would be substantially rectified or compensated for, and the residual impact is considered less than significant. In addition, Mitigation Measure 4.8-13, intended to primarily address traffic impacts would also further mitigate this impact.

❖ ❖ ❖

4.9.7 Mitigation

Implementation of the following mitigation measures will avoid, minimize, reduce, rectify, or compensate for significant impacts of redevelopment.

Mitigation 4.9-1. The City and Port shall cooperatively investigate the need for, and if required, shall fund on a fair-share basis construction and operation of a fire station in the OARB sub-district. Construction and operation of this fire station shall occur in accordance with all applicable measures recommended in this EIR to mitigate environmental impacts of such construction and operation.

This measure applies to Impact 4.9-1 and Cumulative Impact 5.9-1.

The City and Port of Oakland will each contribute their fair share toward cooperatively investigating the need for a new fire station in the redevelopment area west of Ł880. This investigation shall include consultation with the OES and OFD. Should this investigation conclude that, based on detailed redevelopment design, a new fire facility is required, the Port and the City shall each fund their fair share to construct, equip, and staff a fire station and first responder medial emergency facility in the OARB sub-district. In addition, as subsequent redevelopment activities occur, the City and Port will develop a fee formula (to recoup initial investment from future development), as well as a long-term cost sharing formula (to equitably distribute the cost of continuing operations).

The fire facility will be constructed after basic underground infrastructure is constructed, and before any people-attracting subsequent redevelopment activities begin operations.

❖ ❖ ❖

Mitigation 4.9-2: The Port and City shall work with OES to ensure changes in local area circulation are reflected in the revised Response Concept.

This measure applies to Impact 4.9-6.

The Port and City would provide information to the OES to facilitate that agency's accurate revision of its Response Concept and Annex H. In particular, the City and Port would provide OES information regarding new and proposed project area development, intensification and changes in land uses, realignment of area roadways, and construction of new local circulation facilities.

~ ~ ~

Mitigation 4.9-3: The Port and City shall require developers within their respective jurisdictions to notify OES of their plans in advance of construction or remediation activities.

This measure applies to Impact 4.9-6.

Each developer proposing construction in the redevelopment project area would be required to notify OES prior to initiation of construction, so that OES may plan emergency access and egress taking into consideration possible conflicts or interference during the construction phase. The developer would also be required to notify OES once construction is complete.

~ ~ ~

Mitigation 4.9-4: Individual actions with landscaping requirements of one or more acres shall plumb landscape areas for irrigation with reclaimed water.

This measure applies to Impact 4.9-8 and Cumulative Impact 5.9-5.

As subsequent redevelopment activities are designed, the City and Port would require that activities of a certain magnitude shall include a reclaimed landscaping irrigation system. The City and Port would make this a condition of approval for private actions that require such approval, and would include reclaimed landscape water systems in the design of their own public projects.

❖ ❖ ❖

Mitigation 4.9-5: Individual buildings with gross floor area exceeding 10,000 square feet shall install dual plumbing for both potable and reclaimed water, unless determined to be infeasible by the approving agency (City or Port).

This measure applies to Impact 4.9-8 and Cumulative Impact 5.9-5.

Any major subsequent redevelopment activity that includes total usable floor area within or more building of 10,000 square feet or more would be required to provide a dual plumbing system—one for potable water, and one for reclaimed water. Reclaimed water may be used for certain industrial uses, and for landscape irrigation, toilet flushing, and other appropriate purposes.

❖ ❖ ❖

Mitigation 4.9-6: Site design shall facilitate use of reclaimed water, and shall comply with requirements of CCR Title 22 regarding prohibitions of site run-off to surface waters.

This measure applies to Impact 4.9-8.

When subsequent redevelopment activities are required to include reclaimed water in their design, the City and Port would ensure that requirements of Title 22 intended to protect the environment are reflected in that design, including prohibitions against run-off to surface waters. The City, Port, and proponents of subsequent redevelopment activities should coordinate these efforts with the reclaimed water supplier, EBMUD.

❖ ❖ ❖

Mitigation: 4.9-7: To the maximum extent feasible, the City and Port shall jointly participate in a deconstruction program to capture materials and recycle them into the construction market.

This measure applies to Impact 4.9-10 and Cumulative Impact 5.9-7.

Substantial quantities of construction debris would be generated by the removal of structures at the OARB, in both the Gateway and Port development areas. Some of the buildings span both development areas, and coordination between the Port and City is critical in reducing the amount of solid waste disposal that occurs in this sub-district. The City and Port would jointly plan, implement, and operate a program whereby buildings would be deconstructed, rather than demolished, and the resulting material would be recycled to the construction market as

practicable. Material for recycling may include, and is not limited to, timbers and siding, ceramic fixtures, metal, and copper wiring. The City and Port may elect to partner with local job-training bridge programs to provide construction training opportunities to Oakland residents through their deconstruction program.

❖ ❖ ❖

Mitigation 4.9-8: Concrete and asphalt removed during demolition/construction shall be crushed on site or at a near site location, and reused in redevelopment or recycled to the construction market.

This measure applies to Impact 4.9-10 and Cumulative Impact 5.9-7.

Foundation and paving removal would generate substantial debris, and the City and Port would ensure these materials are crushed and recycled. As a first preference, these materials should be re-used on-site; as a second preference, they would be sold to the construction market. The City and Port would make every effort practicable to avoid disposal to landfill of this material.

This mitigation measure may itself result in impacts to the environment relative to noise and air quality. These impacts are discussed in Sections 4.4: Air Quality, and 4.15: Noise.

~ ~ ~

Mitigation 4.9-9: The City and Port shall require developers to submit a plan that demonstrates a good faith effort to divert at least 50 percent of the operations phase solid waste from landfill disposal.

This measure applies to Impact 4.9-10 and Cumulative Impact 5.9-7.

Each project sponsor of a redevelopment activity or subsequent redevelopment activity would be required to submit to the City or Port (depending on the location of the activity) a source reduction/waste diversion plan specifying how the activity will reduce solid waste disposal by 50 percent. The sponsor would be responsible for development and implementation of its plan, and for reporting its progress and success rate to the Port or City. Should the source reduction/diversion plan program not meet its stated goal, the sponsor would modify the plan until the desired level of reduction/diversion is achieved. While each plan would be specific, the following general topics should be addressed:

- Goals.
- Key personnel.
- Quantification of waste.
- Identification of waste materials.
- Program elements.

- Monitoring requirements and performance standards.
- Reporting.

~ ~ ~

Mitigation 4.9-10: The Port and City of Oakland shall work cooperatively to develop an ongoing joint program to identify and evaluate impacted local roadways and identify required maintenance/repair activities. The agencies will fund needed repairs and maintenance on a fair-share basis.

This measure applies to Impact 4.9-12.

The City and Port would work in good faith to develop a program whereby they cooperatively identify roadways for inclusion to a joint maintenance program, establish protocols for evaluating local roadway conditions, and establish a fair-share funding mechanism. Once established, the program would be jointly and cooperatively administered by the City and Port, who would determine when and where maintenance and repairs are required, as well as their nature and extent.

❖ ❖ ❖
❖

4.10 RECREATION AND PUBLIC ACCESS

For purposes of this discussion "public access" refers to facilities such as trails, that provide non-motorized access to and through recreation facilities, as well as associated amenities, such as benches and rest areas.

Redevelopment would result in substantial benefits regarding recreation and public access, as well as several less than significant impacts to recreational resources. Mitigation is not warranted, and none is recommended.

4.10.1 Study Area

The study area for recreation and public access is the approximately 1,800-acre redevelopment project area, plus adjacent parklands or nearby trails to which redevelopment elements may connect.

4.10.2 Regulatory Setting

Federal

There are no relevant federal laws, regulations, or policies regarding recreation and public access.

State

That portion of the project area within 100 feet of the Bay shoreline is subject to the policies of the Bay Conservation and Development Commission (BCDC). The McAteer-Petris Act directs BCDC to exert its land use authority (among other authorities) within its jurisdiction, and BCDC does so in part through preparation and implementation of the *San Francisco Bay Plan* (the "Bay Plan") (BCDC 1968, as amended through 2001). The Bay Plan addresses recreation and public access, among other issues.

Recreation. The Bay Plan contains specific findings and policies concerning recreation on and around the Bay (see Section 4.1: Consistency with Plans and Policies, for discussion of these policies). The Bay Plan recognizes the Bay and its shoreline as a valuable recreational resource, and finds that recreational uses of the Bay and shoreline should be planned as far into the future as possible. Bay Plan policies for recreation focus on active recreational facilities, such as fishing piers and marinas. The Bay Plan states that concentrations of waterfront recreational facilities should generally be located as close to major population centers as feasible, and should not preempt sites needed for ports, waterfront industry, or airports; rather, efforts should be made to integrate recreation into such facilities, to the extent they might be compatible. In addition, the Bay Plan encourages waterfront recreation facilities to the extent they do not have significant adverse effects on water quality and circulation, would not destroy valuable marshes or mudflats, and would not harm identified valuable fish and wildlife resources.

Public Access. The Bay Plan also contains specific findings and policies concerning public access to the Bay (see Section 4.1: Consistency with Plans and Pollicies, for discussion of these policies). The Bay Plan states that in addition to waterfront recreational features such as parks, beaches, marinas, and piers, that each new project in or along the Bay should provide maximum feasible public access consistent with that project, the natural environment, and the public's safety and convenience. This access should be provided by walkways or trails, and should connect to the nearest public thoroughfare.

Local

Recreation. The East Bay Regional Park District (EBRPD) manages regional parks for Alameda and Contra Costa counties. While EPRPD's Master Plan (1996) does not identify lands within the study area as under current or planned management of EBRPD, the EBRPD has expressed interest in acquiring through Public Benefit Conveyance approximately 15 acres at the tip of the Gateway peninsula from the Army to manage as a park.

The *Open Space Conservation and Recreation* Element of the Oakland General Plan (the OSCAR, City of Oakland 1996) inventories existing open space, conservation, and recreation resources of the City; proposes standards; puts forth goals, objectives, and policies; and recommends actions. Themes of the OSCAR include increasing and protecting these resources, and bringing them into neighborhoods where they currently do not exist.

Public Access. The need for public access to and along the Bay shoreline is well established. In 1989, the Association of Bay Area Governments (ABAG) adopted the Bay Trail Plan, which includes a proposed alignment; a set of policies to guide the future selection, design, and implementation of routes; and strategies for implementation and financing. Since its inception, the Bay Trail Plan has been widely supported in the Bay Area: for example, most jurisdictions along the Bay Trail alignment have passed resolutions in support of the Bay Trail, and have incorporated the trail into their general plans. In addition, other state and regional planning agencies such as BCDC and EBRPD, have incorporated public access, including the Bay Trail, into their planning documents, and collaborate with local jurisdictions to ensure public access to the Bay and along its shoreline.

The OSCAR (City of Oakland 1996) includes recommendations for public access to and along the waterfront, but a comprehensive system of trails does not exist. The *Estuary Policy Plan* (City and Port of Oakland, 1999), an element of the Oakland General Plan, describes Oakland's vision for public access along the Estuary shoreline, from Adeline Street to 66th Avenue.

4.10.3 Regional Setting

The region for consideration is the City of Oakland.

Recreation. According to the OSCAR, Oakland encompasses approximately 2,943 acres of parkland, or a citywide average of about 8.25 acres per 1,000 residents. The OSCAR

establishes a citywide goal of 10.0 acres per 1,000 residents for total parkland. Oakland has more than 130 parks and athletic field complexes. Table 4.10-1 presents a summary of park acreages by type. More than 50 percent of park acreage within the region is dedicated to resource conservation, and is generally undeveloped open space. A substantial amount of park acreage within the region is dedicated to special uses, such as golf courses, the zoo, and botanical parks. Less than one-quarter of city park acreage is classified region-serving, community, neighborhood, and mini-parks that can serve a diverse local audience. The citywide average for this type of more traditional park is 1.33 acres per 1,000 residents. The OSCAR establishes a goal of 4.0 acres per 1,000 residents for this type of park. Therefore, the region as a whole achieves only about 33 percent of the established goal.

The West Oakland area of the region includes one community park, six neighborhood parks, five active mini-parks, and two athletic fields. Two of the parks include recreation centers. Total park acreage (including school yards and athletic fields) is 56.7 acres, or 2.43 acres per 1,000 residents. Although this is only 60 percent of the OSCAR service goal, this park acreage is the highest per resident of any non-hillside neighborhood. West Oakland is the only area in the City with two public swimming pools, and it contains the highest concentration of athletic fields and mini-parks in the City (City of Oakland 1996).

Table 4.10-1
Summary of Oakland Parks

Park Type	Number[a]	Acreage	% of Total Acreage[b]
Region-serving	5	332.0	11.3
Community	9	101.1	3.4
Neighborhood	44	126.0	4.3
Active Mini-park	16	5.8	0.2
Passive Mini-park	5	2.2	0.1
Linear	12	33.0	1.1
Special Use	24	651.1	22.1
Resource Conservation	19	1,622.8	55.2
Athletic Field	14	68.6	2.3
Total	**148**	**2,942.6**	**100.0**

Source: City of Oakland 1996.

Notes:

[a] Actual number of parks is less—several are classified in multiple categories.

[b] 906.2 acres are within EBRPD facilities located within Oakland city limits.

Public Access. Within Oakland, there is no continuous public access system between public areas, or to and along the waterfront. Some public access projects, such as bicycle routes, are developed within public rights-of-way. However, public access facilities on private property are generally developed as mitigation for projects proposed on that property. Such features on private land are implemented only where allowed by law and the owners are provided economically viable use of their property; alternatively, these features may be constructed on private land where the property owner voluntarily agrees.

Within the City of Oakland, multi-use (bicycle- and pedestrian-friendly) public access facilities, primarily trails and associated rest areas, are well established within regional hillside parks

managed by EBRPD, at Lake Merritt in downtown Oakland, in the Jack London Square area along the Estuary, and along the shoreline of San Leandro Bay.

4.10.4 Local Setting

Figure 4.10-1 identifies existing and planned recreation and public access facilities within or adjacent to the study area. In general, substantial recreation facilities exist and are under construction in the study area and the immediately adjacent West Oakland neighborhood. Existing public access through the study area has recently been improved, but remains only fair. Construction of currently planned trails would greatly improve public access through the study area.

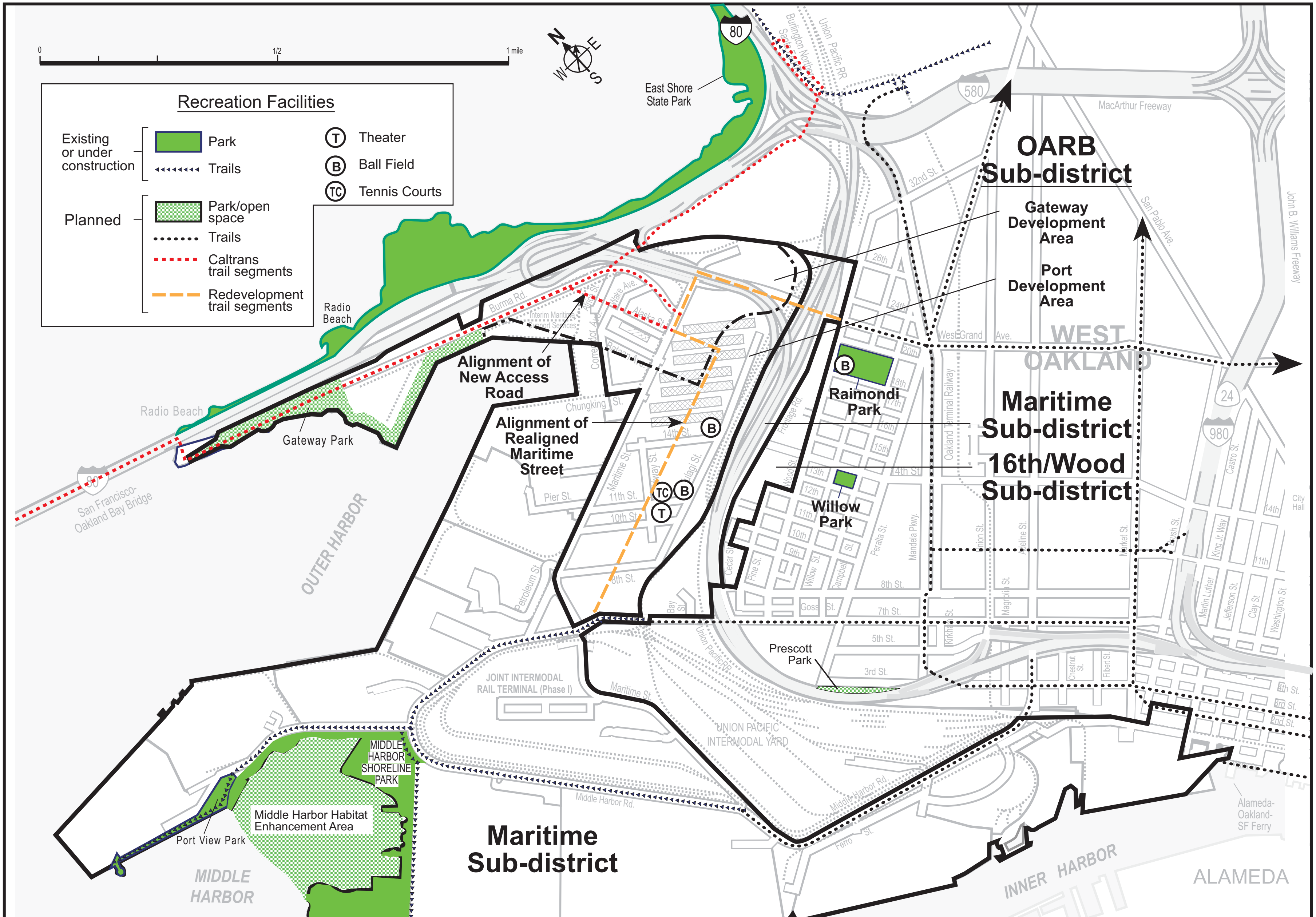
Recreation. Several parks or other recreation facilities are or were recently located within or adjacent to the study area. Port View Park is approximately 4.5 acres located along the Middle Harbor shoreline at the end of 7th Street within the Maritime sub-district. This Port-managed park includes a waterfront promenade, a fishing pier, picnic facilities, a children's play area, an observation tower including historic interpretive displays, a snack bar, and a maritime museum. The park is used primarily by fishermen and families.

Radio Beach is a narrow, isolated shoreline located on the north side of the Bay Bridge touchdown, and north of the Oakland Army Base sub-district. This Port-managed beach is difficult to access, and is frequented primarily by fishermen, or naturalists observing wildlife in extensive mudflats that are exposed during low tide. The Eastshore State Park is immediately northeast of Radio Beach, and continues along the Oakland and Emeryville shorelines to the Emeryville Marina.

While no recreation facilities are located within the 16th/Wood sub-district, Raimondi Field, the largest and oldest park in West Oakland, is located directly across Wood Street from the sub-district, between 20th and 18th streets, and between Wood and Campbell streets (City of Oakland 1996). Raimondi Field is a city-managed park.

Several recreation facilities exist within the OARB sub-district east of Maritime Street. These facilities include a ball field, tennis courts, a playground, and a bowling alley (Corps 1999).

In addition to these existing facilities, several parks or other recreation facilities are either under construction or planned for the study area. As an element of its Vision 2000 Maritime Development Program, and in part as mitigation for demolition of Middle Harbor Park, the Port of Oakland is currently constructing new Middle Harbor Shoreline Park within the Maritime sub-district. When complete, this 30-plus acre region-serving park will stretch along the Middle Harbor shoreline from the Union Point mole to existing Port View Park. The entire Middle Harbor shoreline would then be dedicated to waterfront recreation and conservation. Middle Harbor Shoreline Park will include the following major features:



Notes:

1. BCDC Permits #11-93 and #8-01 require Caltrans to provide trails from Maritime to Emeryville, to Radio Beach, and acreage at the Gateway Peninsula.
2. This EIR suggests the Caltrans segment on a portion of Buma Road relocated to the new access road.

OARB Area Redevelopment EIR

Figure 4.10-1 Recreation and Public Access Facilities

April 2002

g. borchard & associates

- continuous non-motorized waterfront access along the entire Middle Harbor shoreline (tie-in to Port View Park trails);
- vehicular access to and parking for handicapped park users at the Western Pacific railroad mole;
- a beach with an events amphitheater;
- interpretive opportunities for cultural resources, wildlife, and maritime operations;
- a natural habitat area;
- a docking area for the water taxi, and a research vessel; and
- a fishing overlook, an Estuary path, and rest areas on the Inner Harbor (Port of Oakland 1999 and 2001).

As stated above, EBRPD has expressed interest in acquiring or leasing approximately 15 acres at the tip of the Gateway peninsula immediately south of the bridge touchdown to manage as a park.[1] The California Department of Transportation has also expressed interest in participating in development of such a park, which has been generally termed the Gateway Park, because it would serve as the visual gateway to Oakland for those entering the city from the Bay Bridge (Bay Trail Project 1999). As a special condition of granting a permit to Caltrans to replace the East Span of the Bay Bridge (Permit No. 8-01), BCDC required Caltrans make available 4.2 acres of the Gateway peninsula for incorporation to EBRPD's proposed Gateway Park, to the extent legally allowed. In addition, the permit requires Caltrans to provide the following amenities in the gateway area: a parking lot, a pathway connecting the parking lot to the bicycle/pedestrian path on the new span, a crosswalk across a Caltrans maintenance road, landscaping, and signage.

Public Access. Public access through the study area, particularly to the waterfront, has recently been improved, but remains only fair. The major impediment to public access through the study area is the elevated I-880 freeway that generally acts as a north-south barrier between the Maritime and OARB sub-districts, and the remainder of the city. In addition, several other facilities in or near the study area negatively affect public access:

- The Union Pacific (UP) railroad overhead of 7th Street is an old, narrow, and dark structure located between the new I-880 freeway and Middle Harbor Road, which inhibits public access along 7th Street between downtown and the Harbor area;
- The geometry of Middle Harbor Road immediately south of its intersection with 3rd Street (Middle Harbor Road becomes Adeline Street at this intersection) is elevated, curved, and has limited sight distance, which inhibits public access between the Jack London and Harbor area.

[1] The EBRPD applied for a Public Benefit Conveyance to obtain this OARB property through the Department of the Interior National Park Service's Federal Land to Park Program.

- The McArthur maze, an enormous interchange at the confluence of several regional freeways inhibits near-shore public access between Oakland and Emeryville.

While the elevated I-880 freeway is a substantial barrier between the 16th/Wood sub-district and the OARB and Maritime sub-districts, its reconstruction after the Loma Prieta earthquake resulted in the following improvement to public access:

- The north side of the 7th Street under-crossing of I-880 includes a pedestrian sidewalk, crosswalks, and pedestrian signals. At 7th/Wood streets, a crosswalk combined with pedestrian signals provide for safe passage to the south side of 7th Street. The 7th Street under-crossing of I-880 also has 8-foot-wide shoulders in both directions, improving bicycle access. However, those traveling west along 7th Street must still maneuver the UP railroad overhead of 7th Street, a narrow, dark, and intimidating structure with a sidewalk elevated above traffic level, and very narrow roadway shoulders.
- The reconstructed West Grand Avenue Viaduct includes a sidewalk along its southern side, with pedestrian signals and a crosswalk at the new frontage road intersection that provides non-motorized access.

In the Maritime sub-district, a short Bay Trail spur exists along 7th Street, from approximately the Trapac Marine terminal gate to Port View Park. However, this trail spur does not currently connect to others. As part of the Vision 2000 Maritime Development Program, the Port of Oakland realigned and improved 7th Street from the UP railroad overhead to the Trapac Marine terminal gate, and constructed an extension of Middle Harbor Road connecting the realigned 7th Street with existing Middle Harbor Road. Public access multi-use (pedestrian/bicycle) Class I trail segments are currently being constructed along realigned 7th Street and Middle Harbor Road. These new trails connect to the existing Bay Trail spur to Port View Park, and will also connect to a shoreline spur connecting Port View Park to the Union Pacific mole at Inner Harbor. These improvements partially implement recommendations of the OSCAR for public access through the study area.

In addition to the existing trail spur and public access facilities under construction, there are several public access facilities proposed (both funded and unfunded) for the study area:

- The EBRPD Master Plan identifies a planned trail—Segment 1E: Martin Luther King Jr. Regional Shoreline to Eastshore State Park—through the study area (EBRPD 1998).
- The planned Maritime-Shellmound Bikeway would connect the planned bicycle facility on the eastern span of the Bay Bridge to the Gateway Park. The proposed alignment within the study area is Burma Road or Engineer Road to Maritime Street.
- The planned alignment of the Bay Trail spine through the project area is the eastern side of Maritime Street, between 7th Street and West Grand Avenue (EBRPD 1999).
- Other spur trails are planned along West Grand Avenue, 7th Street, and Middle Harbor Road, between Middle Harbor Road and 3rd Street (Bay Trail Project 1999).

- As a special condition of granting a permit to Caltrans to build the Ł880 freeway on its current location, (Permit No. 11-93, as amended), BCDC required Caltrans to construct and maintain an at-grade pathway between the southern terminus of Shellmound Street in Emeryville, Mandela parkway in Oakland, and the Bay Bridge.

These planned improvements in combination with existing facilities and those under construction would provide public access through and within the study area to the Bay Bridge, Gateway Park, Middle Harbor Shoreline/Port View Park, downtown Oakland, and the Martin Luther King Jr. Regional Shoreline.

4.10.5 Impact Analysis Methodology

Evaluation of the impacts of redevelopment to recreational resources is straightforward and limited to the criteria below.

Significance Criteria

Redevelopment would have a significant impact on the environment if it would:

- 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; or
- Include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment.

4.10.6 Impacts

Benefits

Project area redevelopment would include the new 15-acre waterfront Gateway Park at the Gateway peninsula[2]. In addition, as part of redevelopment, a 100-foot-wide strip of land along the Gateway development area shoreline, approximately 10 acres, would be classified Parks & Urban Open Space. While details of the ultimate use of this land are not definite, it is designated a public area. In the 16th/Wood sub-district, a 1-acre park is anticipated as part of redevelopment. Redevelopment of the project area would not impair the ability of Caltrans to fulfill its commitment to construct a bicycle-pedestrian trail along Burma Road from Maritime Street to the Gateway Park peninsula and from Burma Road to Emeryville. Finally, realigned Maritime Street would be designed to include a Bay Trail spine connecting the existing Bay Trail on 7th Street to the proposed trail along Burma Road, and also to West Grand Avenue. These facilities would represent a substantial benefit to the Oakland community and beyond relative to recreation.

[2] EBRPD continues to explore opportunities for acquisition of additional parklands at and near the Bay Bridge touchdown (Gateway) peninsula. Such lands include Radio Beach and the lands between that beach and the proposed Gateway Park and other smaller, adjacent parcels. EBRPD envisions a continuous shoreline recreational and habitat preservation area extending from the existing Eastshore Park, across the Gateway peninsula, to the Gateway development area.

Impacts

Impact 4.10-1: Raimondi Park or other nearby parks could experience increased use potentially leading to or accelerating their physical deterioration.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

Redevelopment of the 16th/Wood sub-district proposes approximately 375 live/work units. While live-work units are generally not family housing, the analysis of this EIR conservatively assumes the units will, in fact, house families. Based on ABAG projections of 2.6 persons per Oakland household in 2020 (ABAG 2001), redevelopment would result in a resident population of approximately 975 persons within the 16th/Wood sub-district. Redevelopment proposes a total of 16 acres of new parkland within the project area: 15 acres at the Gateway peninsula within the Gateway development area, and one acre in the 16th/Wood sub-district (or 16.4 acres per 1,000 residents). In addition, approximately 10 acres of public opens space would be located along the Gateway development area waterfront, for a total of 26 acres of public recreation space (or 26.7 acres per 1,000 residents). A total of 3.9 acres of park would be necessary to achieve the City's goal of 4.0 acres of park per 1,000 residents. Considering only strictly-defined park land, redevelopment exceeds the City's parkland goal by 12.1 acres (or by 12.5 acres per 1,000 residents). Taking into consideration the public waterfront land, redevelopment would exceed the City's parkland goal by 22.1 acres (or by 22.8 acres per 1,000 residents). The 15-acre Gateway Park would be located within the OARB sub-district, and is likely to serve not only the local community, but workers in the Outer Harbor area and recreationalists throughout the region as well.

Even given new recreational opportunities arising from redevelopment, it is possible that existing West Oakland parks located near the 16th/Wood sub-district could experience somewhat higher levels of use due to redevelopment. Increased use of local parks may slightly accelerate their physical deterioration, but is not expected to substantially contribute to such deterioration, and the impact is considered less than significant.

Should the City of Oakland choose to adopt an ordinance providing for collection of park impact fees, applicable redevelopment activities within the project area would be subject to such fees.

❖ ❖ ❖

Impact 4.10-2: Construction and/or operation of the Gateway Park could have an adverse physical effect on the environment.

Significance: Potentially significant

Mitigation: Measures 4.12-1, 4.12-2, 4.12-3, 4.15-1 and 4.15-2.

Residual Significance: Less than significant

Construction of the Gateway Park may require shoreline stabilization that would require Bay fill. Construction activities, recreational uses and potential Bay fill could affect biological resources and surface water quality; these potential physical impacts and measures to mitigate them to a level that is less than significant are discussed, respectively, in Sections 4.15: Surface Water, and 4.12: Biological Resources. In addition, the consistency of this potential fill with policies of the Bay Plan is addressed in Section 4.1: Consistency with Plans and Policies.

❖ ❖ ❖

4.10.7 Mitigation

Redevelopment would not result in significant impacts to recreation or public access, and mitigation for such impacts is not warranted.

Impacts to other environmental factors potentially resulting from park development, as well as measures to mitigate significant impacts are addressed in relevant sections of this chapter.

❖ ❖ ❖

❖

4.11 AESTHETICS

Redevelopment would result in substantial benefits to the aesthetic environment, as well as less than significant, potentially significant, and one significant impact to aesthetic resources. With implementation of measures recommended in this section, the potentially significant impacts would be mitigated to a level that is less than significant. Even with implementation of all feasible mitigation, however, one residual impact—related to the loss of cultural resources contributing to the aesthetic character of the area—would remain significant; that impact is considered unavoidable. The physical loss of cultural resources and mitigation proposed for such loss is further disclosed and discussed in Section 4.6: Cultural Resources.

4.11.1 Study Area

The study area for analysis of aesthetics encompasses important views from the redevelopment project area, as well as areas with views of the project area. From the project area, this includes views toward the Bay and the Bay Bridge; toward the project area, it includes relatively short-term views from I-880, I-80 (the Bay Bridge), planned trail and open space areas, and long-term views from residences located along Wood Street.

4.11.2 Regulatory Setting

Federal

There are no federal regulations regarding visual resources relevant to the proposed redevelopment program.

State

California State Scenic Highways Program. Sections 260 through 283 of the California Street and Highways Code describe the California Scenic Highways Program. This program is intended to not only encourage and recognize beauty in the design of specific facilities, but to also protect the appearance of the "complete highway," or the scenic corridor, defined as both the roadway itself plus the land generally adjacent to the highway right-of-way. The Code states that standards for protection of official scenic highways shall require local agencies to take such actions as may be necessary to protect the scenic corridor, including but not limited to the following:

- regulate land use and development density;
- require detailed land and site planning;
- control outdoor advertising; and
- pay careful attention to and control earthmoving and landscaping as well as the design and appearance of structures and equipment.

While the Code identifies many highway segments as part of the program, they are only designated an "official scenic highway" by the California Department of Transportation once they meet the state scenic highway standards established by Caltrans, including the concept of the complete highway. Once a highway is officially designated, Caltrans places and maintains signage indicating the official status of the roadway.

The State Scenic Highway System includes I-80/I-580 from I-280 in San Francisco to State Route 61 in Oakland, including the Bay Bridge immediately north of the redevelopment project area. Only the I-580 portion from the MacArthur maze to SR-61, however, is a state-designated Scenic Highway.

San Francisco Bay Plan. That portion of the study area within 100 feet of the Bay shoreline is subject to the policies of the Bay Conservation and Development Commission. The McAteer-Petris Act directs BCDC to exert its land use authority (among other authorities) within its jurisdiction, and BCDC does so in part through preparation and implementation of the *San Francisco Bay Plan* (BCDC 1968, as amended through 2001). See Section 4.1: Consistency with Plans and Policies, for discussion of Bay Plan policies. The Bay Plan addresses visual access to the Bay, among other issues. The Bay Plan makes the following findings regarding aesthetics:

> *….the appearance of the Bay and people's enjoyment of it as a scenic resource contribute to the enjoyment of daily life in the Bay Area….Probably the most widely enjoyed "use" of the Bay is simply viewing it….As a world renowned scenic resource, the Bay is viewed and appreciated from many locations….* (BCDC 1968, as amended through 2001)

Local

The *Scenic Highways* Element of the Oakland Comprehensive Plan (the precursor of the General Plan, City of Oakland 1974) designates as a scenic route I-80/I-580 across the Bay Bridge and eastward for its entire length through Oakland. The *Scenic Highways* Element recognizes the visual setting from I-80/I-580 toward the redevelopment area is industrial in nature, and does not identify the redevelopment project area as a "problem area" along the route (City of Oakland 1974). The element contains goals and policies specific to the MacArthur Freeway scenic route. See Section 4.1: Consistency with Plans and Policies, for discussion of these policies.

The *Open Space, Conservation, and Recreation* (OSCAR) Element of the Oakland General Plan (City of Oakland 1996) recognizes the Oakland shoreline as possessing diverse values, including its value as an aesthetic resource, and as a gateway to other aesthetic resources, such as the Bay. The OSCAR includes specific goals and objectives regarding increased visual access to and from the shoreline. In addition, the OSCAR includes specific policies whose implementation is intended to achieve the shoreline aesthetic/visual access goals and

objectives. See Section 4.1: Consistency with Plans and Policies, for discussion of these policies.

4.11.3 Regional Setting

The region under consideration is bounded by the nearby Oakland Hills to the east, and the San Francisco peninsula to the more distant west. Figure 4.11-1 illustrates regional viewsheds and visual landmarks. To the north are the Bay and Bay shoreline, and to the south are Alameda Island and the Bay. The visual character of this region is varied, and represents three visually distinct zones, generally trending east to west: the uplands, flatlands, and the Bay. Within the uplands, the relatively steep hills provide a mix of natural and developed views that block longer-range views to the east. Between the hills and the Bay, the flatlands exhibit a highly urbanized mixed-use visual setting, including the downtown Oakland business district, and Alameda Island. The Bay provides an industrial maritime shoreline, with the Bay waters, Bay Bridge, and Yerba Buena Island to the west, and the urbanized San Francisco skyline to the far west.

4.11.4 Local Setting

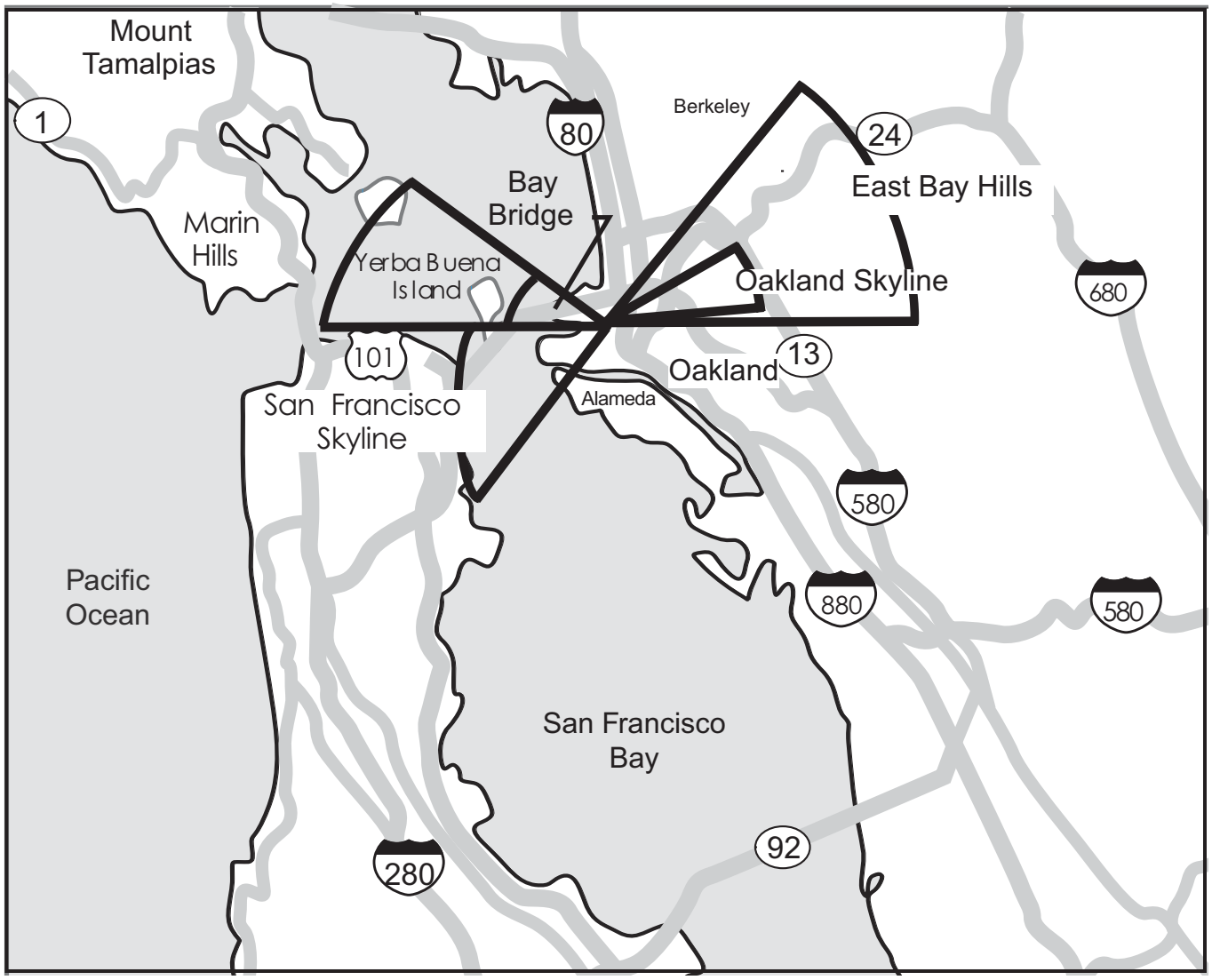
Figures 4.11-2 and 4.11-3 establish the visual setting of the study area, which is topographically flat to very gently sloping, and highly industrialized. The visual setting of the project area is described in the *Preliminary Report to City Council* (HEG 2000), and was verified in 2001 by a windshield survey of the area. Across the survey area, nighttime security lighting was observed at developed sites; no solar collectors were observed.

The OARB sub-district is a complex of one- to four-story warehouses and administration/business buildings, industrial maritime and rail facilities, and undeveloped land. The area immediately south of the Bay Bridge (Gateway) peninsula, the visual eastbound gateway to the City, is a vacant parcel occasionally used to store construction or other materials. The site is usually partially covered with debris from the Bay, deposited during high tides. While the OARB sub-district is the most varied within the study area, it is typical of transportation/industrial development and is visually unremarkable. The OARB sub-district is visible from a number of viewing locations:

- From I-80, east-bound travelers experience short-term foreground views of the proposed Gateway Park area, mid-ground views of the Outer Harbor, and background views of the Oakland central business district (CBD) and hills.

- From the elevated portions of West Grand Avenue, and I-880, west/north-bound motorists have short-term, mid-ground views of the vacant Subaru site and Baldwin railyard.

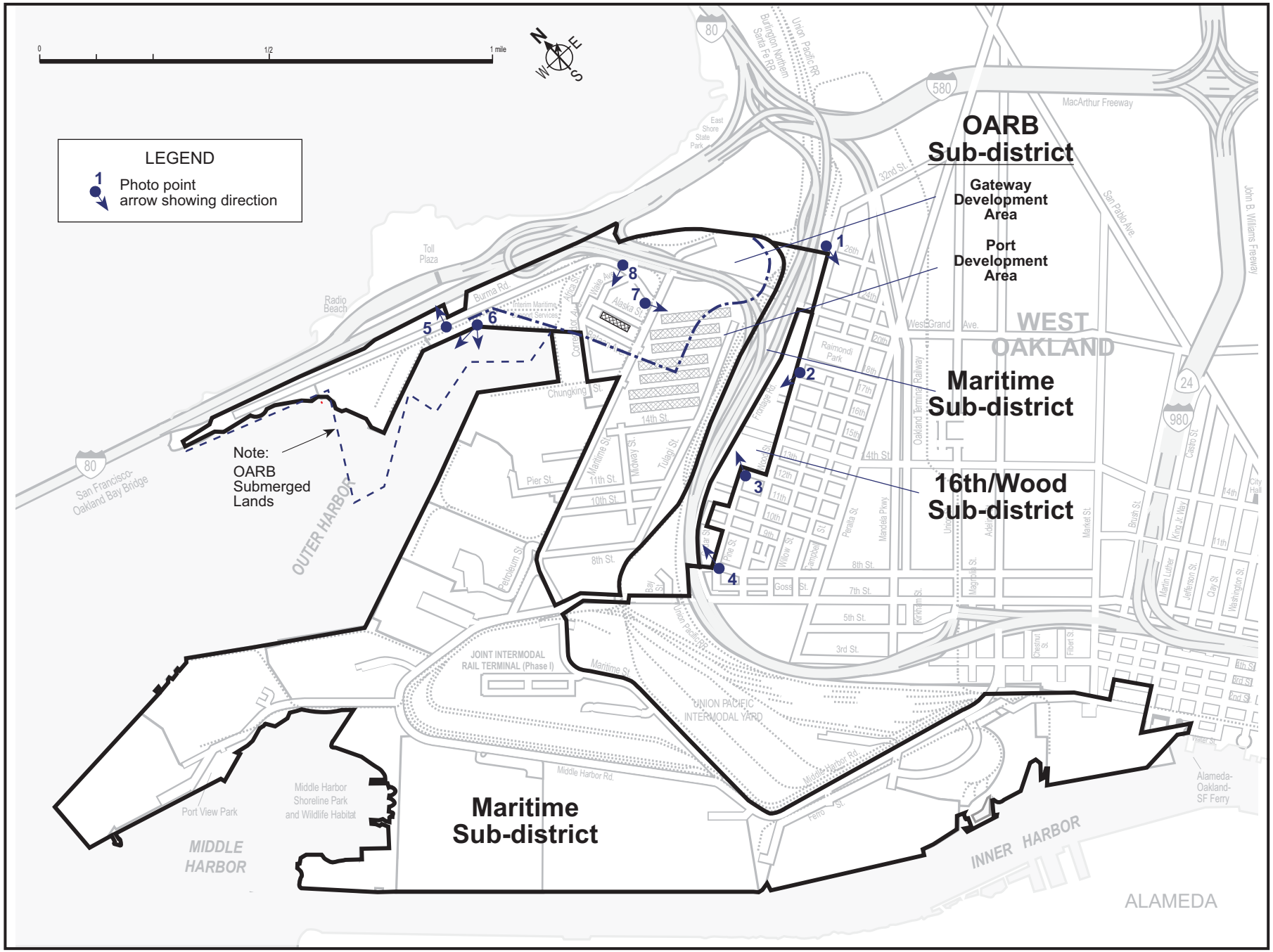
- From elevated I-880, east/south-bound motorists have short-term, mid-ground views of the entire OARB.



OARB Area Redevelopment EIR

Figure 4.11-1 Viewsheds and Aesthetic Resources

April 2002



OARB Area Redevelopment EIR

Figure 4.11-2 Photographic Key for Figures 4.11-3a to 3d

April 2002

g. borchard & associates

Looking southeast at 26th and Wood streets. Light industrial/commercial land uses and visual setting typical of the 16th/Wood sub-district and surrounding neighborhood.

Southern Pacific (Amtrak) railroad station, located at 16th and Wood streets within the study area.

Note: See Figure 4.11-2 for photo key

OARB Area Redevelopment EIR

Figure 4.11-3a Typical Views, 16th/Wood Sub-District

April 2002

g. borchard & associates

Bayport Warehouse and Distribution located on west side of 12th and Pine streets in the study area.

View northwest toward the former Phoenix Ironworks site. Beyond vacant parcel is the I-880 sound wall, and beyond soundwall in the left of the photo are cranes located at the Port of Oakland Outer Harbor.

Note: See Figure 4.11-2 for photo key

From Burma Road, view northwest toward Caltrans Bay Bridge touchdown maintenance facility.

Typical views of industrial marine terminal facilities on the Outer Harbor.

Note: See Figure 4.11-2 for photo key

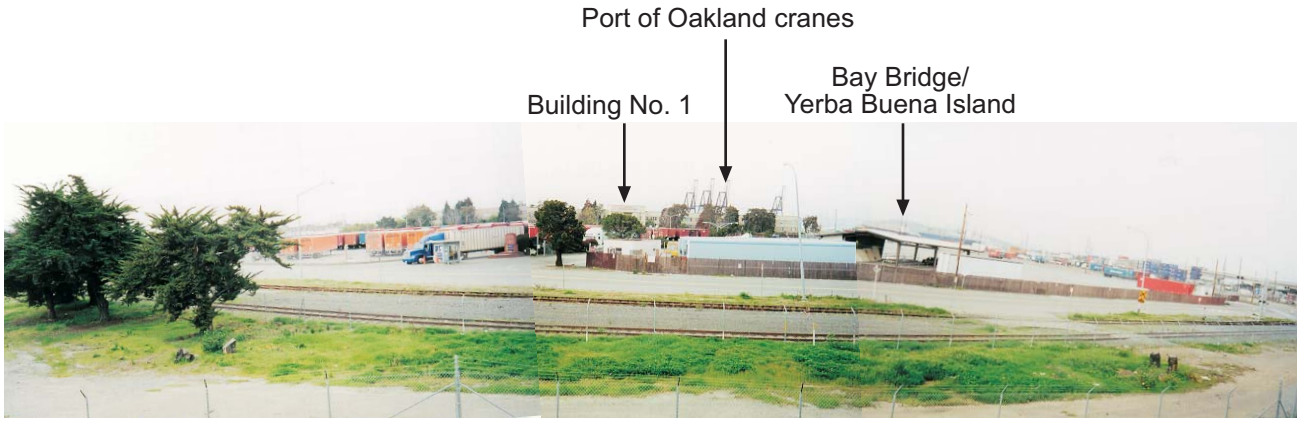
OARB Area Redevelopment EIR

Figure 4.11-3c Typical Views, OARB Sub-District

April 2002

g. borchard & associates

View east across Maritime Street from Burma Road. Typical view of light industrial/ commercial interim OARB use.



View south toward the OARB west of Maritime Street from the I-880 southbound Maritime Street exit.

Note: See Figure 4.11-2 for photo key

OARB Area Redevelopment EIR

Figure 4.11-3d Typical Views, OARB Sub-District

April 2002

g. borchard & associates

- From the Outer Harbor, boaters have short-term foreground views of the undeveloped future Gateway Park area, and industrial marine terminals.

- From upper Maritime Street, motorists have short-term foreground views of OARB buildings, such as the main administration building (Building No. 1), and of large World War II–era warehouses fronting the street.

From the OARB sub-district, views are toward the Bay, the Bay Bridge, and elevated I-880.

The Maritime sub-district is highly industrialized, and includes primarily marine terminals (ship berths, wharves, large waterside cranes, cargo storage, rail facilities, cargo-moving equipment operation and storage, and a few buildings) and tugboat facilities on the Oakland Inner, Middle, and Outer harbors. Large-scale construction of portions of the Port of Oakland's Vision 2000 Maritime Development Program is currently occurring along the western Inner Harbor and the Middle Harbor shorelines. There are no natural features, and views toward the area are industrial in nature. The exception to this is Port View Park, an approximately 4.5-acre linear park located along the southern shoreline of the Outer Harbor marine terminals peninsula. The Maritime sub-district is visible from a number of viewing locations:

- From Inner Harbor, boaters and ferry passengers have short-term foreground views of industrial marine terminals. Planned ultimate uses at northwest Alameda Island[1] would have long-term mid-ground views of the same terminals.

- From Middle Harbor, boaters have short-term foreground views of Port View Park, and will have views of Middle Harbor Shoreline Park (under construction).

- From Outer Harbor, boaters have short-term foreground views of industrial marine terminals.

- East-bound travelers on the elevated portion of the Bay Bridge have brief mid-ground views of the industrialized Outer Harbor marine terminals. This brief view is particularly dramatic at night, when large cargo cranes may be brightly lit. This portion of I-80 is included in the State Scenic Highway Program, but is not yet designated by Caltrans as an official scenic highway.

- Elevated portions of I-880 north of this redevelopment sub-district provide distant views of the industrial maritime area to motorists traveling south on I-880. I-880 is not included in the State Scenic Highway Program.

- Surface streets within the redevelopment area (Middle Harbor Road, 7th Street, lower Maritime Street) provide short-term foreground views toward the land-side portions of the industrial marine terminals: truck entry gates, stacked cargo containers, and railroad tracks.

[1] The western part of Alameda Island is the former Naval Air Station (NAS) Alameda, which is permanently closed as a military facility. The City of Alameda intends to redevelop NAS Alameda, and has completed environmental review documentation under the California Environmental Quality Act for transfer of the property. The City is currently undergoing a General Plan amendment and further CEQA review for actual community reuse of former NAS Alameda (City of Alameda 2001).

From the shoreline of the Maritime sub-district are spectacular views toward the west and northwest of the Bay, the Bay Bridge, Yerba Buena Island, and the San Francisco skyline. To the south, the currently undeveloped former NAS Alameda site is visible in the mid-ground.

The central and southern portions of the 16th/Wood sub-district predominately comprise two former industrial sites: the Southern Pacific Railroad (SPRR, now Union Pacific [UP]) railroad station and yard, and the Phoenix Ironworks. These sites are now vacant, except for the commanding SPRR (Amtrak) station building, and with the exception of that building, the area is visually non-descript. The northern portion of this sub-district includes one- and two-story industrial buildings, lots used to store equipment and discarded items, and freight storage/handling facilities. The area is visually blighted. The I-880 frontage road and elevated I-880 freeway form the western boundary of this sub-district. The 16th/Wood sub-district is visible from a number of viewing locations:

- Motorists on the I-880 frontage road, and north-bound on I-880 have short-term foreground and mid-ground views of the entire sub-district.

- In the southern portion of the sub-district, residences are located directly east of and across Wood Street from the former Phoenix Ironworks site. These residences have long-term foreground views of this currently vacant parcel.

- The central and northern portions of the sub-district are bounded to the east by other light industrial uses, except between 18th and 20th streets, where Raimondi Park faces the redevelopment area across Wood Street.

Because of its flat topography, views from the 16th/Wood sub-district are limited by the adjacent elevated I-880 freeway and nearby structures.

4.11.5 Impact Analysis Methodology

Due to the conceptual-level nature of planned redevelopment, it is not currently possible to determine exactly how the project area will appear after build-out, and the analysis of aesthetic impacts of redevelopment is necessarily consistent with a conceptual level of detail as well. Moreover, even when detailed descriptive information is available, assessment of visual impacts is subjective: what one person may find aesthetically appealing, another may find offensive. Therefore, the focus of this analysis is potential change in visual environment based on proposed land use classifications and densities that could lead to obvious blockage of views of scenic resources, as well as obvious improvement or loss of quality of the visual environment. The analysis takes into consideration the sensitivity of viewers; sensitivity takes into account viewer expectation as well as the distance to views and the duration of those views. High sensitivity is typically associated with viewers who experience long-term foreground views of the redevelopment project area, such as nearby residents. Moderate sensitivity is typically associated with viewers with shorter-term foreground views or mid-ground views, such as recreationalists, or travelers along gateway or nearby elevated routes.

Significance Criteria

Redevelopment would have a significant impact on the environment if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state or locally designated scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings;
- Create a new source of substantial light or glare which would adversely affect daytime or nighttime views in the area;
- Introduce structures or landscape that would now or in the future cast substantial shadow on existing solar collectors (in conflict with California Public Resources Code §§ 25980-25986), photovoltaic cells, or impair the function of a building using passive solar heat collection;
- Cast shadow that substantially impairs the beneficial use of any public or quasi-public park, lawn, garden, or open space;
- Cast shadow on a historic resource, as defined by California Environmental Quality Act Section 15064.5(a), such that it would substantially diminish/impair its eligibility for listing in the National Register of Historic Places, California Register of Historic Resources, or a local register of historical resources or a historical resource survey as defined by the PRC; or
- Require an exception to the policies and regulations in the General Plan, Planning Code, or Uniform Building Code (UBC), and be inconsistent with policies and regulations in the General Plan, Planning Code, and UBC addressing the provision of adequate light related to appropriate uses.

Not all criteria listed above apply to redevelopment as proposed. Redevelopment is not expected to cast shadows on a historic resource. No impact would occur.

No redevelopment is proposed that would require an exception to the policies and regulations in the General Plan, Planning Code, or UBC, or that would be inconsistent with policies and regulations in the General Plan, Planning Code, or UBC addressing the provision of adequate light related to appropriate uses. No impact would occur.

4.11.6 Impacts

Based on proposed General Plan land use classifications and densities, General Plan policies, and other regulations, it is possible to generally envision how redevelopment might look. In general, redevelopment would allow a more vibrant mixed use aesthetic, including areas of community-accessible waterfront open space.

OARB Sub-District, Gateway Development Area

The proposed land use classification for the majority of this development area is Business Mix. Business Mix is intended to be a flexible classification, and allows a wide variety of business and related commercial and industrial uses. It also allows for a variety of densities, with a maximum allowable floor to area ratio (FAR) of 4.0.

Park & Urban Open Space is proposed for the Gateway Park area, immediately south of the Bay Bridge touchdown. In addition, Parks & Urban Open Space is proposed for a 100-foot-wide strip along the waterfront of this development area.

As envisioned in the Reuse Plan (OBRA 2001), the Gateway peninsula would be developed as a gateway-style park, providing short-term foreground views of a green and park-like entry to the City for those entering Oakland from the Bay Bridge. This more natural setting would contrast with the industrial Port of Oakland in the mid-ground, and with mid-ground and background views of the business-oriented remainder of the OARB and the Oakland CBD. The waterfront area would allow for a greenbelt and public open space that would physically and visually link the Gateway Park to the remainder of the development area. In addition, the public open space would set development back from the waterfront, allowing a gradual visual transition from land-side development to the Bay. Longer-term unobstructed views for recreationalists using the park would be of the Bay, the Gateway development area, and the industrial Port of Oakland maritime area in the foreground and mid-ground.

Immediately east of the proposed park would be the area of greatest development density, either multistory office buildings, or optionally, a hotel. This area, located between I-80 and the Outer Harbor, would also be a part of the gateway entry to the City, providing short-term foreground views of a modern city for those entering Oakland from the Bay Bridge. Multi-story development in this area could result in blockage of short-term mid-ground views of the Oakland Outer Harbor and Port industrial maritime operations.

Farther east and generally inland, the Gateway development area is slated for lower-intensity buildings. Farther inland, east of West Grand Avenue, building densities are expected to be even lower, with warehousing/distribution, or other primarily single-story structures. Short-term background views toward inland visual landmarks—the Oakland Hills and the CBD—would remain visible from elevated West Grand Avenue.

OARB Sub-District, Port Development Area

The proposed land use classification for this development area is General Industrial/Transportation. This classification allows heavy industrial uses, including manufacturing, railyards, maritime operations, and other uses that may result in off-site negative externalities. As envisioned in the Reuse Plan, the existing Knight Railyard would be expanded immediately west of and adjacent to the elevated I-880 to create a new intermodal railway terminal, and the Port of Oakland would create yard area for marine terminals in the remainder of this development area. These operations are generally at-grade, or low-rise, with large,

mobile and semi-mobile equipment. Short-term, fore-ground and mid-ground views for south-bound travelers in I-880 would be of industrial transportation facilities. Current short-term views toward the Outer Harbor for these travelers would remain the same, except as mobile equipment may occasionally and temporarily block views.

Maritime Sub-District

The proposed land use classification for this entire sub-district is General Industrial/Transportation, and would comprise ongoing Port of Oakland industrial maritime operations. These operations generally are at-grade, or low-rise, with large mobile yard equipment and waterfront cranes. Ongoing modernization of maritime facilities would result in facilities of the same nature as the existing ones, and no new or highly altered facilities are known to be planned at this time. Short-term, mid-ground views for south-bound travelers in I-880 would be of industrial transportation facilities. Current short-term views toward the Outer Harbor for these travelers would remain the same, except that a few additional or reconfigured waterfront cranes may be installed. Should this occur, these cranes would be in keeping with the current industrial visual setting of the Outer Harbor waterfront.

16th/Wood Sub-District

This sub-district is currently classified Business Mix, and is expected to remain in that classification. The conceptual Central Station development has the potential to alter a site that is currently vacant, except for an abandoned and visually derelict historic train station, to a mixed-use, live/work setting. Additionally, a 1-acre park is proposed. The densities assumed for that portion of this sub-district would require an overall site FAR of approximately 1.5 to 2.0, well below the maximum allowable FAR of 4.0. Nevertheless, multi-story buildings would be required to achieve such densities. With appropriate design, these buildings should provide pleasant and modern foreground views to nearby residences. The remainder of this sub-district could be developed in accordance with Business Mix, and in the absence of a concept for the area, this analysis assumes it would be developed as light industrial: relatively low-density one- to two-story buildings. The buildings would be located on currently vacant property, and should provide pleasant long-term foreground views for nearby residences.

Benefits

Redevelopment of the project area would alleviate existing visual blight, especially within the 16th/Wood and OARB sub-districts. It would accomplish this by developing currently vacant neglected parcels for modern land uses, and by replacing outdated and/or visually derelict buildings with new and attractive buildings and landscaping appropriate to the use. In addition, redevelopment would create a visually appealing gateway to the City from what is currently a neglected vacant parcel and an outdated military base. Therefore, the redevelopment is expected to improve, not degrade, the existing visual character or quality of the site and its surroundings.

Impacts

Impact 4.11-1: Short-term mid-ground views of moderately sensitive viewers of the Bay may be blocked by redevelopment.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

Some short-term views of east-bound travelers on I-80 toward the Outer Harbor would be blocked for a few seconds by redevelopment in the Gateway development area. These views are toward the industrialized portion of the Bay, and do not constitute important views or scenic vistas.

❖ ❖ ❖

Impact 4.11-2: Redevelopment would remove buildings contributing to a historic district, including visually striking warehouse structures visible from I-80, a locally designated scenic route, and a portion of the state scenic highway system.

Significance: Significant

Mitigation: Measure 4.6-12, described in Section 4.6: Cultural Resources

Residual Significance: Significant and unavoidable

Redevelopment would eliminate visual evidence of a specific period in the history of West Oakland military transportation, including all structures contributing to the OARB Historic District. The most visually striking of these contributing buildings are what is termed the "800 series" warehouses, seven large rectangular buildings, each encompassing approximately 235,000 square feet. These buildings are visually prominent from local roadways, are large in scale, and have distinctive architectural elements, including rooflines with double eaves and clerestory windows. They are located between existing Maritime Street and the Knight Railyard, and straddle the boundary between the Gateway and Port development areas. The 800 series warehouses are not clearly visible from I-580, a state scenic highway. They are, however, briefly visible to eastbound travelers on the Bay Bridge (I-80), a local scenic route, and from local arterials, such as Maritime Street. Loss of their distinctive form, representative of a period of West Oakland's history, is considered a significant visual impact. Mitigation Measure 4.6-12, intended primarily to mitigate cultural resources impacts, would also partially rectify the loss of visual character; however, the residual impact is considered significant and the impact unavoidable.

❖ ❖ ❖

Impact 4.11-3: New security lighting and/or lighting for night time operations would alter current patterns of light or glare, and could alter nighttime views in the area.

Significance: Potentially significant

Mitigation 4.11-1: New lighting shall be designed to minimize off-site light spillage; "stadium" style lighting shall be prohibited.

Mitigation 4.11-2: At or near the boundary of the proposed Gateway Park, new lighting shall be shielded to prevent light spillage into natural areas.

Residual Significance: Less than significant

Currently, security lighting and lighting for night time operations is present throughout the OARB and Maritime sub-districts, and through the occupied portions of the 16th/Wood sub-district. New construction in the OARB and 16th/Wood sub-districts would require nighttime illumination for security. This could increase nighttime light and glare and light spillage across property boundaries. This would be particularly noticeable in the currently undeveloped areas: 16th/Wood, and the proposed Gateway Park. Should substantial light spillage occur, it would be considered a significant impact. Because occurrence of this impact depends on site-specific design not currently defined, the impact is considered potentially significant. With implementation of Mitigation Measure 4.11-1 throughout the project area and Mitigation Measure 4.11-2 in natural areas, the impact would be minimized, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.11-4: New construction could introduce building or landscaping elements that would now or in the future cast shadow on existing collectors or photovoltaic cells, or a building using passive solar heat collection.

Significance: Potentially significant

Mitigation 4.11-3: New active or passive solar systems within or adjacent to the project area shall be set back from the property line a minimum of 25 feet.

Mitigation 4.11-4: New construction within the Gateway development area adjacent to a parcel containing permitted or existing active or passive solar systems shall demonstrate through design review that the proposed structures shall not substantially impair operation of existing solar systems.

Mitigation 4.11-5: The City and Port shall coordinate with respect to the design of new, permanent buildings constructed along the Port/Gateway boundary to minimize conflicts over solar access.

Residual Significance: Less than significant

While active and passive solar systems are not currently present in the project area, in the future, development in the project area could include solar collectors or passive solar design. Development subsequent to the installation of such systems may cast shadows that could substantially affect their operation. Should such shadowing occur, it would be considered a significant impact. Because occurrence of this impact depends on site-specific design not currently defined, the impact is considered potentially significant. With implementation of Mitigation Measures 4.11-3, 4.11-4, and 4.11-5, the impact would be avoided.

❖ ❖ ❖

Impact 4.11-5: New construction could introduce building or landscaping elements that would now or in the future cast shadow that substantially impairs the beneficial use of a public park or open space.

Significance: Potentially significant

Mitigation 4.11-6: New construction adjacent to a public park or open space shall demonstrate through design review that development shall not substantially impair enjoyment of the public using the space.

Residual Significance: Less than significant

Redevelopment could result in multi-story buildings and/or landscaping adjacent to and casting shadow on existing Raimondi Park or proposed parks and open space. Should substantial shadowing of all or a portion of these areas occur, it would be considered a significant impact. Because occurrence of this impact depends on site-specific design not currently defined, the impact is considered potentially significant. With implementation of Mitigation Measure 4.11-6, the impact would be avoided or minimized, and the residual impact would be less than significant.

❖ ❖ ❖

4.11.7 Mitigation

Implementation of the following mitigation measures will avoid, minimize, reduce, rectify, or compensate for significant impacts of redevelopment, but not in all cases to a level that is less than significant.

Mitigation 4.11-1: New lighting shall be designed to minimize off-site light spillage; "stadium" style lighting shall be prohibited.

This measure applies to Impact 4.11-3.

Modern security lighting is available that directs light toward a specific site, and substantially reduces spillage of light onto adjacent properties. The City and the Port shall require the use of such directional lighting as a condition of approval for redevelopment projects throughout the project area. In no case shall the City nor the Port allow the use of stadium-style lighting, which directs light outward across a broad area.

❖ ❖ ❖

Mitigation 4.11-2: At or near the boundary of the proposed Gateway Park, new lighting shall be shielded to prevent light spillage into natural areas.

This measure applies to Impact 4.11-3 and Impact 4.12-2.

In natural areas that may provide habitat, light scatter shall be further reduced or eliminated through the use of shields, which physically prohibit the scatter of light. With the advise of resource agencies, the City shall require such shields at specific locations, such as the Gateway Park.

❖ ❖ ❖

Mitigation 4.11-3: New active or passive solar systems within or adjacent to the project area shall be set back from the property line a minimum of 25 feet.

This measure applies to Impact 4.11-4.

Through design review, the City shall ensure that proposed solar systems are not located in a manner that would unduly restrict design of future development. Such conflicts are to be resolved in design review. If the proposed solar system cannot be designed to accommodate adjacent actions, it shall be disallowed.

❖ ❖ ❖

Mitigation 4.11-4: New construction within the Gateway development area adjacent to a parcel containing permitted or existing active or passive solar systems shall demonstrate through design review that the proposed structures shall not substantially affect operation of existing solar systems.

This measure applies to Impact 4.11-4.

Through design review, the City shall ensure that the effectiveness an operation of existing or permitted active or passive solar systems shall not be substantially impaired. The design of the subsequent proposed structures shall be modified so as not to have such an adverse effect.

❖ ❖ ❖

Mitigation 4.11-5: The City and Port shall coordinate with respect to the design of new, permanent buildings constructed along the Port/Gateway boundary to minimize conflicts over solar access.

This measure applies to Impact 4.11-4.

The City and Port shall coordinate with one another regarding design of subsequent redevelopment activities within their respective jurisdictions that may affect operation of solar installations in the other's jurisdiction.

❖ ❖ ❖

Mitigation 4.11-6: New construction adjacent to a public park or open space shall demonstrate through design review that development shall not substantially impair enjoyment of the public utilizing the space.

This measure applies to Impact 4.11-5.

Through design review, the City shall ensure that new building or landscaping shall not shade existing or proposed parks or open spaces in a manner that would make these public spaces substantially less useful or enjoyable to the public. The City may require specific building placement, tiered roofs, or other means of reducing shadow effects on public opens spaces. It is not the intent of this measure to completely eliminate shade in these areas, but to reduce shade to the maximum extent feasible.

❖ ❖ ❖
❖

4.12 BIOLOGICAL RESOURCES

Redevelopment would result in benefits to biological resources, as well as less than significant and potentially significant impacts to such resources. With implementation of measures recommended in this section, all potential impacts would be mitigated to a level that is less than significant.

4.12.1 Study Area

The study area includes the redevelopment project area and adjacent waterways in the Oakland Inner, Middle, and Outer harbors.

4.12.2 Regulatory Setting

International

International Maritime Organization Guidelines. In 1997, the International Maritime Organization (IMO) adopted voluntary ballast water management guidelines to minimize transfer of harmful aquatic organisms and pathogens. The IMO is currently drafting an international agreement that would make mandatory the management of ballast water discharges (EPA 2001).

Federal

Federal Endangered Species Act. The Federal Endangered Species Act (FESA) (16 USC § 1531 *et seq.*) defines "endangered" species as those in danger of extinction throughout all or a significant portion of their range. A "threatened" species is any species that is likely to become an "endangered" species within the foreseeable future throughout all, or a significant portion of its range. Additional special-status species include "candidate" species and "species of concern." "Candidate" species are those which the U.S. Fish and Wildlife Service (USFWS) has on file enough information to propose listing as endangered or threatened. "Species of concern" are those for which listing is possibly appropriate but for which the USFWS lacks sufficient information to support a listing proposal. A species that has been "delisted" is one whose population has met its recovery goal target and is no longer in jeopardy of extinction.

Taking of a federally listed species is prohibited under Section 9 of ESA. Taking is defined by FESA (§ 3[19]) to mean "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to engage in any such conduct." An incidental take of a listed species requires consultation with the USFWS, or National Marine Fisheries Service (NMFS), as appropriate.

Effects to federally listed species may be addressed for a proposed action in one of two ways:

1. a nonfederal entity may address potential adverse impacts to a listed species under Section 10 of ESA, or

2. a federal lead agency regulates the proposed action in accordance with Section 7 of ESA.

Both require consultation with the USFWS and/or NMFS, the agencies that administer the Act. If consultation determines that a federally listed species would be affected by an action, consultation would result in an Incidental Take Statement through either a Habitat Conservation Plan under Section 10, or a Biological Opinion under Section 7.[1]

Clean Water Act. Under Section 404 of the CWA (33 USC §1344), the U.S. Army Corps of Engineers (Corps) regulates the disposal of dredged and fill materials into "waters of the United States." Waters of the United States include intrastate lakes, rivers, streams (including intermittent streams), mudflats, sandflats, wetlands, sloughs, prairie potholes, wet meadows, playa lakes, or natural ponds, and wetlands adjacent to any water of the United States (CFR 33 Part 328). In areas subject to tidal influence, Section 404 jurisdiction extends to the high tide line. Certain waters of the United States are considered "special aquatic sites" because they are generally recognized as having particular ecological value. Such sites include sanctuaries and refuges, mudflats, wetlands, vegetated shallows, coral reefs, and riffle and pool complexes. Special aquatic sites are defined by the U.S. Environmental Protection Agency and may be afforded additional consideration in the permit process for a project. Special aquatic sites include habitats such as wetlands, mudflats, and eelgrass beds.

Currently, EPA's CWA regulations at 40 CFR 122.3(a) exclude from regulation under the National Pollutant Discharge Elimination System (NPDES), ". . . any other discharge incidental to the normal operation of a vessel." Therefore, ballast water discharges have not been and are currently not being regulated under the Clean Water Act.

Rivers and Harbors Act. The Corps also regulates navigable waters under Section 10 of the Rivers and Harbors Act. Navigable waters are defined as "…those waters of the United States that are subject to the ebb and flow of the tide shoreward to the mean high water mark and/or are presently used, or have been used in the past, or may be susceptible to use to transport interstate or foreign commerce" (33 CFR Part 322.2). A permit from the Corps must be obtained for any work within jurisdictional waters of the United States.

Migratory Bird Treaty Act. The Migratory Bird Treaty Act of 1918 (16 USC §§ 703-711) makes it unlawful to take, possess, buy, sell, purchase, or barter any migratory bird listed in 50 CFR Part 10, including feathers or other parts, nests, eggs, or products, except as allowed by implementing regulations (50 CFR 21). Disturbance that causes nest abandonment and/or loss of reproductive effort (*e.g.*, killing or abandonment of eggs or young) may be considered "take" and is potentially punishable by fines and/or imprisonment.

[1] Correspondence between the Army and the USFWS and the Army and the NMFS under Section 7 is included in Appendix 4.12.

Marine Mammal Protection Act. Under the Marine Mammal Protection Act of 1972 (16 USC § 1371) it is unlawful to take or import marine mammals and marine mammal products. Under Section 101(a)(5)(D) of the Act, an incidental harassment permit may be issued for activities other than commercial fishing that may impact small numbers of marine mammals. An incidental harassment permit covers activities that extend for periods of not more than 1 year and that will have a negligible impact on the impacted species.

National Invasive Species Act of 1996. The National Invasive Species Act (NISA) creates a national ballast management program for all U.S. coastal regions. The Coast Guard requires mandatory reporting and record-keeping requirements for all vessels equipped with ballast water tanks that enter into the waters of the United States after operating beyond the Exclusive Economic Zone (EEZ). There are no other mandatory federal requirements for vessels calling at ports within the San Francisco Bay.

Executive Order 13112. This order instructs Federal agencies to do the following:

- identify their actions which may affect the status of invasive species;
- use existing programs and authorities to prevent introduction of invasive species; and
- refrain from carrying out actions that promote introduction or spread of invasive species.

The order also established an Invasive Species Council co-chaired by secretaries of several cabinet departments. The Council finalized an Invasive Species Management Plan in 2001 which included several actions for the prevention of unintentional introductions. Among these actions were federally sponsored research to develop new technologies for ballast water management and US Coast Guard issuance of standards for approval of ballast water management technologies by January 2002 (the standards remain in progress).

State/Regional

California Endangered Species Act. The California Endangered Species Act (CESA) and the Native Plant Protection Act authorize the California Fish and Game Commission to designate endangered, threatened, and rare species and to regulate the taking of these species (Fish & Game Code §§ 2050-2098). CESA defines “endangered” species as those whose continued existence in California is jeopardized. State-listed “threatened” species are those not currently threatened with extinction, but that may become endangered if their environments change or deteriorate. In addition, interim protection is provided to candidate species while they are being reviewed by the Fish and Game Commission. The California Code of Regulations (Title 14, § 670.5) lists animal species considered by the state to be endangered and threatened. Section 2080 of the California Fish & Game Code prohibits the taking of state-listed plant and animals. Formal consultation must be initiated with the California Department of Fish and Game (CDFG) for projects that may have an adverse effect on a state-listed species. If no state-listed species will be affected by a proposed project, environmental documentation is provided to CDFG at the discretion of the lead agency.

California Department of Fish and Game Fully Protected Species and Species of Concern. The CDFG also designates "fully protected" species as those that may not be taken or possessed (Fish and Game Code §3511 [Fully Protected Birds], §4700 [Fully Protected Mammals], § 5050 [Fully Protected Reptiles and Amphibians] and § 5515 [Fully Protected Fish]). Species designated as fully protected or protected may or may not be listed as endangered or threatened.

The CDFG also maintains a list of animal "Species of Special Concern," most of which are species whose breeding populations in California may face extirpation. Although these species have no protected legal status, the CDFG recommends consideration of them during analysis of the impacts of proposed projects to protect declining populations and avoid the need to list them as endangered in the future.

Under provisions the California Environmental Quality Act, the lead agency and CDFG, in making a determination of significance, must treat non-listed plant and animal species as equivalent to listed species if such species satisfy the minimum biological criteria for listing. In general, the CDFG considers species of concern and species on Lists 1A, 1B, or 2 of the *California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California* (Skinner and Pavlik 1994) as qualifying for consideration under this CEQA provision. Species on the Native Plant Society's List 3 or 4 may, but generally do not, qualify for protection under this provision.

Regional Water Quality Control Board 401 Certification (associated with Section 404 of the Clean Water Act). The Regional Water Quality Control Board (RWQCB) must conduct a separate review of all projects subject to Section 404 to determine whether they require a Section 401 Water Quality Certification or a waiver of discharge requirements. Section 401 refers to the section of the Clean Water Act that gives states authority to issue, waive or deny certification that the proposed activity is in conformance with state water quality standards.

Ballast Water Management for Control of Non-Indigenous Species Act (Assembly Bill No. 703). The Ballast Water Management for Control of Non-Indigenous Species Act, codified at PRC Division 36, establishes a program primarily managed by the California State Lands Commission (SLC) to control discharges of ballast water originating outside the U.S. EEZ into state waters (so-called "foreign" ballast water), and to report on such control. The California Ballast Water Management Program applies to qualifying vessels, defined as those carrying ballast water into the waters of the state after having operated outside the U.S. EEZ. The program requires qualifying vessels to undergo mandatory mid-ocean exchange, retain all ballast water (no discharge), perform on-board treatment or discharge ballast water to an on-site treatment facility;[2] mandatory completion and submission the SLC a ballast water report form; and mandatory compliance with good housekeeping practices. These practices include avoiding

[2] There are no on-board or on-shore treatment facilities that have been approved for use under this law.

uptake or discharge in or near marine sanctuaries, coral reefs, reserves or parks and minimizing uptake of ballast water under various circumstances.

The Act requires a joint effort by the California State Lands Commission (SLC), the California Department of Fish and Game (CDFG), and the California Regional Water Resources Control Boards (RWQCB) to conduct monitoring and inspection of vessels entering California ports, to research baseline conditions in waters which may be affected by ballast water discharges, to evaluate alternatives to mid-ocean exchanges, and to prepare reports for the state legislature prior to the law's sunset date in 2004. The U.S. Coast Guard and the state are coordinating reporting requirements, although the state conducts independent compliance verification.

The California State Water Resources Control Board and the San Francisco Bay Regional Water Quality Control Board (RWQCB) have listed waters of the San Francisco Bay as impaired by the presence of exotic species under Section 303(d) of the Clean Water Act. The RWQCB has determined that the San Francisco Estuary does not have a capacity to assimilate exotic organisms. The RWQCB has committed to working with the State Board and the US EPA to promote a national program to effectively address discharges of exotic species (RWQCB, 2000).

Local

Oakland General Plan: Open Space Conservation and Recreation Element. The OSCAR includes policies on bay fill, converting military bases to open space, beneficial use of the estuary and bay waters, public access, waterfront park enhancement, and dredging relevant to redevelopment of the project area (City of Oakland 1996). Specific relevant policies are discussed in Section 4.1: Consistency with Plans and Policies.

Oakland Municipal Code Chapter 13.16: City of Oakland Creek Protection, Storm Water Management and Discharge Control Ordinance. The storm water management and discharge control ordinance was adopted in 1997 to provide stronger provisions to manage and safeguard creeks. It includes permitting guidelines for construction near creeks within the City of Oakland. According to the ordinance, a creek is defined as a watercourse that is a naturally occurring swale or depression, or engineered channel, which carries fresh or estuarine water either seasonally or year round within City boundaries. There are no creeks within the study area as defined in the ordinance.

Oakland Municipal Code Title 12, Chapter 12.36: City of Oakland Tree Ordinance. The tree ordinance requires property owners to obtain a permit before removing protected trees from their property. Protected trees are listed in Section 4.12.5.

Port of Oakland Tariff No. 2-A. Item No. 02215 of the Port's operating rules and regulations (Tariff 2-A) forbids discharge of ballast water in the San Francisco Bay or the Gulf of the Farallones National Marine Sanctuary. Vessels are exempt if they arrive from ports located between the southern boundary of Baja California and the northern boundary of Alaska, and if their ballast water originated from these waters; if open ocean ballast water exchange is

deemed to be unsafe; or if the vessel is in compliance with the International Maritime Organization Resolution A774 (18) (Guidelines for Preventing the Introduction of Unwanted Aquatic Organisms and Pathogens from Ships' Ballast Water and Sediment Discharges).

While some portions of the Port of Oakland's Ballast Water Management program are currently superceded by the subsequent California Ballast Water Management Program (see above, under the description of the state and regional regulatory setting), the Port has retained that portion of its ordinance that goes beyond state regulations, by requiring vessels to report the specific source of ballast water discharged in San Francisco Bay that originated in other West Coast ports. This information will contribute to the knowledge base regarding ballast water and invasive species, and in determining if precautions for ballast water originating within the U.S. EEZ are prudent.

4.12.3 Regional Setting

The OARB area redevelopment project area is located on the eastern side of the San Francisco Bay. San Francisco Bay comprises 548 square miles (882 square kilometers) of water. The San Francisco estuarine complex is the second largest estuary in the nation and the largest estuary on the Pacific Coast. It provides habitat for hundreds of species of wildlife and plants.

Due to increasing urbanization of the region, the size of the Bay has decreased substantially. Deep and shallow bay habitats have decreased from approximately 110,000 hectares (270,000 acres) to 100,000 hectares (250,000 acres) since the nineteenth century. Tidal flats have decreased from 20,000 hectares (50,000 acres) to 12,000 hectares (30,000 acres). Tidal marsh habitat is approximately 16,000 hectares (40,000 acres) today, compared to 77,000 hectares (190,000 acres) over one hundred years ago (Goals Project 1999).

Habitat types currently present within the historic Bay footprint include:

- Open Bay waters;
- Tidal baylands such as tidal flats, tidal marshes and lagoons;
- Diked baylands such as salt ponds and agricultural baylands; and adjacent habitats such as riparian forest, grasslands, oak woodlands, and mixed evergreen forests (Goals Project 1999).

The Bay provides wintering habitat for a large number of waterfowl in the Pacific Flyway. It is estimated that an average of 300,000 birds of 32 species have been counted per season during annual January midwinter surveys conducted by the USFWS in the estuary (San Francisco Estuary Project [SFEP] 1997). Midwinter surveys also estimate that more than 57 percent of the total wintering diving ducks in California occur in the Bay (USFWS 1992).

More than 100 species of fish inhabit the San Francisco Bay system, the majority of them native. A large portion of these are residents and complete all of their life stages within the Bay;

a smaller portion, anadromous fish, are not year-round residents, but migrate from ocean waters through the Estuary, into a series of freshwater streams, where they spawn. As adults or young-of-the-year (YOY), these anadromous fish migrate through the Estuary to the ocean. A small portion of these remains in the Bay year-round. After spawning in freshwater streams, most anadromous species spend 4 to 8 months in the Bay before entering the ocean. Examples of fish species common to the Central Bay include northern anchovy (*Engraulis mordax*), topsmelt (*Atherinops affinis*), jacksmelt *(Atherinopsis californiensis*), striped bass (*Morone saxatiles*), white croaker (*Genyonemus lineatus*), Pacific herring (*Clupea harengus*), and English sole (*Pleuronectes vetulus*).

The Central, South, and North bays are ecologically linked, and planktonic organisms drift throughout the area via currents. Phytoplankton and zooplankton are the most abundant taxonomic groups found in the Bay and are important prey items for fish and macroinvertebrates.

Invasive Species

Discharge of ballast water—one vector by which non-indigenous (exotic) marine and freshwater organisms are spread around the world today—has been identified as a source of exotic organisms into California waters. Exotic species in San Francisco Bay have successfully "invaded" the habitat of indigenous species, and the Bay has been identified as the most invaded aquatic ecosystem in North America (Cohen and Carlton 1988). Approximately one new exotic species has been introduced every 14 weeks since 1961. Non-indigenous aquatic animals and plants have had a profound impact on the ecology of the Bay in terms of modifying food webs, causing structural changes in Bay habitats, extinction or regional extirpation of native species, economic impacts from depletion of native fisheries, damage to maritime facilities from fouling organisms, and clogging of waterways.

Most vessels carry ballast water to ensure proper and stable operation. The stability of a vessel depends on horizontal and vertical weight distribution, and ballast — usually as water — is used to make allowances for cargo distribution. Cargo vessels must be on an even keel at the berth in order for cargo cells to be accessible to ship loading equipment. Fuel transfer can accomplish some of this weight movement accommodation, although ballasting and de-ballasting are also necessary. Ballast water is generally pumped in as needed while the vessel is berthed at port and may be transported over great distances and discharged at other ports. Many species of bacteria, plants, and animals can survive in the ballast water or sediment carried in the ballast tanks of vessels, even after journeys lasting several weeks. Subsequent discharge of ballast water containing these organisms may result in the establishment of unwanted species, which can alter the existing ecological balance at the discharge location. Sediments in ballast tanks are cleaned out every 2 to 4 years during dry docking or are cleaned out during routine maintenance while at sea. There are no dry docks for container ships in San Francisco Bay, and introduction of invasive species from sediment discharge is unlikely.

4.12.4 Local Setting

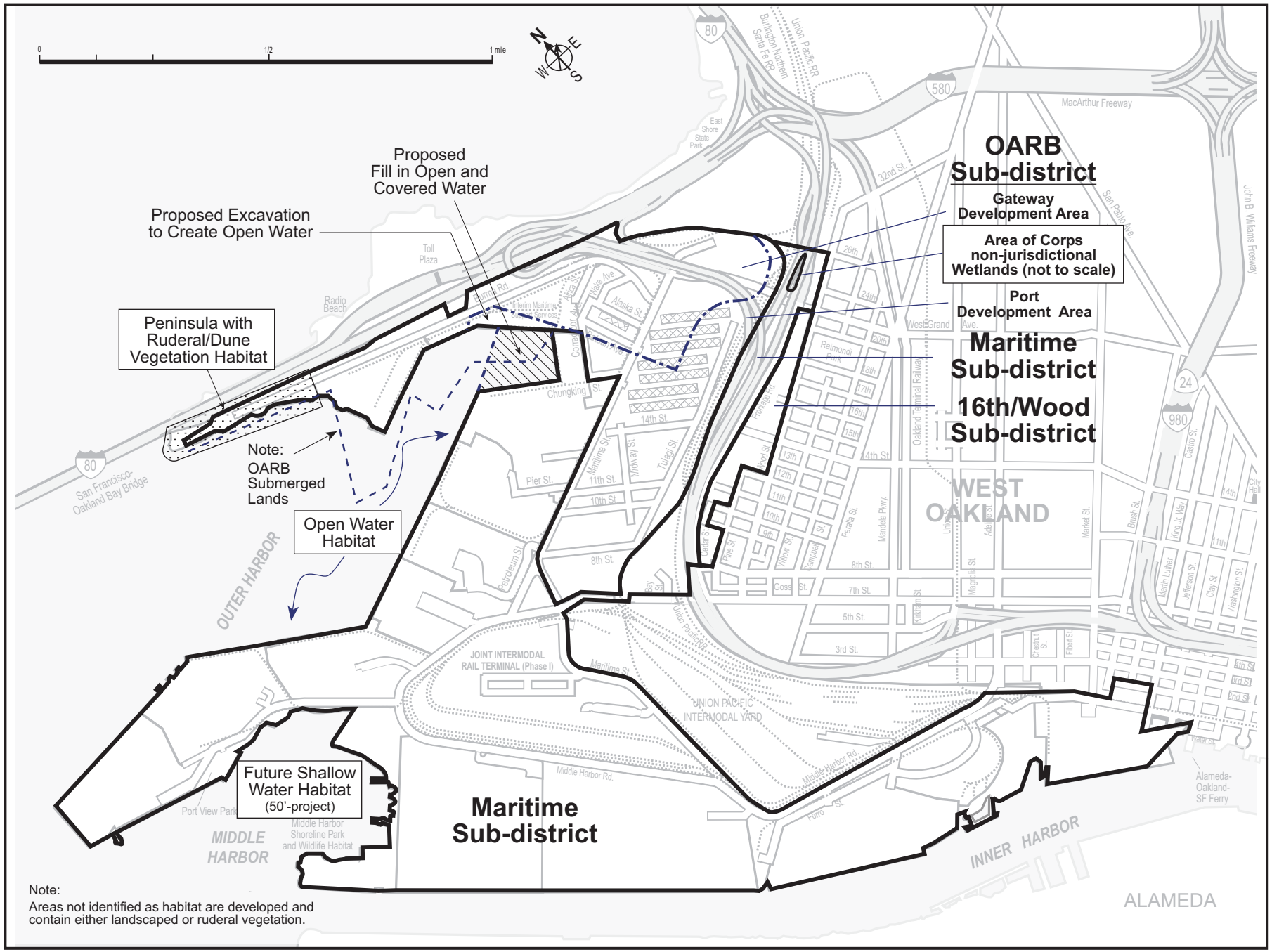
The study area is currently dominated by developed areas consisting primarily of railroad beds, roads, buildings, building foundations, and parking lots, or previously developed and currently vacant parcels, with little vegetation. Plant species are almost entirely exotic and landscaped. The only site undeveloped in recent times is the 6.7-hectare (16.7-acre) portion of the Gateway peninsula, extending westward into the San Francisco Bay in the northwest corner of the Gateway development area. The shoreline of this area is partially riprapped, and the area is unpaved except for an access road traversing the length of the parcel. The eastern portion of the area is used for parking and storage. This storage area is graded once a year in late summer to remove tire tracks. This peninsula provides some habitat for migratory birds to roost, nest, or forage, despite being surrounded by elevated highways and access ramps. The study area also contains open water extending into Oakland Inner, Middle, and Outer harbors. Habitat types in the OARB redevelopment project area are illustrated by Figure 4.12-1.

Terrestrial Vegetation

Since the OARB and Maritime sub-districts are mainly industrial with some park land in the Maritime sub-district, there is little vegetation in these areas. Existing vegetation is primarily ruderal, with some ornamental trees and shrubs. The 16th/Wood sub-district, consisting of an inoperative railroad station, a former iron works site, and light industrial uses, is primarily ruderal. Appendix 4.12 lists plants observed at the OARB.

The unpaved portion of the Gateway peninsula is sparsely vegetated and is the only area in the study area that is not disturbed. Two small beaches approximately 30 to 40 meters (98 to 130 feet) wide are located along the south shoreline of the peninsula; the remaining shoreline areas are rip-rapped. Common plant species such as pickleweed (*Salicornia virginica*), and yellow-star thistle (*Centaurea solstitialis*) are present along the margins of the peninsula. Marsh gum-plant (*Grindelia stricta* var. *angustifolia*), a California Native Plant Society (CNPS) List 4 (Rare) species, is also present on the site. The vegetation consists primarily of brass buttons (*Cotula coronopifolia*), red-stemmed storksbill (*Erodium cicutarium*), plantain (*Plantago* sp.) and sweet clover (*Melilotus* sp.). Plant species observed on the peninsula are listed in Appendix 4.12. The vegetation in this area is periodically mown and sprayed.

Monterey pines are generally not protected by the Oakland Tree Preservation Ordinance unless there are more than five present within an area. More than five large, healthy Monterey pines are present within the OARB sub-district in the Gateway development area and are therefore considered protected trees by the Oakland Tree Preservation Ordinance. A complete count of these trees should be completed prior to construction for mitigation purposes. Furthermore, American sycamore (*Platanus occidentalis*) and date palm trees (*Phoenix dactylifera*), among other species, having diameter at breast height of 9 inches or greater are present in both the OARB and Maritime sub-districts. These trees are also considered protected under the ordinance.



Note:
Areas not identified as habitat are developed and contain either landscaped or ruderal vegetation.

OARB Area Redevelopment EIR

Figure 4.12-1 Habitat Types

April 2002

g. borchard & associates

Wildlife

Minimal wildlife habitat is present in the study area due to the high density of development. Grassy areas, shrubs trees, and telephone lines in the paved and industrialized sections of the study area provide habitat for feral cats (*Felis catus*) and dogs *(Canis familiaris)* as well as common wildlife species such as skunks (*Mephitis mephitis*), rock doves (*Columba livia*), starlings (*Sturnus vulgaris*), mourning doves (*Zenaida macroura*), American kestrels (*Falco sparverius*) and white-crowned sparrows (*Zonotrichia leucophrys*). Canada geese (*Branta canadensis*) have been observed roosting in some of the grassy areas of the OARB sub-district (Lu 2001).

The unpaved peninsula in the northwestern corner of the study area provides some foraging and roosting habitat for shorebirds such as dunlin (*Calidris alpina*), spotted sandpiper (*Actitis macularia*), willet (*Catoptrophorus semipalmatus*), and black oystercatcher *(Haematopus bachmani*). The California least tern (*Sterna antillarum*), a federally listed endangered species, has been observed roosting on the peninsula and feeding within 50 feet of the shoreline (OARB 1999; Caltrans 1998). Killdeer (*Charadrius vociferus*) have been recorded nesting on the peninsula, and Canada geese were observed nesting there in April 1997 (Military Traffic Management Command 1999). Wildlife species observed throughout the Oakland Army Base are listed in Appendix 4.12. Species observed only on the peninsula are listed in Appendix 4.12.

Water birds such as California brown pelican (*Pelecanus occidentalis*), a federally listed endangered species, ruddy duck (*Oxyura jamaicensis*), double-crested cormorant (*Phalacrocorax auritus*), horned grebe (*Podiceps auritus*), and gulls (*Larus* sp.) have been recorded loafing and foraging in the open water around the Base. Appendix 4.12 lists the bird species recorded around the potential fill area during surveys in 1997.

The Outer, Middle, and Inner harbors also provide habitat for many fish species, including northern anchovy, topsmelt, and staghorn sculpin (*Leptocottus armatus*). Common shallow subtidal fish include English sole (*Pleuronectes vetulus*), bay goby (*Lepidogobius lepidus*), northern anchovy, speckled sanddab (*Citharichthys stigmaeus)* and plainfin midshipman (*Porichthys notatus*). Pacific herring are present in the San Francisco Bay in the winter and early spring and spawn in rocky areas and on pilings. Although the redevelopment project area is out of the migratory path of winter-run, fall/late-fall, and spring-run Chinook salmon (*Oncorhynchus tshawytscha*), and steelhead (*Oncorhynchus mykiss*), there is some potential for these species to occur. Appendix 4.12 lists the aquatic (non-mammal) species that were observed in the Outer Harbor in 1997.

Marine mammals such as the California sea lion (*Zalophus californicus californianus*) and harbor seal (*Phoca vitulina*) have both been recorded in the Outer Harbor and may forage there, although it is not a primary foraging area for either species (Corps and Port of Oakland 1998).

Special Aquatic Sites

Wetlands. Two small urban wetlands are located within the northeastern portion of the Maritime sub-district, in the Desert railyard. These wetlands are located between two railroad track berms. The northernmost wetland, 0.34 acre, is dominated by broad-leaved cattails (*Typha latifolia*) and Bermuda grass (*Cynodon dactylon*). Algal mats were observed on the water surface. The southernmost wetland, 0.15 acre, supports some willow trees (*Salix* spp.). Red-winged blackbirds (*Agelaus phoeniceus*) and mourning doves were observed nesting and foraging at both wetland sites. The U.S. Army Corps of Engineers has determined that these wetlands are isolated and are therefore not considered jurisdictional under the Corps according to the ruling by the Supreme Court in the Solid Waste Agency of Northern Cook County vs. U.S. Army Corps of Engineers No. 99-1178 (April 17, 2001). These wetlands remain subject to the jurisdiction and regulations of the RWQCB.

Special-Status Species

The designation of special-status species includes all federal- and state-listed species and species proposed for listing under the federal and California Endangered Species Acts, federal species of concern, state species of special concern, and plant species included on List 1 or List 2 of the California Native Plant Society's (CNPS) Inventory of Rare Plants.

Appendix 4.12 lists all wildlife and plant species, respectively, with state or federal listing status and other special status that have potential to occur in the study vicinity. No critical habitat for any potentially occurring special-status species occurs in the redevelopment vicinity. Appendix 4.12 includes a description of habitats suitable for each of the special-status species and a determination regarding the presence or absence of that habitat in the redevelopment project area.

Wildlife: Threatened/Endangered Birds

Western Snowy Plover *(Charadrius alexandrinus nivosus).* The western snowy plover is listed as a federally threatened species and as a state species of special concern. This small shorebird typically occupies sandy beaches and intertidal areas of marine and estuarine habitats, but is known to occur in some inland areas. Along the Pacific Coast, snowy plovers are distributed on the mainland and offshore islands from southern Washington to southern Baja California, Mexico. Nests are usually established in areas of sandy beaches and estuaries with sparse to no vegetation. Prey items consist of intertidal and supratidal invertebrates, and feeding is diurnal.

Western snowy plovers are known to winter in the San Francisco Bay Area. Approximately 250 individuals have been recorded in the Bay during the breeding season (Corps and Port of Oakland 1998). However, no snowy plovers were observed within the proposed redevelopment project area during the bird surveys conducted by Entrix and Biological Field Services during the winter and summer of 1997 (del Nevo and Malamma 1997). This probably reflects the absence of suitable foraging and nesting habitat within the proposed redevelopment project area for this

species. Although snowy plovers may forage in the general vicinity, it is unlikely the redevelopment project area provides important habitat for this species.

California Brown Pelican (*Pelecanus occidentalis californicus*). The California brown pelican is a state and federally listed endangered species. This species breeds on the California Channel Islands between March and August *(*Zeiner *et al.* 1990) and occurs in northern California from June to November. Populations of this species have declined due to pesticide-induced eggshell thinning, oil spills, over-harvest of prey, and loss of post-breeding roosting habitat (USFWS 1992). In the Bay, pelicans forage over deep-water habitats and roost on structures such as breakwaters, pilings, and to a lesser extent, salt-pond dikes (USFWS 1992). Brown pelicans feed almost exclusively on fish in either shallow or deep waters. Brown pelicans are fairly common throughout waters of the Central Bay and San Pablo Bay.

California brown pelicans are known to forage and rest in and around the Middle, Inner, and Outer harbors. However, most foraging occurs in the central and western portions of San Francisco Bay (Entrix 1997). The largest pelican roost within the Bay is located on the former Naval Air Station (NAS) Alameda breakwater, approximately 4 kilometers (2.5 miles) south of the study area.

California Least Tern (*Sterna antillarum*). The California least tern is a state and federally listed endangered species. It is migratory and breeds in California from April to August. It ranges from southern Baja California and Mexico, north to San Francisco Bay. Breeding colonies are generally located in abandoned salt ponds and along estuarine shorelines that are free of predators. California least terns are ground-nesters and nest in colonies on sandy beaches that are usually associated with river mouths or estuaries. Due to degradation of more natural nesting habitat, they have occasionally been found to nest on dredge-spoil islands, open areas adjacent to airport runways, and industrial ports.

A breeding colony with approximately 210 nests is present on Alameda Island, within the former NAS Alameda. There are no known breeding areas within the study area. The terns are known to forage in the open water and are purported to roost around the unpaved peninsula on the OARB sub-district, although surveys have shown that most foraging occurs south of Alameda Island (del Nevo and Malamma 1997; U.S. Navy and Port of Oakland 1997). There was an unsuccessful nesting attempt observed in 1985 (Point Reyes Bird Observatory 2002)

Wildlife: Threatened/Endangered Fish

Central California Steelhead (*Oncorhynchus mykiss*). Central California steelhead is federally listed as threatened and is a state species of concern. Steelhead historically ranged throughout the north Pacific Ocean from Baja California to the Kamchatka Peninsula. Currently, their range extends from Malibu Creek in southern California to the Kamchatka Peninsula (NMFS 1997b). Steelhead, the anadromous form of trout (*O. mykiss)* migrate from freshwater to the ocean and returning to spawn in freshwater. They can spend several years in freshwater

prior to smoltification and can spawn more than once before dying, unlike most other salmonids (Busby *et al.* 1996). Spawning runs occur from December through May.

Steelhead were not observed within the Port of Oakland harbors during the 1997 habitat evaluation surveys (Corps and Port of Oakland 1998). The study area is not within the migratory path of the fish in the San Francisco Bay. They may, however, occasionally stray into the study area.

Chinook Salmon *(Oncorhynchus tshawytscha).* Chinook salmon is the largest species of the Pacific salmon (Netboy 1958). The species historically ranged from the Ventura River in California to Point Hope, Alaska, on the eastern edge of the Pacific and in the western portion of the Pacific Ocean from Hokkaido, Japan, to the Anadyr River in Russia (Healey 1991). Chinook salmon consist of four distinct breeding populations or evolutionarily significant units (ESUs) that are endemic to the Sacramento-San Joaquin river system. Factors used in determining ESUs include spatial, temporal, and genetic isolation, maturation rates, and other life history traits. Chinook salmon have been categorized into fall/late-fall, winter, and spring ESUs. Each ESU is considered a distinct race and has been given its own management status. Winter-run Chinook salmon has been state and federally listed as endangered, the fall/late-fall run salmon has been state and federally listed as threatened and is federally proposed endangered, and spring-run salmon is federally proposed as threatened and is a state species of concern.

Three Chinook salmon ESUs migrate through the Bay: Sacramento River winter-run, Central Valley spring-run, and Central Valley fall/late-fall run. The winter-run, a state and federally listed endangered species, spawns in the upper Sacramento River below Keswick Dam. The fall/late-fall run, a state and federally listed threatened species and federally proposed endangered species, spawns in the Sacramento and San Joaquin river basins (Myers *et al.* 1998). Spring-run Chinook salmon, federally proposed as threatened and a state species of concern, spawn in the Sacramento River Basin. All three runs are most commonly found migrating through the northern and central portions of the Bay (CDFG 1987).

The Port of Oakland harbors are not within the migratory path of any of these ESUs, and these ESUs are not expected to occur in the study area, although individuals may occasionally stray into the area. Previous surveys in 1997 captured only two fall-run Chinook salmon in the area (Corps and Port of Oakland 1998).

Wildlife: Special-Status Mammals

Gray Whale (*Eschrichtius robustus*). Gray whales are protected by the Marine Mammal Protection Act of 1972, and were recently delisted as an endangered species. Gray whales migrate each year along the West Coast of North America, typically passing off the coast of San Francisco heading south from December through February and heading northward from mid-February through July. The population has recently reached a level thought to be near carrying capacity (approximately 26,000 animals), which may explain why more gray whales have been

observed feeding of the coasts of British Columbia, Washington, Oregon, and California rather than migrating the entire way to Alaska.

Gray whales consume benthic prey (primarily ampeliscid amphipods) in North America (*e.g.*, Bering, Beaufort, and Chukchi seas) during summer and migrate south along the West Coast of North American to calve and breed off the coast of Mexico. To consume benthic crustaceans, gray whales dive to the bottom of the ocean, generally to depths of less than 650 feet, where they turn on their sides and suck up a portion of the bottom that contains their prey. During the migration, gray whales occasionally enter rivers and bays (such as the San Francisco Bay) along the coast either because they are disoriented or to forage. Recently, some gray whales (presumably juveniles and post-weaning females) have begun foraging along the near-shore coastline of California, Oregon, Washington, and British Columbia during summer and remaining there instead of migrating northward as do the bulk of the population (Sumich 1985). These individuals presumably have foraged on mysids or euphausiids.

Gray whales have been seen irregularly in the Bay, and are probably individuals that have meandered off the migration route. There is the potential for one of these individuals to occur within the study area.

Pacific Harbor Seal (*Phoca vitulina*). The harbor seal is protected by the Marine Mammal Protection Act. It is non-migratory and can be found along shorelines and in estuaries throughout North America. Pacific harbor seals use the Bay year-round, where they engage in limited seasonal movements associated with foraging and breeding activities (Kopec and Harvey 1995). Harbor seals haul out in groups ranging in size from a few individuals to several hundred seals. Habitats used as haul-out sites include tidal rocks, mudflats, sandbars, and sandy beaches (Zeiner *et al.* 1990). Haul-out sites are relatively consistent from year to year and are important habitats for harbor seals (Kopec and Harvey 1995). In the Bay, pupping occurs from March to May, and molting in June and July (Kopec and Harvey 1995). The greatest numbers of harbor seals were counted during these months at major haul-out sites in the Bay (Kopec and Harvey 1995). Haul-out sites that support some of the largest concentrations of seals include Corte Madera Marsh and Castro Rocks in the Central Bay, Mowry Slough south of the Dumbarton Bridge, and Yerba Buena Island.

The total population of harbor seals in the Bay is estimated to be 700 animals (USFWS 1992). Aerial counts by CDFG (1999) indicate that the harbor seal population has remained relatively constant in the Bay from 1982 through 1995, with an average increase in the population of 60 individuals over all years. However, harbor seal populations in other areas off the West Coast have been increasing by a much larger percentage since the late 1970s than that observed in the Bay (Kopec and Harvey 1995). Factors such as pollution and human disturbance at haul-out sites in the Bay may be factors contributing to this population difference.

Harbor seals forage in shallow, intertidal waters on a variety of fish, crustaceans, and a few cephalopods (*e.g.*, octopus). They also consume benthic organisms as well as schooling fishes.

The most numerous prey items identified in harbor seal fecal samples from haul-out sites in the Bay include yellowfin goby (*Acanthogobius flavimanus*), northern anchovy, Pacific herring, staghorn sculpin, plainfin midshipman, and white croaker (Harvey and Torok 1994).

Harbor seals have been documented in the Outer Harbor and are known to forage in the vicinity (Corps and Port of Oakland 1998). Because it is not a regular haul-out area, nor close to a haul-out area, the study area is not considered a crucial area for this species.

California Sea Lion (*Zalophus californicus californianus*). The California sea lion is protected under the Marine Mammal Protection Act. California sea lions breed in Southern California and along the Channel Islands. After the breeding season, males migrate up the Pacific Coast and enter the Bay. In the Bay, sea lions are known to haul out at Pier 39 in the Fisherman's Wharf area of the San Francisco marina. An estimated 600 animals were observed in January and February 1991 at that haul-out site (USFWS 1992). In addition, California sea lions have the potential to haul out on buoys and similar structures throughout the Bay. Other than Pier 39, no repeatedly used haul-out site for California sea lions has been observed in the Bay (Point Reyes Seashore 1999).

During anchovy and herring runs, approximately 400 to 500 sea lions (mostly immature males) feed almost exclusively in the North and Central bays (USFWS 1992). They have been documented in the Outer Harbor (Corps and Port of Oakland 1998; OARB 1999) and are known to forage in the vicinity, although it is not a primary area for them.

Wildlife: Special-Status Birds

Golden Eagle (*Aquila chrysaetos*). The golden eagle is a state species of concern, known to breed in northern California. They breed in interior grasslands and oak savannas and forage in shrublands and grasslands. They have been known to occur at former NAS Alameda and have been recorded flying over and possibly foraging in the study area (del Nevo and Malamma 1997). There are no known records of nesting on the site.

Northern Harrier (*Circus cyaneus*). The northern harrier is state species of concern. It occurs throughout the state except for the Sierra Nevada and the Cascade ranges. Loss of wetland and grassland habitats has reduced the harrier population in California. Breeding usually occurs in shrubby vegetation within marshes, although nesting may also occur in grasslands or other dry habitats away from water. Harriers forage primarily on small mammals that inhabit a variety of wet and dry habitats. The northern harrier is known to occur on NAS Alameda and has been seen flying over the study area (del Nevo and Malamma 1997). It is not known to nest in the study area.

American Peregrine Falcon (*Falco peregrinus anatum*). The American peregrine falcon is federally delisted, but is still state-listed as endangered. The historic range of the American peregrine falcon extends throughout North America from the boreal forests south into Mexico (USFWS 1992). The American peregrine falcon population began to decline in the late 1940s as

a result of pesticide-induced eggshell thinning. Recent conservation and recovery efforts have resulted in the increase of the peregrine population to over 120 breeding pairs in California.

Peregrines generally nest on protected ledges of high cliffs in woodland, forest, and coastal habitats. However, pairs are also known to nest on man-made structures such as bridges and buildings. In 1992, four nesting pairs were observed in the Central Bay and in Suisun Bay, including two pairs that were nesting on the Bay Bridge. In 2001, two pairs were observed nesting on each span of the Bay Bridge, one pair on the Carquinez Bridge, one pair on the San Rafael-Richmond Bridge, and one pair near the foot of the San Mateo Bridge. A nest box was placed on the Oracle Campus in Redwood Shores in 2000, and a pair of peregrine falcons have nested there since then (Walton 2001).

Most wetland habitats, except for riparian areas, provide suitable foraging habitat for the species. In the Bay Area, the peregrine is an opportunistic predator, known to prey on pigeons, terns, shorebirds, blackbirds, and sparrows. The Bay Area and Delta are considered important wintering areas for the species.

One or two of the falcons were observed preying on California least terns from the NAS Alameda breeding colony, and they were also observed occasionally in and around the Outer Harbor (Corps and Port of Oakland 1998; U.S. Navy and Port of Oakland 1997). This species has the potential to forage and roost in the study area.

Loggerhead Shrike (*Lanius ludovicianus*). Loggerhead shrike is a federal and state species of special concern. The loggerhead shrike breeds in open fields with scattered trees. It has also been recorded in somewhat urban areas. Habitat loss and pesticide contamination are some of the main factors in its decline. Loggerhead shrikes have the potential to forage within the OARB redevelopment project area, although they are not expected to be common.

Long-Billed Curlew (*Numenius americanus*). Long-billed curlew is a federal and state species of special concern. This species breeds within the northeastern portion of the state in grassland or wet meadow habitats that are usually adjacent to lakes or marshes. Conversion of these breeding grounds to agricultural areas is believed to be the primary cause for the decline of this species in the state (Zeiner *et al.* 1990). Long-billed curlews commonly winter in the Central Valley, where they occupy seasonal wetland habitats. Smaller numbers of curlews also winter in the San Francisco Bay. Long-billed curlews have the potential to forage on the undeveloped portions of the peninsula.

Double-Crested Cormorant (*Phalacrocorax auritus*). The double-crested cormorant is a state species of special concern and is a permanent resident along the coast of California. It roosts beside water on off-shore rocks, islands, steep cliffs, trees, as well as wharves and bridges. The double-crested cormorant is common within the Outer Harbor and vicinity. It has been observed foraging in a variety of habitats and resting upon manmade structures within the Port of Oakland (Corps and Port of Oakland 1998). A large nesting colony is present on the east span of the Bay Bridge. This colony has been estimated at over 1,000 birds (Corps and Port of Oakland 1998).

Open water areas in the study area are likely an important foraging habitat for this species due to the close proximity of this colony.

Wildlife: Special-Status Fish

Longfin Smelt (*Spirinchus thaleichtys*). Longfin smelt is a state and federal species of concern. It ranges from Alaska to San Francisco Bay (Herbold *et al.* 1992). Historically one of the most abundant pelagic fishes of the Sacramento-San Joaquin estuary, the longfin smelt's populations have been on the decline primarily due to the reduction of freshwater outflow through the Delta (Moyle *et al.* 1995).

Longfin smelt spawn in freshwater river channels at the easternmost end of the Bay and are transported downstream into Suisun and San Pablo bays as larvae (Herbold *et al.* 1992). In winter, yearling smelt are more widely distributed, with some even colonizing the South Bay. Spawning occurs between November and June, with the majority occurring between February and April (Baxter, unpublished data in Moyle *et al.* 1995; Wang 1986). The adhesive eggs are laid on sandy-gravel substrates, rocks, or on aquatic plants in the freshwater sections of the Delta. Adults are present in open waters of the Estuary at a variety of salinities. Adults occur seasonally as far downstream as the South Bay, but are most abundant in Suisun Bay, San Pablo Bay, and the North Bay. Longfin smelt are rarely found outside of the Estuary. The species primarily feeds on opossum shrimp, although copepods and other crustaceans can also be important components of their diet (Moyle *et al.* 1995). This species has the potential to be present in the study area.

Pacific Herring (*Clupea harengus*). Pacific herring is not federally or state listed. However, it is a commercially, recreationally, and ecologically important fish species that enters San Francisco Bay and other bays in fall and winter to spawn, as summarized by Barnhart (1988). Because of its commercial importance, impacts to this species are often taken into consideration on projects, even though the species is not protected. In most years, spawning takes place in Richardson Bay and Raccoon Strait, in west-central San Francisco Bay. Eggs are adhesive and deposited directly onto firm substrates. A favorite spawning substrate is eelgrass, but the alga *Gracillaria* is also frequently used in the Bay. Herring apparently will not spawn on muddy bottoms, but are known to deposit eggs on pilings, riprap, and even on sandy beaches (Eldridge and Kaill 1973, cited in Wang 1986). In the 1980s and early 1990s, the main herring schools often spawned on the Oakland and San Francisco waterfronts (Tasto 1998, cited in Corps and Port of Oakland 1994). It is likely that spawning adults return to Oakland Harbor in some years. The abundant riprap and pilings throughout the Outer Harbor provide good habitat for spawning herring.

The abundant young herring collected in the sampling effort in Oakland Harbor and vicinity in the spring of 1997 (del Nevo and Malamma 1997) were possibly, but not necessarily, produced from local spawning. Sampling methods were not suited to capturing newly hatched larvae. The fish taken were mostly 30-millimeter (mm) to 50-mm juveniles, with some approximately 25 mm newly hatched larvae (Entrix unpublished data, cited in Corps and Port of Oakland 1994), and

therefore were one to several months old at the time (as judged by post-hatching sizes in Purcell *et al.* 1987). Juvenile herring are frequently abundant in widespread areas of San Francisco Bay (Barnhart 1988), and so evidently spread rapidly from spawning centers. Fish eggs typically are attached to structures such as pilings, algae, and eelgrass.

Special-Status Plants

Marsh Gumplant (*Grindelia stricta* var. *angustifolia*). Marsh gumplant is included on the CNPS List 4. This perennial herb occurs in high or upper salt marsh and northern coastal scrub. The species is widespread and has been documented in Alameda, Contra Costa, Del Norte, Humboldt, Mendocino, Monterey, Marin, Napa, San Francisco, San Luis Obispo, San Mateo, Solano, Sonoma, and Ventura counties. It has been known to occur in the study area on the Gateway peninsula.

Invasive Species

According to recent Marine Exchange and California State Lands Commission data, between August 1, 2000 and July 31, 2001, 1,810 ships called at the Port of Oakland facilities. Of these 1,733 were containerships. Of these containership calls, 388 were from vessels making their first California call at Oakland, and were subject to the provisions of the California Ballast Water Management for Control of Non-Indigenous Species Act. Of these 388 vessel calls, 370 ships filed the required ballast water reporting form with the State regarding ballast water operations. Of those reporting 234 (63 percent) containerships reported discharging water at Oakland that originated from beyond the U.S. EEZ, resulting in a total of these discharges from qualifying containerships of approximately 580,000 metric tons, which equals approximately 2,475 metric tons per discharging containership.[3] According to the State law, these ships are required to exchange their ballast water at sea more than 200 miles offshore, before entering California waters.

4.12.5 Impact Analysis Methodology

Potential impacts to biological resources in the redevelopment project area were identified from several sources:

- Rarefind 2 (CDFG 1999) CNDDB records from Oakland West, Richmond, San Quentin, San Francisco North, San Leandro and Hunters Point, Briones Valley, Oakland East, and San Francisco South 7.5 minute quadrangles.

- California Native Plant Society Electronic Inventory (Skinner and Pavlik 1994) records from the Oakland West, Richmond, San Quentin, San Francisco North, San Leandro and Hunters Point, Briones Valley, Oakland East and San Francisco South 7.5 minute quadrangles.

- U.S. Fish and Wildlife Service letters dated November 16 and 20, 2001 (Appendix 4.12).

[3] The Port of Oakland's Ballast Water Management Program reported an additional 120,000 MT of ballast water originating within the U.S. EEZ as discharged during the same period.

The resulting species list gathered from these sources has been formatted into two tables showing the common and scientific names, federal and state status, and a general description of suitable habitat for each species. These tables are provided as Appendices 4.12 and 4.12 for special-status wildlife and plant species, respectively.

Significance Criteria

Redevelopment would have a significant impact on the environment if it would:

- Have a substantial adverse effect, 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;

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFG or USFWS;

- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;

- Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan;

- Fundamentally conflict with the City of Oakland Tree Preservation and Removal Ordinance by removal of protected trees under certain circumstances. Although there are no specific, numeric/quantitative criteria to assess the impacts for loss of protected trees under Oakland's City's Tree Preservation and Removal Ordinance, factors to be considered in determining significance include the number, type, size, location and condition of protected trees to be removed and /or impacted by construction; and the protected trees to remain, with special consideration given to native trees. Protected trees include the following:

  - *Quercus agrifolia* (California or coast live oak) measuring 4 inches in diameter at breast height (dbh) or larger, and any other tree measuring 9 inches dbh or larger except eucalyptus and *Pinus radiata* (Monterey pine); and

  - Monterey pine trees on city property and in development-related situations where more than five Monterey pine trees per acre are proposed to be removed.

- Fundamentally conflict with the City of Oakland or Oakland Creek Protection Ordinance intended to protect biological resources. Although there are no specific, numeric/quantitative criteria to assess impacts, factors to be considered in determining significance include whether there is substantial degradation of riparian and aquatic habitat through any of the following: discharging a substantial amount of pollutants into a creek; significantly modifying the natural flow of the water; depositing substantial amounts of new materials into a creek or causing substantial bank erosion or instability; or adversely impacting the riparian corridor by significantly altering vegetation or wildlife habitat;

- Substantially increase the risk of establishment of invasive species from outside the U.S. EEZ into San Francisco Bay; or

- Have a substantial adverse effect on state protected wetlands, or federally protected wetlands as defined by Section 404 of the Clean Water Act through direct removal, filling, hydrological interruption, or other means;

Not all criteria apply. There are no known applicable habitat conservation or natural community conservation plans, and conditions do not exist for redevelopment to conflict with such plans. There are no creeks located in or near the study area, and conditions do not exist for redevelopment to conflict with the Oakland Creek Protection Ordinance.

4.12.6 Impacts

Benefits

Redevelopment would result in a reduction of routine maintenance dredging of approximately 26 acres in the Outer Harbor Channel and for Berths 7, 8, and 9 due to the creation of New Berth 21. Terminals 7, 8, and 9 will no longer be used for maritime uses. This reduction in dredging would in turn reduce dredge-associated turbidity and noise and their effects on wildlife, a minor environmental benefit.

Impacts

Impact 4.12-1: Redevelopment could result in the loss of 15 acres of ruderal/beach habitat.

Significance: Potentially significant

Mitigation 4.12-1: EBRPD shall maintain and enhance beach habitat where feasible between the shoreline and the park in order that water birds have space to forage and roost on the peninsula, and comply with all applicable resource agency requirements.

Residual Significance: Less than significant

Although the area is primarily ruderal and provides marginal habitat for shorebird species in the area, seabirds have been known to occasionally roost in the area. Vegetation in the area is predominantly ruderal, although there is some wetland vegetation present. For example, marsh gumplant, a CNPS List 4 species, has been documented on the peninsula. The east side of the Central Bay has very few undeveloped areas of land adjacent to the Bay. Thus, the peninsula's location makes the area more valuable than the equivalent quality of land in a less developed area. As this habitat depends on details of specific redevelopment activities not yet developed, the impact is considered potentially significant. In consultation with resource agencies, the East Bay Regional Park District would construct the park and be responsible for any mitigation necessary at the site. With implementation of Mitigation Measure 4.12-1, the impact would be

avoided or substantially compensated for, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.12-2: Redevelopment could result in increased raptor predation on least terns that may forage near the Gateway peninsula.

Significance: Potentially significant

Mitigation 4.12-2: Tall ornamental trees that could provide perches for raptors shall be prohibited in the design of the Gateway Park.

Mitigation 4.12-3: Raptor deterrents shall be placed on light standards and other tall elements installed within the Gateway Park.

Residual Significance: Less than significant

Development of the OARB would result in 15 acres of the Gateway peninsula being redeveloped as a park. This area is not heavily used by special status wildlife species, although some special-status species have been observed on it (del Nevo and Malamma 1997). California least terns, for example, have been observed foraging within 50 feet of the shoreline. Marsh gumplant, classified as rare by the CNPS, had been recorded at this site.

Tall ornamental trees, light standards, and other tall design elements can be used by raptors which prey on the least tern. Should this occur, the impact would be considered significant. Because occurrence of this impact depends on design details not yet finalized, the impact is considered potentially significant.

Implementation of Mitigation Measures 4.12-2 and 4.12-3, as well as Mitigation Measure 4.11-4 (intended primarily to mitigate impacts to aesthetic resources, but which would also partially mitigate impacts to biological resources), would substantially reduce the impact, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.12-3: Redevelopment would result in net loss of approximately 27 acres of open and covered water at New Berth 21; minor amounts of fill and revetment could occur along the shoreline of the Gateway Park, with a loss of near-shore habitat.

Significance: Potentially significant

Mitigation 4.12-4: Contractors, developers, the Port, and EBRPD shall comply with all permit conditions from the Corps, RWQCB, USFWS/NMFS and CDFG for fill.

Residual Significance: Less than significant

Redevelopment could result in the net loss of approximately 27 acres of open and covered water in the Outer Harbor. This represents open water, deep subtidal (-42 feet mean lower low water), soft bottom estuarine, and pile-supported wharf habitats, mudflats and/or shallow subtidal habitats. A number of special-status species are known to occur in the general vicinity of this area. For example, brown pelican, peregrine falcon, least tern, double-crested cormorant, and marine mammals are known to forage and roost in the area, as discussed above. Steelhead and Chinook salmon are known to pass through although they don't habituate this area (Corps 2001).

The aquatic communities found in the area are established in a degraded industrialized environment that is subject to regular disturbances from ship movements and periodic maintenance dredging. As a result, the existing infaunal community is not well established, is of limited diversity, and marginal abundance or productivity. Proposed fill activities would result in direct loss of available habitat. Because high quality habitat is absent, but special-status and other species are known to occasionally occur in the area, the impact is considered potentially significant. Implementation of Mitigation Measure 4.12-4 would avoid or minimize the impact, and the residual impact is considered less than significant.

~ ~ ~

Impact 4.12-4: Redevelopment could result in both temporary impacts to herring spawning habitat during construction, and a permanent net loss of Pacific herring spawning habitat associated with the wharf pilings at existing Berths 9, 10, 20 and 21 due to construction of New Berth 21.

Significance: Potentially significant

Mitigation 4.12-5: A qualified observer shall be present on site during all in-water construction activities near potential herring spawning areas between December 1 and March 1.

Mitigation 4.12-6: If spawning is observed, in-water construction activities shall be redirected for 200 meters around the spawning area for two weeks.

Residual Significance: Less than significant

Pacific herring, a commercially important species, prefers throughout its range to spawn on eelgrass, but is known to use other firm substrates, such as pilings and riprap, in San Francisco Bay. They are known to spawn (in some years) in areas in the Inner Harbor and along the

Oakland-Alameda waterfront, although they are not known to spawn in the Outer Harbor (Corps and Port of Oakland 1994). There is slight potential that spawning could occur within the redevelopment area in the Outer Harbor. Disturbance to spawning habitat associated with construction would be a significant impact. New Berth 21 would replace the piling habitat, and there would be no permanent significant impact. Because the occurrence of herring in the area is uncertain, the impact is considered potentially significant. With implementation of Mitigation Measures 4.12-5 and 4.12-6 the impact would be minimized, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.12-5: Construction activities would result in a short-term reduction in water quality in the New Berth 21 fill area and could reduce water quality along the shoreline for the proposed Gateway Park, affecting special-status species.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

Increased turbidity and noise levels associated with in-water construction could result in decreased foraging opportunities in the immediate vicinity of construction activities. Pelagic fish tend to avoid areas with high levels of turbidity, and to return following the completion of construction. This area does not appear to be heavily used for foraging, and represents limited foraging habitat. Impacts from turbidity and noise are considered less than significant to foraging fish.

In-water and near-shore construction activities could disturb roosting double-crested cormorants in the immediate vicinity. Double-crested cormorants have been observed in the proposed New Berth 21 fill area, and a large nesting colony is established on the nearby Bay Bridge. Results from 1997 biological surveys indicate the fill area is not highly utilized (only 12 sightings of cormorants during two seasonal surveys) (Corps and Port of Oakland 1998). Rather, foraging is concentrated in other open-Bay waters. Evidence does not exist to indicate that the New Berth 21 fill area is important foraging habitat, and the impact is considered less than significant.

Although the American peregrine falcon was not documented in the New Berth 21 area during 1997 bird surveys, it is known to occasionally use Port structures for perches (del Nevo and Malamma 1997). Therefore, it may be impacted by localized short-term disturbances associated with construction activities. Construction activities may also contribute to localized, short-term reduced foraging success in the proposed fill area as a result of disturbances to prey species. However, the peregrine falcon is known to forage over a large area and is not limited to perching or roosting on adjacent structures, and since it was not documented in the proposed fill area during recent surveys, it is not likely to frequent this area for any of the above-mentioned activities. The impact is considered less than significant.

Winter-run Chinook salmon and central California steelhead trout migrate seasonally through the San Francisco Bay, but current migration corridors are north of the proposed fill area. Although these fish occasionally stray from their migration corridors and are known to occur in waters adjacent to the fill area, they are not expected to normally occur there or be affected by construction activities. Impacts to winter-run Chinook salmon and central California steelhead trout are not expected to occur.

❖ ❖ ❖

Impact 4.12-6: Redevelopment may result in loss of protected trees measuring 4 inches dbh (or larger) or trees with a dbh of greater than 9 inches.

Significance: Potentially significant

Mitigation 4.12-7: Application for a tree preservation/tree removal permit from the City of Oakland for all protected trees shall comply with the Tree Ordinance, which includes replacement of native trees at a minimum of a 1:1 ratio. The Port will replace native trees on the OARB at a minimum ratio of 1:1.

Residual Significance: Less than significant

Development of portions of the project area may result in the removal of protected trees, or otherwise affect trees in a manner not consistent with the Oakland Tree Preservation Ordinance. The Ordinance prohibits:

- Removal of a healthy protected tree whose removal could otherwise be avoided by reasonable design of the site plan prior to construction, or by trimming, thinning, tree surgery, or other reasonable treatment;
- Substantial alteration of windscreen resulting from tree removal;
- Removal of a tree that is a member of a group of trees in which each tree is dependent upon the others for survival; and
- Removal of a tree whose value removed is greater than the cost of its preservation to the property owner, as determined by the City Tree Reviewer. This requirement applies only to development-related permit applications.

More than five Monterey pines are present within the OARB sub-district. Furthermore, trees with a dbh of 9 inches or greater are present in both the OARB sub-district and the Maritime sub-district. All of these trees are considered protected trees under the City of Oakland Tree Preservation Ordinance. Because removal of protected trees depends on details of specific redevelopment activities not yet developed, the impact is considered potentially significant. With

implementation of Mitigation Measure 4.12-7, the impact would be substantially compensated for, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.12-7: Redevelopment may result in the loss of breeding bird nesting habitat with the removal of certain trees.

Significance: Potentially significant

Mitigation 4.12-8: Trees shall be removed between September 1 and January 31 to avoid the nesting season (February 1 to August 31). Alternatively, field surveys shall be conducted no earlier than 45 days and no later than 20 days prior to the removal of any trees during the nesting/breeding season of bird species potentially nesting on the site to determine whether birds are present.

Mitigation 4.12-9: Construction shall not occur within 150 feet of an active nest until the nest is vacated or the juveniles have fledged.

Residual Significance: Less than significant

Redevelopment, particularly of the OARB sub-district, could result in removal of ornamental trees such as sycamore (*Platanus occidentalis*) and date palm (*Phoenix dactylifera),* among others. Some of these trees may be used by breeding birds as nesting habitat. Breeding birds, with few exceptions such as rock dove (*Columba livia*) and European starlings (*Sturnus vulgaris*) are protected by the Migratory Bird Treaty Act. Because removal of trees important as nesting habitat depends on details of specific redevelopment activities not yet defined, the impact is considered potentially significant. With implementation of Mitigation Measure 4.12-8 and 4.12-9, the impact would be avoided or minimized, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.12-8: Redevelopment could result in a substantial increase in the risk of establishment of invasive species in the San Francisco Bay.

Significance: Potentially significant

Mitigation 4.12-10: The Port shall continue to enforce its tariff requirements regarding ballast water and if the State law sunsets, shall implement the remainder of its ballast water ordinance, as it may be amended from time to time.

Mitigation 4.12-11: The Port shall continue to develop and implement a carrier ballast water education program.

Mitigation 4.12-12: The Port shall support international and United States efforts to adopt uniform international or national standards to avoid introduction of exotic species through shipping activities.

Residual Significance: Significant and unavoidable

A number of interacting variables may affect the probability that a discharge of foreign ballast water in the Bay will lead to successful establishment of an invasive species. These include the following:

- presence of a non-indigenous species in the ballast water;
- the amount of sediment at the bottom of the ballast tanks or sea chests (intake structures for ballast tanks);
- the probability of the organism surviving ocean transit;
- the volume and location of the ballast water discharge;
- environmental factors affecting survival of a transplanted organism (water temperature, salinity, nutrient levels, presence of predators); and
- the number or density of individuals required to establish a viable, self-reproducing population.

The proposed redevelopment would potentially alter one of these variables: the volume of ballast water discharged into San Francisco Bay.

According to the Seaport Plan (BCDC and MTC, 1996, as amended through 2001), the Port of Oakland is expected to have 19 container and 2 break-bulk terminals in the build-out year of 2020, with approximately 99 percent of cargo by weight containerized. New Berth 21 would be a container berth. The Port estimates that in year 2020, 2,455 container ship calls would occur (Port of Oakland 2002). In the baseline year (August 1, 2000 to July 31, 2001), Port of Oakland-bound ships making reports to the State Lands Commission stated that they discharged an average of 1,568 metric tons of ballast water in state waters.[4] If these reporting ships were representative of all 1,733 container ships using Port facilities, then the Port-related ballast water discharges in the baseline year totaled 2,717,344 metric tons (1,733 ships $\times$ 1,568 metric

[4] In the baseline year, 388 of the 1,733 container ships visiting the Port of Oakland facilities were "qualifying" ships that were required to report their ballast water discharges to the State Lands Commission under AB 703. Of these 388 ships, 370 made the required report and they reported a total of 580,000 metric tons of ballast water discharges. Thus these ships reported an average of 1,568 metric tons of discharge (580,000 metric tons $\div$ 370 ship calls reporting).

tons). Assuming the 1,568 metric ton discharge average also applied in 2020, the Redevelopment Plan would result in 2020 ballast water discharge totaling 3,849,440 metric tons (2,455 ships × 1,568 metric tons) a 1,132,096 metric ton increase over the baseline year.[5]

All ballast water discharges into San Francisco Bay are now required to consist of West Coast EEZ water or ocean water (unless ocean exchange cannot be conducted due to safety concerns, which is a rare occurrence for container ships). It is unclear, in light of this recent development, whether the volume of ballast water discharged is a good predictor of NIS introduction.

It is uncertain whether the increase in vessel calls and potential increase in ballast water discharge volume attributed to the Port's 2020 expansion will increase the risk of new NIS becoming established in San Francisco Bay. Because of the damage that can be caused by one new NIS, however, this impact is treated as potentially significant. Because it is unknown whether the international community or the United States will impose NIS management measures by 2020 that are more protective than those currently required, and because it is unknown to what extent vessel operators can reduce the volume of ballast water they discharge by using ships with internal ballast water transfer systems or by other means, this potentially significant impact may not be mitigated to a level that is less than significant.

Because the probability of such a discharge resulting in the establishment of an invasive species, or the exacerbation of the establishment of such a species cannot be calculated with accuracy, the impact is considered potentially significant. With implementation of Mitigation Measures 4.12-10, 4.12-11, and 4.12-12, the impact would be substantially rectified, but the residual impact is considered significant and unavoidable.

❖ ❖ ❖

Impact 4.12-9: Loss of up to approximately 0.5 acre of isolated, urban wetlands

Significance: Potentially significant

Mitigation 4.12-13: Contractors and developers shall comply with all conditions imposed by the RWQCB for fill of wetlands.

Residual Significance: Less than significant

As described in the setting section, an area of isolated urban wetlands has been delineated by the Corps in the Maritime sub-district between tracks of the UP desert railyard. The Corps has

[5] It is unclear whether ships would in fact continue to discharge ballast water at their current rates. Carriers report that they have less need to discharge ballast water when Port of Oakland channels and berths are dredged to approximate industry-standard depths; the project to deepen Port of Oakland channels and berths from –42 feet MLLW to –50 feet MLLW is in progress. In addition, new containerships are available with internal ballast water transfer systems that allow ballast water to be shifted from tank to tank within the ship, thus eliminating the need for almost all "In-berth" ballast water discharges.

determined these wetlands are not within its jurisdiction to regulate. They are, however, within the jurisdiction of the RWQCB to regulate. Depending on final needs and design of subsequent redevelopment activities, it is possible these wetlands of a portion may be filled as a result of redevelopment. Because occurrence of this impact depends on details of design not yet developed, the impact is considered potentially significant. With implementation of Mitigation Measure 4.12-14, the impact would be substantially rectified or compensated for, and the residual impact is considered less than significant.

❖ ❖ ❖

4.12.7 Mitigation

Implementation of the following mitigation measures will avoid, minimize, reduce, rectify, or compensate for significant impacts of redevelopment.

Mitigation 4.12-1: EBRPD shall maintain and enhance beach habitat where feasible between the shoreline and the park in order that water birds have space to forage and roost on the peninsula, and comply with all applicable resource agency requirements.

This measure applies to Impact 4.12-1 and Cumulative Impact 5.12-1.

The EBRPD should include in design of its Gateway Park sufficient habitat to minimize human disturbance of bird populations.

❖ ❖ ❖

Mitigation 4.12-2: Tall ornamental trees that could provide perches for raptors shall be prohibited in the design of the Gateway Park.

This measure applies to Impact 4.12-2 and Cumulative Impact 5.12-1.

In order to minimize use of the Gateway Park by roosting raptors, which prey on shore birds, including endangered least tern, the use of tall trees as landscaping elements shall be prohibited.

❖ ❖ ❖

Mitigation 4.12-3: Raptor deterrents shall be placed on light standards and other tall elements installed within the Gateway Park.

This measure applies to Impact 4.12-2 and Cumulative Impact 5.12-1.

Deterrents may include sharp stakes, wires, or other means to discourage perching on elevated features.

❖ ❖ ❖

Mitigation 4.12-4: Contractors, developers, the Port, and EBRPD shall comply with all permit conditions from the Corps, RWQCB, USFWS/NMFS and CDFG for fill.

This impact applies to Impact 4.12-3 and Cumulative Impact 5.12-2.

Contractors and developers shall comply with all conditions of approval imposed by regulatory agencies. This measure shall be enforced on Contractors by contract specifications.

Regarding Port mitigation for fill of New Berth 21, regulatory agencies (Corps, BCDC, RWQCB) usually require mitigation for placement of fill in San Francisco Bay to compensate for the loss of aquatic resources. Ideally, mitigation should replace those resources that will be lost or diminished by the placement of the fill, and should not create additional negative impacts. In this case, the resources that will be lost by placement of fill are approximately 27 net acres of deep subtidal (-42 ft. MLLW) open water, soft bottom estuarine, and pile supported wharf habitats. Because excavation of sediments elsewhere in the Bay may result in additional adverse aquatic impacts, replacement of these habitats in-kind and near the site of impact may be difficult. Moreover, excavation of existing land along the Bay shoreline may be problematic, because shoreline areas are either highly developed, already support valuable habitat that pursuant to existing policies should not be disturbed or destroyed, or are proposed for wetland restoration. For these reasons, agencies may wish to consider other types of habitat mitigation, including "out-of-kind" and "off-site". A similar approach has been adopted by BCDC for subtidal impacts from the replacement of the eastern span of the San Francisco-Oakland Bay Bridge[6]. Agency-required mitigation may consist of, and would not be limited to, a combination of the following activities:

- removal of creosote piles from the Bay;
- establishment of new eelgrass in the Bay (this may require placement of fill and/or other physical modifications);
- creation of new hard-bottom reef substrate in the Bay;
- placement of new hard substrate in the Bay suitable for herring spawning;
- seasonal and/or tidal wetland restoration around Bay margins, or contribution of funding to another agency exclusively for that purpose; and/or
- other aquatic habitat enhancement measures, or contribution of funding to another exclusively for that purpose.

[6] BCDC Staff recommendations for permit application 8-01, October 30, 2001.

The exact type, magnitude, and location of mitigation shall be determined when site-specific design is developed. In general, the following guidelines shall be used to determine suitability of the mitigation proposal. The mitigation should:

- replace as closely as possible the habitat resources lost;
- be as close to the impact site as possible; and
- be similar in size to the impact area.

If the mitigation is completed coincident with or subsequent to the habitat impacts, the mitigation area should be larger than if the mitigation is completed prior to the habitat impacts to compensate for temporal habitat losses.

❖ ❖ ❖

Mitigation 4.12-5: A qualified observer shall be present on site during all in-water construction activities near potential herring spawning areas between December 1 and March 1.

This measure applies to Impact 4.12-4.

This measure shall be enforced via contract specifications. The observer shall have the authority to redirect, but not to stop work.

❖ ❖ ❖

Mitigation 4.12-6: If spawning is observed, in-water construction activities shall be redirected for 200 meters around the spawning area for two weeks.

This measure applies to Impact 4.12-4.

Work may resume in the spawning area after two weeks, providing additional spawning does not occur. This measure shall be enforced via contract specifications.

❖ ❖ ❖

Mitigation 4.12-7: Application for a tree preservation/tree removal permit from the City of Oakland for all protected trees shall comply with the Tree Ordinance, which includes replacement of native trees at a minimum of a 1:1 ratio. The Port will replace native trees on the OARB at a minimum ratio of 1:1.

This measure applies to Impact 4.12-6.

A City tree permit requires a map of the affected trees and submission of development plans. Any coast live oaks or redwoods removed in the project require at least a 1:1 mitigation with a 24-inch boxed tree in a suitable location to be decided upon in conjunction with the Tree

Division of the Office of Parks and Recreation. In addition to the ordinance requirements, development of the area shall result in landscaping of the area, and shall create a beneficial aesthetic effect.

❖ ❖ ❖

Mitigation 4.12-8: Trees shall be removed between September 1 and January 31 to avoid the nesting season (February 1 to August 31). Alternatively, field surveys shall be conducted no earlier than 45 days and no later than 20 days prior to the removal of any trees during the nesting/breeding season of bird species potentially nesting on the site to determine whether birds are present.

This measure applies to Impact 4.12-7.

❖ ❖ ❖

Mitigation 4.12-9: Construction shall not occur within 150 feet of an active nest until the nest is vacated or the juveniles have fledged.

This measure applies to Impact 4.12-7.

In the event that an active nest is discovered in the areas to be disturbed or in other habitats within 150 feet of construction boundaries, clearing and construction within 150 feet shall be postponed until the nest is vacated and juveniles have fledged (approximately 3 to 4 weeks for small passerines), as determined by the biologist, and there is no evidence of second nesting attempts. Nests located near existing haul roads shall not require a 150-foot buffer zone.

This mitigation will prevent the take of any special-status birds or nests during construction within the redevelopment area. Special-status birds include those birds protected by the Migratory Bird Species Act.

❖ ❖ ❖

Mitigation 4.12-10: The Port shall continue to enforce its tariff requirements regarding ballast water and if the state law sunsets, shall implement the remainder of its ballast water ordinance, as it may be amended from time to time.

This measure applies to impact 4.12-8 and Cumulative Impact 5.12-3.

Item No. 02215 of the Port's tariff (its operating rules and regulations) defines the Port's Ballast Water Management Program. Among other things, the Port's program compiles information regarding the ballasting behavior of carriers calling at the Port of Oakland. This information is expected to be valuable in crafting durable solutions to the problems ballast water-borne invasive species pose to the ecology of the Bay, and to invasive species issues elsewhere. This mitigation measure would continue the Port's program through the build-out year of this project,

or 2020, or until required by regulatory permit conditions, whichever is later. Should portions of the Port's program be redundant to federal, state, or regional programs, or be pre-empted by such programs, the Port will continue to operate those non-pre-empted portions of its program that provide information not obtained through other programs.

❖ ❖ ❖

Mitigation 4.12-11: The Port shall continue to develop and implement a carrier ballast water education program.

This measure applies to Impact 4.12-8 and Cumulative Impact 5.12-3.

Either by itself or by participating in programs by others, *e.g.*, Sea Grant, the Port shall create a program to educate ocean carriers regarding the potential harm of ballasting activities. The program shall at a minimum, include the following elements:

- Educate carriers to all applicable regulations and guidelines.
- Inform carriers of the benefits of ships constructed with internal ballast water transfer systems. These systems allow ballast water to be shifted internally from tank to tank, minimizing or eliminating the need for discharge of ballast water when ships are at berth
- Encourage carriers to purchase internally-ballasting vessels when they place orders for new ships.
- Educate carriers regarding potential benefits of reducing ballast water discharges, even if ballast water has already been exchanged in the open ocean.

~ ~ ~

Mitigation 4.12-12: The Port shall support international and United States efforts to adopt uniform international or national standards to avoid introduction of exotic species through shipping activities.

This measure applies to Impact 4.12-8 and Cumulative Impact 5.12-3.

The Port shall provide in-kind (personnel) support to assist international and U.S. entities to develop and adopt a uniform set of standards to reduce the risk of invasive species. In order to achieve optimal environmental success and to maintain a competitive market between ports, it is important that such standards be effective and uniformly applied.

~ ~ ~

Mitigation 4.12-13: Contractors and developers shall comply with all conditions imposed by the RWQCB for fill of wetlands.

This measure applies to Impact 4.12-9 and Cumulative Impact 5.12-2.

The RWQCB may issue waste discharge requirements or a conditioned waiver of such requirements for fill of these wetlands. In either case, the developer responsible for the wetlands fill (City, Port or private), as well as that developer's contractor, shall comply with the conditions imposed. The developer shall impose any relevant conditions on their contractor via contract specifications.

❖ ❖ ❖
❖

4.13 GEOLOGY, SEISMICITY, AND SOILS

Redevelopment would eliminate structures in the Oakland Army Base sub-district that do not meet current seismic standards; this would be a benefit. Redevelopment could also result in potentially significant impacts related to earthquakes, erosion, and currently unknown subsurface features or facilities. With implementation of measures recommended in this section, all potentially significant impacts would be mitigated to a level that is less than significant.

4.13.1 Study Area

The study area is the approximately 1,800-acre redevelopment project area.

4.13.2 Regulatory Setting

Federal

Information obtained from two federal agencies contributes to the geologic definition of the area. The U.S. Geological Survey (USGS) performs regional-scale geologic studies and mapping used by numerous agencies and others as background information about soils, geology, surface water, and groundwater. The U.S. Department of Agriculture (USDA) compiles, updates, and maintains information about soils, and presents this information in soil surveys. Soil surveys that contain soil type classifications, leaching characteristics, and other information are used by agencies and others as regulatory input or baseline data.

State/Regional

The California Department of Conservation, Division of Mines and Geology (CDMG) compiles, updates, and maintains information regarding regional and local geologic conditions. This includes mapping potentially active and known active faults and seismic evaluations under the Alquist-Priolo Earthquake Fault Zoning Act (PRC §§ 2621-2630). The CDMG makes this information available to other agencies.

The San Francisco Bay Area Regional Water Quality Control Board (RWQCB), Region 2, is involved with groundwater quality and regional hydrogeologic issues around the San Francisco Bay Area.

Local

The San Francisco Bay Plan enables BCDC to regulate certain activities in and near the Bay. The policies established by the BCDC regarding the Safety of Fills include the following:

> ***Policy 1.*** *The BCDC 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 soil inspections.*
>
> ***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* (BCDC 1989).

The *Health and Safety Element* of the Oakland General Plan requires a soils and geologic report be submitted to the Department of Public Works (DPW) prior to issuance of any building permit. This report must evaluate the potential for lateral spreading, liquefaction, differential settlement, and other types of ground failure.

The General Plan requires all structures of three or more stories to be supported on pile foundations that penetrate Bay Mud deposits and to be anchored in firm, non-compressible materials unless geotechnical findings indicate a more appropriate design. It also provides for the identification and evaluation of existing structural hazards and abatement of those hazards to acceptable levels of risk.

4.13.3 Regional Setting

The region under consideration is the nine-county San Francisco Bay Area.

Geology

The San Francisco Bay Area is identified as a structural depression within the Coast Range Geomorphic province. The Bay is bordered by nearly parallel mountain ranges, the Diablo Range to the east and the Santa Cruz Mountains to the west, that trend northwesterly along several fault zones. The folding and faulting that produced the mountains and the troughs occurred during late Pliocene to mid-Pleistocene time and continues today.

Faults and folds of comparatively recent age dominate the geologic setting of the San Francisco Bay region. The folded nature of the rocks created mountain ranges separated by structural troughs due to the westward (tectonic) movement of the North American plate. As the troughs filled with sediment eroded from the mountains, they continued to subside, resulting in a thick layer of sediment. San Francisco Bay is such a structural trough. Subsidence of the structural trough encompassing the Bay occurred during the Pleistocene (5 million to 10,000 years ago) and Holocene epochs (10,000 years ago to the present). Erosion of the Coast Range contributed much of the sediment deposited in the Bay Area structural trough (Corps 1999).

The sedimentary formations in the Bay region can be divided into five distinct units. The oldest of these are the Alameda, San Antonio, and Posey formations, which are predominantly clays but also contain layers of silts and sands. These three formations are collectively referred to as Old Bay Muds.

The sea level subsided as a result of glaciation after deposition of the Old Bay Muds. This resulted in exposure and erosion of these deposits. The eroded valleys were then largely filled by eolian (windblown) Merritt Sand, which also blanketed many areas between the eroded valleys. After deposition of the Merritt Sand, the sea level gradually rose to its present level, flooding the Bay and resulting in a marine deposit, known as Young Bay Mud, that covers much of the Bay basin to depths of as much as 120 feet (Corps 1999).

Seismicity

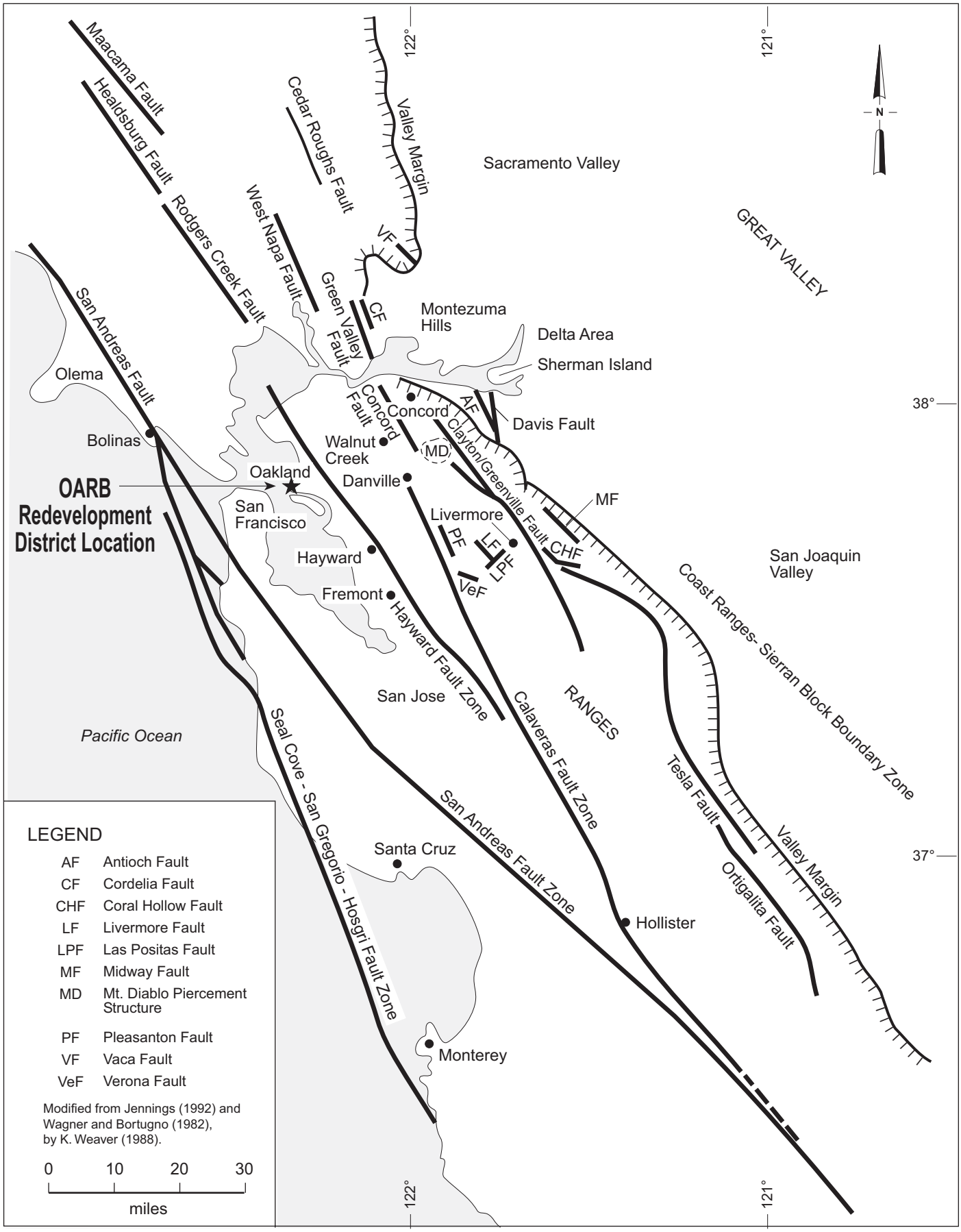
Figure 4.13-1 illustrates the tectonic environment of the San Francisco Bay Area.

Faults and Ground Rupture. The geology of the San Francisco Bay Area, a seismically active area, is dominated by the San Andreas Fault system. The principal seismically active faults of the San Andreas system in the Bay Area include the San Andreas, San Gregorio, Hayward, Rodgers Creek, West Napa, Calaveras, Concord, and Green Valley faults. Ground or fault rupture occurs when the ground above and earthquake experiences lateral displacement during an earthquake. In essence, the ground surface "tears."

Ground Shaking. The entire Bay Area is prone to strong seismic ground shaking. The probability of one or more large earthquakes (Richter magnitude 6.7 or greater) occurring in the San Francisco Bay Area by 2030 is estimated at 70 percent, with an uncertainty of 10 percent (Working Group on California Earthquake Probabilities 1999).

Ground Failure. Seismic-related ground failure can result from liquefaction, lateral spreading ("lurching"), or differential settlement. Liquefaction occurs when the energy from an earthquake increases the pore-water pressure in loose, water-saturated geologic material to the point that it acts as a liquid rather than a solid. The most likely materials to liquefy are shallow, loose, water-saturated, well-sorted silts and sands with little or no clay-sized particles. Lateral spreading (lurching) occurs when soils liquefy, and the overlying soils move horizontally in the direction of a free slope face. Fissures in nearly flat or gently sloping ground surface are a common feature of lateral spreading. Settlement occurs downward when unconsolidated materials, such as fills or soft muds, consolidate or compress. Bay Mud is often associated with settlement in the Bay Area, as are areas of fill. Settlement often occurs as a result of an earthquake, but may also occur gradually over time.

Landslides. Landslides or slope failures occur when material on an inclined face moves downward. In the Bay Area, landslides may occur in sloped shoreline areas.



OARB Area Redevelopment EIR

Figure 4.13-1 Tectonic Environment

April 2002

g. borchard & associates

4.13.4 Local Setting

The redevelopment project area is located within a seismically active region. The geology underlying the study area consists mostly of recent, man-made fill placed on tidal marshlands and shallow estuarine muds. Sedimentary basin deposits underlie the recent fill, sand, and mud. These overlie sedimentary and metamorphic rocks at greater depth.

Geology

Bedrock underlying the study area is part of the Franciscan Assemblage, which consists of sediments and materials containing blocks of various rock types: sandstone, greenstone, chert and serpentinite. These rocks are typically sheared; a veneer of younger sediments covers the Franciscan Assemblage. These younger sediments range in age from late Cretaceous to Quaternary (up to 144 million years ago). These sediments were primarily derived from the Franciscan Assemblage and frequently include Franciscan metamorphosed chert. Other major components of the younger sediments originated inland and were carried into the Bay by the Sacramento and San Joaquin rivers.

Local geologic formations consist of Young Bay Mud and Merritt Sand. With the exception of a small area of native soils within the 16th/Wood sub-district, these formations are covered by approximately 4 to 8 feet of artificial fill.

Three distinct stratigraphic units were identified during an environmental investigation conducted south of the Oakland Army Base (OARB) for the Union Pacific Transportation Company, now the Union Pacific Company (Canonie 1989). The three stratigraphic units encountered at the site are described below:

- The uppermost unit is artificial fill, beginning at ground surface and extending from 4 to 8 feet below ground surface (bgs), underlain by a sand layer.
- The artificial fill and sand unit are underlain by an approximately 1.5- to 2.5-foot-thick Bay Mud unit encountered at depths of 9 to 13.5 feet bgs.
- The lowermost unit is a yellow-brown, dense to very dense, fine- to medium-grained silty sand. A regional geologic section developed from soil borings drilled north of the site for the BART system indicates this silty sand unit may be 35 to 50 feet thick in the vicinity of the site. The silty sand stratum encountered at the OARB is similar to the uppermost section of the Merritt Sand Formation.

Seismicity

Faults and Ground Rupture. The study area is less than 12 miles from the San Andreas Fault. The nearest active fault is the Hayward Fault, approximately five miles to the east. The study area is not located within an Alquist-Priolo Special Studies zone.

Ground Shaking. According to the CDMG Probabilistic Isoseismal Map (CDMG 1996), there is a 10 percent probability that the study area could experience earthquake ground acceleration

greater than 0.7 gravity (g) within a given 50-year period. The site will be subject to future strong ground shaking because of its proximity to the Hayward and San Andreas faults and its location on unconsolidated Bay Mud and fill materials. The Association of Bay Area Governments (ABAG) predicts the most dangerous earthquake in the study area would originate on the northern segments of the Hayward Fault, that shaking would be "violent," and that damage would be "heavy" (Mercalli Scale IX) as a result of an earthquake of Richter magnitude 7.1 (ABAG 1999). Recorded peak ground accelerations from the Loma Prieta earthquake in the area were more than three times greater than those at nearby bedrock locations such as Yerba Buena Island (Carlisle and Rollins 1994).[1]

Based on studies conducted by Geomatrix (1997), peak horizontal ground accelerations in the Maritime sub-district corresponding to 50, 20, 10, and 5 percent probabilities of exceedance in 50 years (i.e., 72-, 224-, 475-, and 950-year return periods, respectively), are 0.29, 0.45, 0.57, and 0.68 g, respectively. Site-specific design response spectra developed by SCI (1998) for depths of 10 feet for earthquakes having 10, 20, and 50 percent chance of exceedance in 50 years have peak ground accelerations of 0.44, 0.37, and 0.25 g, respectively. To put these accelerations in perspective, the Uniform Building Code (UBC) requires structures in the San Francisco Bay Area to be designed to withstand a ground acceleration of 0.4 g.

As illustrated by Figure 4.13-2, portions of the study area are subject to damage from strong ground shaking and other earthquake and geologic phenomena described below.

Ground Failure. Study area geologic and seismic conditions combine with regional seismic conditions to result in a moderate-to-high potential for liquefaction. Site conditions include shallow groundwater (at 4 to 9 feet bgs), heterogeneous non-native fill materials, and underlying unconsolidated Young Bay Muds.

As illustrated by Figure 4.13-2, portions of the study area have experienced substantial settlement. This settlement has been both gradual, as fills and Bay Muds consolidate, and sudden, as a result of seismic events.

Landslides. Most of the study area is flat to gently sloping and not subject to land sliding. However, sloped shoreline areas occur at the Gateway Park area and along the Inner Harbor.

Soils

Over 6.5 million cubic yards of fill were placed in 1939 to create the Army's Oakland Terminal of the San Francisco Port of Embarkation (Rogers and Figuers 1991). Sand fill was hydraulically placed from the Merritt Sand Formation into adjacent areas of the Bay. Study area soils are generally developed, and do not constitute topsoil. Site soils are classified by the USDA as

[1] Ground shaking (or ground acceleration) resulting from earthquakes is measured in terms of gravity (g). One "g" is equal to an acceleration of 32.2 feet per second squared (ft/s^2).

Geologic and seismic damage along the northern boundary of Burma Road in the Gateway development area. To the left is a fence and sidewalk, demonstrating that substantial settlement has occurred in the area. The top of the East Bay Municipal Utility District outfall pipeline is to the left of the fence. This pile-supported structure has remained stable, while surrounding fill has not.

urban land. The USDA describes the soil materials as mainly heterogeneous fill. Because of the potential variability of the soil materials, the USDA did not evaluate the various engineering properties.

Rock fill for seawalls was imported from quarries at Point Richmond and Point San Pedro. The upper few feet of fill was taken from the Leona Rhyolite (a fine-grain volcanic rock) obtained at quarries near Lake Temescal and Oak Knoll Naval Hospital.

4.13.5 Impact Analysis Methodology

Significance Criteria

Redevelopment would have a significant impact on the environment if it would:

- Expose people or structures to substantial risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map or Seismic Hazards Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publications 42 and 117 and PRC § 2690 *et seq*.);
  - Strong seismic ground shaking;
  - Seismic-related ground failure, including liquefaction, lateral spreading, subsidence, and collapse;
  - Landslides;
- Result in substantial soil erosion or loss of topsoil;
- Be located on expansive soil, as defined in Table 18-1-B of the UBC (1994), creating substantial risks to life or property;
- Be located above a well, pit, sump, mound, tank vault, or unmarked sewer line, creating substantial risks to life or property;
- Be located above landfills for which there is no approved closure and post-closure plan, or unknown fill soils, creating substantial risks to life or property; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water.

Not all criteria listed above apply to redevelopment as proposed. Redevelopment would be served by municipal sewerage systems, and the use of septic systems is not anticipated.

Redevelopment would not expose increased numbers of people and structures to substantial risk of loss, injury or death involving the rupture of a known earthquake fault. Based on review of the Alquist-Priolo Fault Zoning map of Oakland West, California, the subject property is not located within an Alquist-Priolo Special Studies zone. The nearest fault, the Hayward Fault, is

located approximately five miles to the east of the project area. Therefore, the potential for rupture of a known earthquake fault at the site is very low.

4.13.6 Impacts

Benefits

Redevelopment could substantially reduce seismic hazards related to buildings in the OARB sub-district. Many OARB buildings were constructed during World War II, and do not comply with current earthquake design and construction standards. As they are, these buildings are potentially subject to failure during a strong seismic event. Demolition of these structures under redevelopment would eliminate seismic hazards. Design and construction of new, modern buildings during subsequent redevelopment activities would occur in accordance with current earthquake standards.

Impacts

Impact 4.13-1: Redevelopment could expose increased numbers of people and structures to strong seismic ground shaking.

Significance: Potentially significant

Mitigation 4.13-1: Redevelopment elements shall be designed in accordance with criteria established by the UBC, soil investigation and construction requirements established in the Oakland General Plan, the Bay Conservation and Development Commission Safety of Fill Policy, and wharf design criteria established by the Port or City of Oakland (depending on the location of the wharf).

Mitigation 4.13-2: Redevelopment elements shall be designed and constructed in accordance with requirements of a site-specific geotechnical evaluation.

Residual Significance: Less than significant

The project area is located in an active seismic area, and most of the project area is located on man-made fill. It is therefore potentially subject to strong seismic ground shaking that could expose people or structures to substantial risk of loss, injury, or death. Because the occurrence of this impact depends on a seismic event that may or may not occur, the impact is considered potentially significant. With implementation of Mitigation Measures 4.13-1 and 4-13-2, the impact would be substantially reduced, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.13-2: Redevelopment could expose increased numbers of people or structures to seismic related ground failure, including liquefaction, lateral spreading, subsidence, or collapse.

Significance: Potentially significant

Mitigation: Measures 4.13-1 and 4.13-2, described above.

Residual Significance: Less than significant

Redevelopment activities in the Maritime sub-district include placement of 2 million cubic yards of fill material in the Outer Harbor to create approximately 29 acres of new land (fastland) for marine terminals. Fill must be carefully selected, and properly engineered. In addition, new major infrastructure proposed under this action and buildings that may be proposed under future redevelopment activities must be designed to withstand seismic hazards.

The project area is located within an active seismic area and constructed on man-made fill. In addition, groundwater below this area is within approximately 5 to 9 feet of the ground surface. Therefore, conditions exist at the project area that could result in seismic-related ground failure such as liquefaction, lateral spreading (lurching), and differential settlement that could expose people or structures to substantial risk of loss, injury, or death. Review of the State of California Seismic Hazard Zones map for Parts of the Oakland West Quadrangle indicates the project area is located in a "zone of required investigation." A zone of required investigation is defined as areas where historic occurrence of liquefaction, or local geological, geotechnical, and subsurface water conditions indicate a potential for permanent ground displacements. Because the occurrence of this impact depends on a seismic event that may or may not occur, the impact is considered potentially significant. With implementation of Mitigation Measures 4.13-1 and 4.13-2, the impact would be substantially reduced, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.13-3: Localized landsliding may occur in sloped shoreline areas.

Significance: Potentially significant

Mitigation: Measures 4.13-1 and 4.13-2, described above.

Residual Significance: Less than significant

Based on review of the State of California Seismic Hazard Zones map for Parts of the Oakland West Quadrangle, and the relatively level topographic profile of the site, the potential for widespread landslides at the project area is considered minimal. The exception to this may be localized landsliding during a seismic event along sloped shoreline areas. While this is not likely to increase risk to humans, property damage could occur as a result of such slope failures.

Because the occurrence of this impact depends on a seismic event that may or may not occur, the impact is considered potentially significant. With implementation of Mitigation Measures 4.13-1 and 4.13-2, the impact would be avoided or minimized, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.13-4: Under certain conditions, disturbance of soils during construction could result in erosion.

Significance: Potentially significant

Mitigation 4.13-3: Prior to ground-disturbing activities, the contractor shall develop and implement a Regional Water Quality Control Board (RWQCB)-acceptable Stormwater Pollution Prevention Plan (SWPPP) that includes erosion control measures.

Residual significance: Less than significant

Soils at the project area are either artificial fill or are over-covered, and do not constitute topsoil; therefore, redevelopment would not have the potential to impact topsoil. Although the project area is relatively level in topographic profile, should rain fall when ground is disturbed for construction, moderate erosion could occur. Because the occurrence of this impact depends on rainfall that may or may not occur, the impact is considered potentially significant. With implementation of Mitigation Measure 4.13-3, the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.13-5: Redevelopment could occur on expansive soils.

Significance: Potentially significant

Mitigation: Measures 4.13-1 and 4.13-2, described above.

Residual Significance: Less than significant

Project area soils are classified by the USDA as urban land, and soil materials and described as mainly heterogeneous fill. Because of the possible variability of study area soil materials, the USDA did not evaluate their engineering properties. Portions of the project area could contain expansive soils. Because the presence of expansive soils is not definite, the impact is considered potentially significant. With implementation of Mitigation Measures 4.13-1 and 4.13-2, the impact would be avoided or minimized, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.13-6: Redevelopment elements may be located above a well, pit, sump, mound, tank vault, unmarked sewer line, landfill, or unknown fill soils.

Significance: Potentially significant

Mitigation: Measure 4.13-2, described above.

Mitigation 4.13-4: The project applicant shall thoroughly review available building and environmental records.

Mitigation 4-13.5: The developer shall perform due diligence, including without limitation, retaining the services of subsurface utility locators and other technical experts prior to any ground-disturbing activities.

Residual Significance: Less than significant

Portions of the project area have functioned as a military base for approximately 50 years; some portions are previously-developed, and now vacant. There is potential for wells, pits, sumps, mounds, tank vault, unmarked sewer lines, landfills, and unknown fill materials to exist at the site. These conditions could impact the redevelopment as a result of differential settlement or exposure to hazardous conditions. Because the occurrence of this impact depends on the presence of currently unknown subsurface features, the impact is considered potentially significant. With implementation of Mitigation Measures 4.13-2, 4.13-4, and 4.13-5, the impact would be avoided or reduced to a level that is less than significant.

❖ ❖ ❖

4.13.7 Mitigation

Implementation of the following mitigation measures would avoid, minimize, reduce, rectify, or compensate for significant impacts of redevelopment.

Mitigation 4.13-1: Redevelopment elements shall be designed in accordance with criteria established by the UBC, soil investigation and construction requirements established in the Oakland General Plan, the BCDC Safety of Fill Policy, and wharf design criteria established by the Port or City of Oakland (depending the location of the wharf).

This measure applies to Impacts 4.13-1, 4.13-2, 4.13-3, and 4.13-5, and to Cumulative Impact 5.13-1.

The UBC requires structures in the San Francisco Bay Area to be designed to withstand a ground acceleration of 0.4 g. A licensed engineer should monitor construction activities to ensure that the design and construction criteria are followed.

The Health and Safety element of the Oakland General Plan requires a soils and geologic report be submitted to the Department of Public Works (DPW) prior to the issuance of any building permit. The Oakland General Plan also requires all structures of three or more stories to be supported on pile foundations that penetrate Bay Mud deposits, and to be anchored in firm, non-compressible materials unless geotechnical findings indicate a more appropriate design. The General Plan also provides for the identification and evaluation of existing structural hazards and abatement of those hazards to acceptable levels of risk.

To comply with the BCDC safety of fill policy, the plans and specifications for the placement of Bay fill will be submitted to the BCDC Engineering Criteria Review Board for review and approval.

The Port of Oakland has developed wharf design criteria to be used in the design, construction, reconstruction, and repairs of existing and future wharf structures, except in the event that current engineering practice requires adjustments or modification of the wharf design criteria. All construction associated with New Berth 21 must adhere to the wharf design criteria established by the Port of Oakland. A licensed engineer should monitor construction activities to ensure that the design and construction criteria are followed.

The City shall adopt wharf design criteria and apply them to any wharf in the City's jurisdiction.

❖ ❖ ❖

Mitigation 4.13-2: Redevelopment elements shall be designed and constructed in accordance with requirements of a site-specific geotechnical evaluation.

This measure applies to Impacts 4.13-1, 4.13-2, 4.13-3, 4.13-5, and 4.13-6, and to Cumulative Impact 5.13-1.

Site-specific geotechnical, soils, and foundation investigation reports shall be prepared by a licensed geotechnical or soil engineer experienced in construction methods on fill materials in an active seismic area. The reports shall provide site-specific construction methods and recommendations regarding grading activities, fill placement, compaction, foundation construction, drainage control (both surface and subsurface), and seismic safety. Designers and contractors shall comply with recommendations in the reports. A licensed geotechnical or soil engineer shall monitor earthwork and construction activities to ensure that recommended site-specific construction methods are followed.

The Oakland General Plan requires all structures of three or more stories to be supported on pile foundations that penetrate Bay Mud deposits and to be anchored in firm, non-compressible materials unless geotechnical findings indicate a more appropriate design. The General Plan also provides for the identification and evaluation of existing structural hazards and abatement of those hazards to acceptable levels of risk.

❖ ❖ ❖

Mitigation 4.13-3: Prior to ground-disturbing activities, the contractor shall develop and implement a RWQCB-acceptable Stormwater Pollution Prevention Plan that includes erosion control measures.

This measure applies to Impact 4.13-4.

The contractor shall prepare and implement a site-specific SWPPP that is acceptable to the RWQCB, Region 2. The contractor shall submit the SWPPP to the City or Port for review, and shall keep a copy of the SWPPP at the construction site. While erosion control measures included in the plan will be site-specific, they must be effective at prevention of accelerated erosion by the following: minimizing the length of time soils are exposed; reducing total area of exposed soil during the rainy season; protecting critical areas (the Bay); and monitoring before and after each rain storm to assess control measure effectiveness. SWPPP erosion control measures may include, and are not limited to, the following:

- Schedule construction to occur during dry season
- Avoid run-on (divert run-off from up-slope sites so it does not enter construction zone)
- Preserve existing vegetation
- Seed and mulch, or hydromulch
- Control dust
- Use blankets, geotextiles, and fiber rolls
- Install tire washers at exits

❖ ❖ ❖

Mitigation 4.13-4: The project applicant shall thoroughly review available building and environmental records.

This measure applies to Impact 4.13-6.

The City and Port shall keep a record of, and the designer shall review, available plans, and facility, building, and environmental records in order to identify underground utilities and facilities, so that these may be either avoided or incorporated into design as relevant.

❖ ❖ ❖

Mitigation 4.13-5: The developer shall perform due diligence, including without limitation, retaining the services of subsurface utility locators and other technical experts prior to any ground-disturbing activities.

This measure applies to Impact 4.13-6.

The contractor shall utilize Underground Service Alert or other subsurface utility locators to identify and avoid underground utilities and facilities during construction of redevelopment elements. The contractor shall keep a record of its contacts regarding underground features, and shall make these records available to the City or Port upon request. This condition shall be enforced through contract specification.

❖ ❖ ❖

❖

4.14 GROUNDWATER

Groundwater is defined as subsurface water that occurs below the water table in soils and other geologic formations.

Redevelopment could result in potentially significant and less than significant impacts to groundwater. With implementation of measures recommended in this section, all potentially significant impacts can be mitigated to a level that is less than significant.

4.14.1 Study Area

The areal extent of the study area for groundwater consists of the approximately 1,800-acre redevelopment project area. The vertical extent of the study area for groundwater is to the deepest depths explored on the OARB, approximately 45 feet below ground surface (bgs).[1] In addition, the study area for groundwater includes resources partially located within the district, and which may extend outside the district boundary.

4.14.2 Regulatory Setting

Federal

Laws and regulations that pertain to groundwater include the following:

- Clean Water Act of 1977 (CWA, 33 United States Code [USC] § 1251 *et seq.*)
- Safe Drinking Water Act of 1974 (SDWA, 42 USC § 300f *et seq.*, , which includes requirements for drinking water supplied at the tap);
- Resource Conservation and Recovery Act of 1976 (RCRA, Pub. L. 94-580; USC § 6901 *et seq.*) laws and regulations pertaining to the management of wastes (to prevent releases to groundwater resulting from improper hazardous and non-hazardous waste disposal); and
- Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA, also known as "Superfund,"; 42 USC § 9601 *et seq.*).

The U.S. Environmental Protection Agency has the responsibility for implementing requirements of these laws and regulations. Of significance for the study area is EPA's standard for potential sources of drinking water: water containing less than 10,000 parts per million (ppm) total dissolved solids (TDS) is considered a potential source of drinking water.

State

At the state level, groundwater is under the jurisdiction of the Department of Water Resources (DWR) and the State Water Resources Control Board (SWRCB). The SWRCB delegates most

[1] One well was installed to a depth of 157 feet. However, the remaining deep wells were installed to depths ranging from 39 to 47 feet bgs.

of its authority and activities to its nine Regional Water Quality Control Boards (RWQCB). The most important policies promulgated by the RWQCB Region 2 relevant to the study area include Resolutions No. 68-13 and No. 88-63: Maintaining High Quality Water Sources (also known as the Non-Degradation Policy), and Sources of Drinking Water, respectively.

Resolution No. 68-13 prohibits any activity that would adversely affect the potential uses of groundwater, including degrading the quality of groundwater so that higher uses are no longer feasible. Resolution No. 88-63 specifies the various potential uses of groundwater. Specifically, it states that in order for an aquifer to be considered a potential source of drinking water, it must contain less 3,000 ppm TDS, and a well installed into the aquifer must yield at least 250 gallons per day.

Local

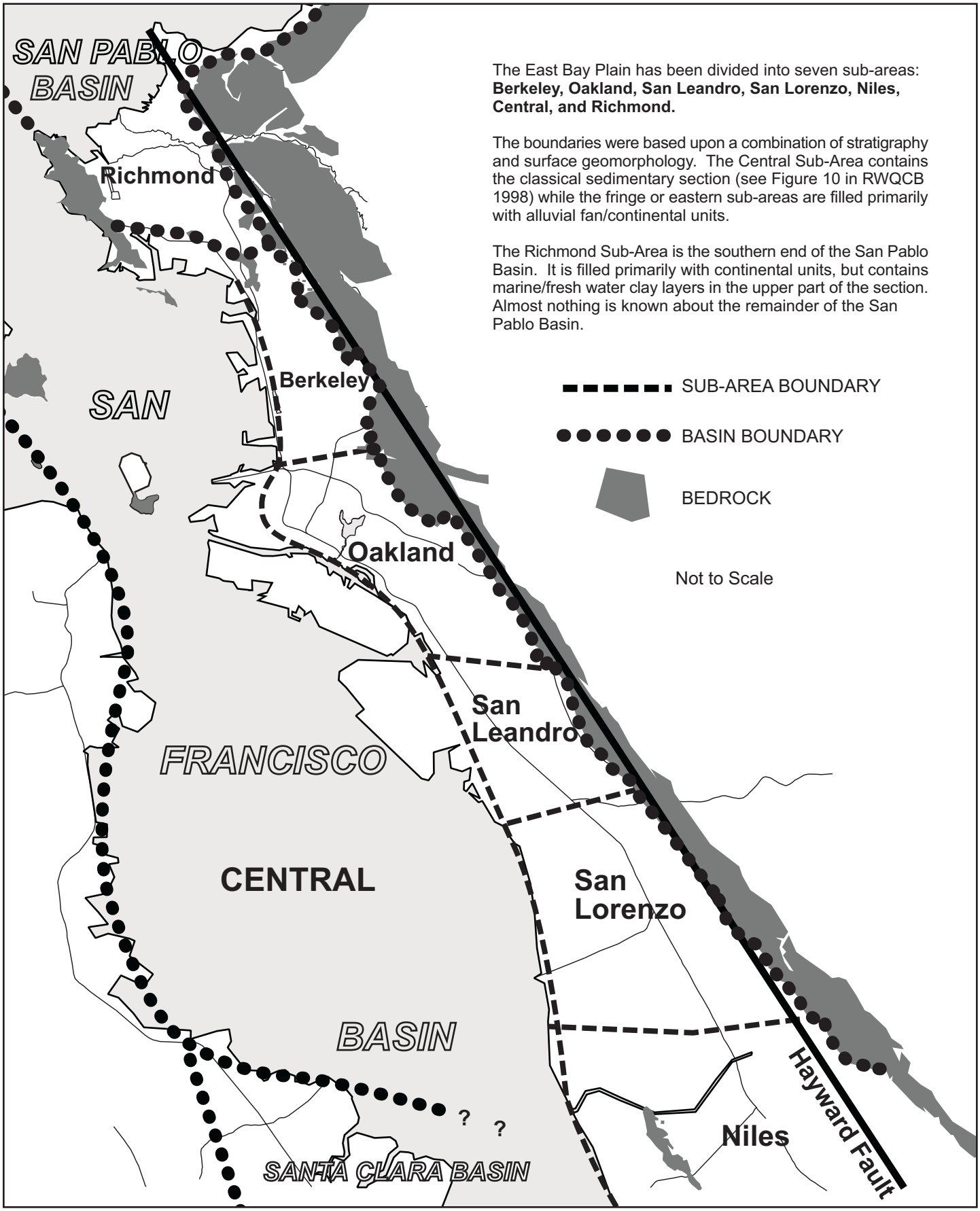
The study area is located within the San Francisco Bay Groundwater Basin, and is regulated by the RWQCB (Region 2). The RWQCB Region 2 prepares the *Groundwater Basin Plan* for the San Francisco Bay Area (the Basin Plan). The Basin Plan describes actual and potential uses of groundwater throughout the region, and provides requirements for groundwater protection. Proposed amendments to the Basin Plan were adopted by the RWQCB in April 2000; the amendments are currently awaiting approval from the SWRCB and the California Office of Administrative Law. One of these amendments would de-designate groundwater of the redevelopment project area as a source of municipal drinking water supply.

In addition to regulating uses of groundwater, the RWQCB provides screening standards for assessing soil and groundwater contamination (RWQCB 2000). These screening criteria provide allowable levels of contaminants in groundwater based on existing and potential uses of the groundwater, and on its proximity to the Bay.

In addition to the policies and regulations promulgated by the RWQCB Region 2, the County of Alameda and the City of Oakland also impose standards pertaining to groundwater use. The County of Alameda regulates water well installation in accordance with DWR requirements. The City of Oakland has developed Urban Land Redevelopment soil and groundwater screening criteria that specify allowable levels of contaminants in groundwater in the Oakland area. For a discussion of the Urban Land Redevelopment Program, see Section 4.7: Hazardous Materials.

4.14.3 Regional Setting

The region under consideration is identified in the Basin Plan for the San Francisco Bay Region as being within the East Bay Plain “significant groundwater basin” (RWQCB 1995), within the newly defined Oakland Sub-Area (RWQCB 2000). The East Bay Plain Basin and Sub-Areas are depicted by Figure 4.14-1. According to the Basin Plan amendments, existing beneficial uses for the basin include municipal, industrial process and service, agricultural, and potentially, drinking water uses. Primary aquifers in the East Bay Plain include the San Antonio Formation (including



Source: RWQCB 1998

OARB Redevelopment Plan EIR

Figure 4.14-1 East Bay Plain Sub-Areas

April 2002

g. borchard & associates

the Merritt and Posey sands), a semi-confined aquifer between Old and Young Bay Mud units, and the Alameda Formation between the Old Bay Mud and Franciscan basement. A shallow, unconfined water-bearing zone is frequently encountered in the fill layers overlaying the Young Bay Mud.

The deeper part of the Merritt Sand aquifer has been used in the past for water supply wells, as has the Alameda Formation. The Merritt Sand unit of the San Antonio Formation contains some groundwater but is not considered a primary water supply aquifer because of limited distribution and thickness. Groundwater in the Merritt Sand may be considered for temporary use in the event of emergency disruption of East Bay Municipal Utility District water supplies (Corps and Port of Oakland 1998).

The majority of groundwater in the East Bay Plain area is a bicarbonate type containing calcium and sodium as the predominant cations. TDS concentrations are generally between about 300 to 1,000 milligrams per liter (mg/L). Groundwater quality is generally suitable for most uses, although high TDS concentrations can limit industrial and domestic uses (Alameda County Flood Control and Water Conservation District [ACFCD] 1988).

4.14.4 Local Setting

Groundwater within the study area is found in a shallow (fill) zone, within the Merritt Sands, and in the deeper portions of the Alameda Formation below the Bay Mud unit (see Section 4.13: Geology, Seismicity, and Soils). The Regional Water Quality Control Board (RWQCB), San Francisco Bay Region (Region 2) has proposed de-designation of shallow groundwater at the Oakland Army Base (OARB) and at the former Fleet and Industrial Supply Center, Oakland (FISCO) as a potential source of drinking water. In the near-shore areas of the study area, the Merritt Sand aquifer has experienced significant saltwater intrusion, and is not considered a potential source of drinking water. The status of the Merritt Sand aquifer in the inland portions of the study area is not known.

The study area is underlain by the same three primary hydrostratigraphic units described above for the region. From older to younger, they are: the Alameda Formation, San Antonio Formation (the Posey and Merritt sands in particular), and surficial fill unit (Corps and Port of Oakland 1998). The surficial fill unit is also known as the artificial fill unit. The unconfined shallow water-bearing zone in the fill unit and the semi-confined aquifer within the Merritt Sand beneath the Young Bay Mud are the most relevant to the study area.

Shallow groundwater beneath the majority of the study area has been proposed for de-designation as a potential source of municipal supply (including drinking water) by the RWQCB Region 2. The de-designation is based on the fact that shallow groundwater within this area is tidally connected to the Bay (*i.e.*, much of it is brackish, and would become increasingly more saline with ongoing extraction), that the area has had long-term industrial use, and that the area

was filled over an existing marsh. The shallow groundwater in the areas east of I-880 and in the Union Pacific Railyard maintains its potential municipal use designation (RWQCB 2000).

Groundwater data, including hydraulic gradient and flow direction, as well as chemical concentrations, are variable from location to location within the study area. However, several generalizations concerning area hydrogeology can be made based on available data. Since the majority of the study area is covered by asphalt and concrete, recharge of the aquifers originates from precipitation and infiltration from off-site areas. The regional groundwater flow direction is westerly from the Berkeley Hills to San Francisco Bay. Shallow groundwater within the study area as a whole is typically encountered at depths between 4 and 13 feet below ground surface (the shallow water-bearing zone). These depths typically fluctuate seasonally, and may also be tidally influenced in near-shore areas. The hydraulic gradient typically ranges from 0.001 to 0.006 foot per foot. Groundwater parameters may be variable in near-shore areas, due to tidal influence. Man-made preferential pathways (*e.g.,* highly permeable backfill along utility lines) may influence both groundwater gradient and flow directions on the local scale (Geomatrix 2000).

Shallow groundwater has been investigated extensively within much of the study area. Investigation programs have been conducted at the OARB, former FISCO, former UP roundhouse property, Schnitzer Steel, Berth 24 (the former Mobil and Ashland Oil sites), the Ringsby site, a tank site on the UP railyard, various tank sites within the Port of Oakland's Outer Harbor area, and at the former Phoenix Ironworks site (Geomatrix 2000; Port of Oakland 1999; Kleinfelder 1999 and 2000; Port of Oakland 2001a; Riedel 1995; IT Corporation 2000). Information regarding groundwater beneath the 16th/Wood sub-district is limited.

A small number of deep groundwater monitoring wells installed at the OARB, former FISCO, and Berth 24 have penetrated the Merritt Sand aquifer. In addition, one well was reportedly installed into the Alameda Formation. The data from these wells indicate the Merritt Sand aquifer in the western portion of the study is generally saline in nature (having TDS concentrations in excess of 30,000 ppm), and that only very low concentrations of chemicals of concern were detected. Where present, anthropogenic chemicals, primarily aromatic and chlorinated solvents, have generally been detected only in concentrations of low parts per billion (EarthTech and Geomatrix 2000; TetraTech 1999; ICF Kaiser 1997).

Removal of the Young Bay Mud and portions of the Merritt Sand by dredging operations in the Inner, Middle and Outer harbors at the Port of Oakland has exposed the Merritt Sand aquifer, potentially allowing salt water intrusion eastward into the aquifer if the sea water is under a greater head (pressure) than the water in the Merritt Sand (DWR 1981). Studies for the Corps and Port of Oakland –50-Foot Dredging Project (Corps and Port of Oakland 1998) note that deepening the existing channels to –50 feet mean lower low water could cause a very small increase in salt intrusion into the Merritt Sand aquifer (the increase is estimated to be 4 percent over the next 100 years).

Shallow groundwater at the OARB is typically encountered at 5 to 9 feet bgs (Geomatrix 2000). At least 100 monitoring wells have been installed at OARB, including five wells installed into the Merritt Sand aquifer, and one well (SC1MW1C in Parcel 2) that was reportedly installed into the Alameda Formation. In addition, the Army has proposed to install additional monitoring wells. Based on available information, groundwater flow is generally to the west and northwest. The presence of storm drains and other utility lines may create local changes in the groundwater flow direction and groundwater gradient. TDS concentrations in wells at the OARB ranged from 170 to 33,400 ppm. The OARB is within the Oakland Shoreline zone which is proposed for de-designation by the RWQCB as a potential source of drinking water.

4.14.5 Impact Analysis Methodology

Potential impacts to groundwater resources were assessed by identifying and evaluating potential redevelopment activities. These activities include groundwater extraction as part of remedial efforts, and groundwater removal during construction (*e.g*., dewatering of excavations).

Significance Criteria

Redevelopment would have a significant impact on the environment if it would:

- Substantially deplete groundwater supplies;
- Interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (*e.g.,* the production rate of pre-existing nearby wells would drop to a level that would not support existing land uses or planned uses for which permits have been granted); or
- Otherwise substantially degrade water quality.

Depletion of groundwater includes both a physical reduction in the quantity of available groundwater, and a loss in existing or potential uses due to changes in the quality of the groundwater. Because the area has been proposed for de-designation as a potential source for drinking water, domestic water wells are prohibited from being installed in the area. If the area is built-out as proposed (mixed use, light industrial, warehouse distribution, and maritime), drinking water would be supplied to the area by EBMUD.

4.14.6 Impacts

Impact 4.14-1: Operation of wells could cause saltwater to intrude into shallow groundwater.

Significance: Potentially significant

Mitigation 4.14-1: Installation of groundwater extraction wells into the shallow water-bearing zone or Merritt Sand aquifer for any purpose other than construction de-watering and remediation shall be prohibited.

Residual Significance: Less than significant

If groundwater is extracted from the shallow water-bearing zone or from the Merritt Sand unit, a cone of depression would be created that could draw saltwater into the aquifer. This could result in areas that previously contained fresh water becoming brackish or saline, or it could increase the salinity of currently brackish groundwater. Because the occurrence of groundwater extraction-related saltwater intrusion is a possibility, and it is not certain how much, if any, intrusion could occur for a site-specific groundwater extraction activity, the impact is considered potentially significant. With implementation of Mitigation Measure 4.14-1, the impact would be avoided or minimized, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.14-2: Operation of wells could cause contaminants to migrate to uncontaminated groundwater.

Significance: Potentially significant

Mitigation 4.14-2: Extraction of groundwater for construction de-watering or remediation shall be minimized where practicable.

Residual Significance: Less than significant

Extraction of groundwater in the study area may cause contaminants to migrate to areas where contamination has not previously been detected. This could include drawing contaminants into underlying deeper aquifers. Because the occurrence of groundwater–extraction–related contaminant migration is a possibility, the impact is considered potentially significant. With implementation of Mitigation Measure 4.14-2, the impact would be avoided or minimized, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.14-3: Reduction in available groundwater.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

Although shallow groundwater resources in most of the study area are not suitable for human consumption, groundwater from the Merritt Sand unit and the underlying Alameda Formation has several beneficial uses. In addition, groundwater from the shallow zone provides recharge

to the Bay. Moderate amounts of groundwater may be extracted during construction; none is expected to be extracted during operation of redevelopment elements. During construction excavation (for foundations, underground utilities, etc.), the contractor could encounter shallow groundwater, which is generally removed from the excavation by pumping, a practice termed "dewatering." It is not expected that dewatering would result in extraction of groundwater in such quantities that it could substantially affect the amount of available ground water for beneficial uses, or that it would measurably affect recharge. EBMUD would supply potable, process, and reclaimed water to the study area for operations (see Section 4.9: Public Services and Utilities), and long-term extraction of groundwater by local wells for operational purposes is not anticipated as part of redevelopment. Moreover, such extraction not related to remediation activities is prohibited by Mitigation Measure 4.14-1.

❖ ❖ ❖

4.14.7 Mitigation

Implementation of the following mitigation measures will avoid, minimize, reduce, rectify, or compensate for significant impacts of redevelopment.

Mitigation 4.14-1: Installation of groundwater extraction wells into the shallow water-bearing zone or Merritt Sand aquifer for any purpose other than construction de-watering or remediation shall be prohibited.

This measure applies to Impact 4.14-1 and Cumulative Impact 5.14-1.

Implementation of this measure would prevent saltwater from being drawn into the aquifer and potentially causing fresh water to become brackish or saline. Limiting extraction of shallow groundwater and groundwater from the Merritt Sand unit will prevent potential impacts to existing study area groundwater resources.

❖ ❖ ❖

Mitigation 4.14-2: Extraction of groundwater for construction de-watering or remediation shall be minimized where practicable.

This measure applies to Impact 4.14-2 and Cumulative Impact 5.14-1.

Implementation of this measure would prevent unnecessary extraction of groundwater; therefore it will help avoid or reduce the potential migration of contaminants. The City and Port shall ensure that groundwater extraction, other than for remediation or construction dewatering, is minimized where practicable in the redevelopment project area.

❖ ❖ ❖

❖

4.15 SURFACE WATER

The San Francisco Bay is an important resource on which the redevelopment project area is located. The quality of the waters of the Bay is critical to its value.

Redevelopment would result in substantial benefits to surface waters, as well as potentially significant and significant impacts to them. With implementation of measures recommended in this section, all potentially significant and significant impacts would be mitigated to a level that is less than significant.

4.15.1 Study Area

The study area for surface water is the approximately 1,800-acre redevelopment project area, plus adjacent receiving waters.

4.15.2 Regulatory Setting

Federal

The Federal Water Pollution Control Act, as Amended by the Clean Water Act of 1977 (33 United States Code § 1251 *et seq.*). The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. Specific sections of the CWA control discharge of pollutants and wastes into marine and aquatic environments.

Under Section 401 of the Act, water quality certification is required from the state for any activity that requires a federal permit or license that may result in discharge into navigable waters. The certification must indicate that the activity will comply with the applicable state water quality standards. Under Section 401, states are required to establish water quality standards for all state waters. To receive certification under Section 401, an application must demonstrate that activities or discharges into waters will not cause concentrations of chemicals to exceed state standards.

Section 404 of the CWA addresses permitting for discharge of dredged or fill material into navigable waters. This section of the CWA is administered by the U.S. Army Corps of Engineers. In conjunction with the Corps, the U.S. Environmental Protection Agency developed Guidelines for Specification of Disposal Sites for Dredged or Fill Material (40 CFR Part 230).

Under Section 402 of the CWA, discharges of dredged material into non-navigable waters and upland areas of the state are the responsibility of the EPA under the National Pollutant Discharge Elimination System (NPDES). In California, EPA has delegated responsibility for implementation of the NPDES program to the California State Water Resources Control Board (SWRCB). The SWRCB comprises nine Regional Water Quality Control Boards (RWQCB) responsible for implementation of statewide policy at the local level. The San Francisco RWQCB (Region 2) is responsible for activities occurring in the San Francisco Bay Basin.

Stormwater discharges associated with industrial and construction activities are regulated according to Section 402(p) of the CWA under the NPDES. Stormwater NPDES permitting for certain classes of industrial activities is regulated under the Industrial Activities General Permit adopted by the SWRCB April 17, 1997 (WQO 97-03-DWQ NPDES Permit No CAS000001). To comply with conditions of this permit, facility operators must submit a notice of intent (NOI), develop a stormwater pollution prevention plan, conduct stormwater monitoring, and submit annual reports by July 1 of each year.

Stormwater discharges associated with construction activities are regulated under the General Construction Activity Stormwater Permit adopted by the SWRCB (WQO 99-08 DWQ, NPDES Permit No. CAS000002). Under this permit, owners of land where a construction activity occurs that disturbs more than 5 acres of land must submit a NOI, develop a SWPPP, conduct monitoring and inspections, retain records of the monitoring, and report incidences of noncompliance.

State and Regional

Porter-Cologne Water Quality Control Act (California Water Code § 13000 *et seq.*; California Code of Regulations Title 23, Chapter 3, Subchapter 15). The Porter-Cologne Water Quality Control Act is the primary state law that addresses water quality. Requirements of the Act are implemented by the SWRCB at the state level and the RWQCBs at the regional and local level. The SWRCB, as authorized by the Act, promulgated regulations in CCR Subchapter 15, Title 23 designed to protect water quality from the effects of waste discharges to land (CCR Subchapter 15, Title 23). Under Subchapter 15, wastes that cannot be discharged directly or indirectly to waters of the state (and therefore must be discharged to land for treatment, storage, or disposal) are classified to determine specifically where such wastes may be discharged. This classification requirement would apply to dredged material or fill that would be disposed in an upland environment.

Water Quality Control Plan for the San Francisco Bay Basin. Under the provisions of the Porter-Cologne Act and CWA, the San Francisco RWQCB regulates water quality in the San Francisco watershed. The *Water Quality Control Plan* for San Francisco Bay Basin (the Basin Plan) describes water quality control measures that contribute to protection of beneficial uses of the San Francisco Bay watershed. The Basin Plan identifies beneficial uses for each segment of the Bay and its tributaries, water quality objectives for the reasonable protection of the uses, and an implementation plan for achieving these objectives. Beneficial uses for the Lower San Francisco Bay include:

- Ocean, commercial, and sport fishing;
- Estuarine habitat;
- Industrial service supply;
- Fish migration;
- Navigation;
- Preservation of rare and endangered species;
- Water contact recreation;
- Non-contact water recreation;
- Shellfish harvesting; and
- Wildlife habitat.

State Water Resources Control Board Resolution 68-16: Statement of Policy with Respect to Maintaining High Quality of Waters in California. This policy establishes a non-degradation policy for the protection of water quality. The policy states that whenever the existing quality of water is better than needed to protect all existing and probable future uses of the water, such existing water quality will be maintained. If it is determined that some water quality degradation is in the best interests of the people of California, some increase in pollutant concentrations above background levels would be considered acceptable. However, in no case may such increases cause adverse impacts to existing or probable beneficial uses of groundwater.

Bay Protection and Toxic Hotspots Cleanup Program. In 1989, the California State legislature established the Bay Protection and Toxic Cleanup Program (BPTCP). The major goals of the program are as follows:

- Provide protection of present and future beneficial uses of the Bay and estuarine waters of California.
- Identify and characterize toxic hotspots.
- Plan for toxic hot spot cleanup or other remedial or mitigation actions.
- Develop prevention and control strategies for toxic pollutants to prevent creation of new hot spots and perpetuation of existing ones.

In 1997, the Proposed Regional Toxic Hot Spot Cleanup Plan was released by the San Francisco RWQCB. This proposed plan identifies and prioritizes toxic hotspots and presents cleanup plans for priority sites. Neither the Inner, Middle nor Outer harbors were identified as candidate or known toxic hotspots.

McAteer-Petris Act. The McAteer-Petris Act (PRC § 66600 *et seq.*) established the Bay Conservation and Development Commission (BCDC) as the agency responsible for maintaining and carrying out provisions of the Act. The Act directs BCDC to exercise its authority to issue or deny permit applications for placing fill, extracting minerals, or changing the use of any land, water, or structure within the area of its jurisdiction (*i.e.*, the Bay and its shoreline).

4.15.3 Regional Setting

The San Francisco Bay is a large, complex, and dynamic estuary. The Bay receives inputs from the ocean, rivers, and discharges from municipal and industrial sources that vary in their proportions depending on location and the seasonal weather patterns. Conomos (1979) divides the Bay into northern and southern reaches. These two reaches exhibit vastly different circulation and sedimentation patterns as a result of prevailing hydrodynamic conditions. Circulation is generally affected by the tides entering the Bay from the Pacific Ocean, local winds, basin geometry, and the local salinity field (SFEI 1997). The northern reach of the Bay

serves as the only drainage outlet for the Central Valley and accounts for 90 percent of the freshwater input to the Bay, while the southern reach receives the remainder. Most of the freshwater inputs occur during the winter and spring as a result of outflow from the Sacramento San Joaquin Delta. The southern reach receives the majority of the discharges to the Bay (more than 75 percent) and during the summer discharge inputs are larger than freshwater inflow from streams.

Density-salinity driven currents in the northern reach show an ebb dominance of the surface water (4 centimeters per second [cm/sec]) and a flood dominance of the bottom water (5 cm/sec). South Bay waters are influenced by density-driven currents during the winter months when low salinity waters move southward into the southern reach, displacing denser saline water northward. In the summer months, south Bay currents are largely influenced by the prevailing northwesterly winds that move the surface water southeast, causing the bottom water to move northwest. In each reach, narrow shipping channels are surrounded by extensive mudflats and shoals. Currents with the highest velocities are found in the channels. Lower current velocities are found in the shoals, where the majority of the sedimentation occurs (USGS 1984).

Tidal currents in the Bay consist of the semidiurnal and diurnal partial tides (USGS 1984). The Bay-wide tidal prism is large, representing 24 percent of the total volume (Conomos 1979; Conomos et al. 1985). The central Bay is often described as a distinct subunit of the northern reach of the Bay and is the most strongly influenced by the exchanging tides due to its close proximity to the Golden Gate and Pacific Ocean. The study area is located on the eastern edge of the interface of the central and south Bay.

The U.S. EPA identifies San Francisco Bay as a Clean Water Act Section 303(d) water body, meaning it does not achieve water quality standards (EPA 2001). The EPA lists 12 separate parameters of concern impairing the quality of Bay waters:

- Metals: copper, mercury, nickel;
- Polychlorinated biphenyls (PCBs);
- Dioxin-like PCBs;
- Pesticides: diazinon, chlordane, dichloro dipheunyl trichloroethane (DDT), dieldrin;
- Dioxin compounds;
- Furan compounds; and
- Exotic species.

The EPA identifies sources of these pollutants as atmospheric deposition, industrial and municipal point, non-point, natural, resource extraction, urban runoff/storm sewer, and ballast water (1998 California 303(d) List and TMDL Priority Schedule, San Francisco Regional Water Quality Control Board, approved by the U.S. EPA May 12, 1998). The RWQCB has determined

that the San Francisco Estuary does not have a capacity to assimilate exotic organisms. The RWQCB has committed to working with the State Board and the U.S. EPA to promote a national program to effectively address discharges of exotic species (RWQCB 2000).

In addition, California's Bay Protection and Toxic Cleanup Program classifies the entire San Francisco Bay as a High Priority Candidate Toxic Hot Spot. The reason for this classification is potential risk to human health from consumption of non-migratory aquatic wildlife, primarily due to elevated levels of PCBs and mercury in fish tissue.

4.15.4 Local Setting

Oakland Harbor Hydrodynamic Conditions

Oakland Outer Harbor is influenced by the hydrodynamic conditions typical of the central Bay. Current measurements and modeling predictions made by the U.S. Army Corps of Engineers in the central Bay (Corps 1990) indicated that net tidal fluxes in the vicinity of the Outer Harbor were southerly along the east side of the Bay and northerly along the west side of the entrance to the south Bay.

In the Inner Harbor, current and wave patterns are largely generated by tides interacting with bottom and shoreline configurations. Field measurements of current speeds at the Inner Harbor entrance indicate velocities between approximately 25 to 50 cm/sec, with peaks up to 107 cm/sec.

Velocities measured in the Middle Harbor averaged between 3.5 and 4.5 cm/sec, with short duration peaks of 25 cm/sec. Current velocities were higher in the upper meter than at the bottom meter for both Inner and Middle harbors. An average tidal range of 2.5 meters was measured in June 1997 (Hartman 1997).

Oakland Harbor Water Quality

Little direct information is available on water quality in the Oakland Outer, Inner and Middle harbors. Information from regional characterization is used to represent water quality in the vicinity of the study area and to provide information on constituents of potential concern. Because the study area is located at the margins of the Bay and receives drainage from separate storm sewers, water quality near storm drain outfalls likely varies seasonally in a manner not fully reflected by the regional dataset.

The Regional Monitoring Program (RMP) administered by San Francisco Estuary Institute (SFEI) for the RWQCB conducts monitoring three times a year along the main spine of San Francisco Bay from the Delta to the South Bay. The RMP measures concentrations of trace constituents in water, sediment, and transplanted bivalves at various locations in the Estuary. Two sampling stations are located in the vicinity of the study area at Yerba Buena Island and Alameda.

A summary of relevant water quality parameters measured at these two stations during six sampling events (three sampling events in 1998 and three in 1999) is presented in Table 4.15-1. The table also provides a comparison of the concentrations with applicable water quality objectives in the proposed California Toxics Rule (CTR).

In general, trace toxics data from the stations located in the central Bay nearest the study area have lower concentrations and the fewest exceedances of guidelines than those measured at other stations in the Bay. Of the compounds measured by the RMP, only total PCB and total PAH concentrations were found to exceed water quality objectives at Yerba Buena Island and Alameda stations during both 1998 and 1999. It should be noted that PCB concentrations throughout the Bay generally exceed water quality objectives, and concentrations at the two stations were lower than other stations. Central Bay concentrations are probably lower due to the regular tidal flushing and greater water depth, which results in lower suspended sediment concentrations (SFEI 1997, 1998, 1999).

The RMP 1998 annual report provided a summary of contaminants of concern in the Bay in general (SFEI 1998). The findings of that report indicate that the contaminants measured by the RMP of the most concern are those shown to be related to bioaccumulation or adverse effects including:

- diazinon and chlorpyrifos (commercially available insecticides) in water;
- DDTs, chlordanes, and PAHs in sediments; and
- PCBs, cadmium, mercury, selenium, PAHs, chlordanes, dieldrin, and DDTs in bivalve and fish tissues.

The RMP 1998 annual report indicates that nickel, mercury, and chromium are the trace contaminants that most frequently exceeded water quality objectives, while PCBs, DDTs, chlordanes, and dieldrin also exhibited occasional exceedances.

Runoff and Drainage. Site topography is nearly flat due to its creation on tidal flats by fill using marine or terrestrial materials. Shorelines are protected in most areas by sheet piling, riprap, or other artificial shoreline protection structures. The site is largely paved with asphalt or concrete. No natural channels or ponds, or natural or channelized creeks are present in the study area. As discussed in Section 4.12: Biological Resources, two small urban wetlands exist in the Desert railyard within the Maritime sub-district.

Annual precipitation in the study area averages about 17.5 inches per year, falling mostly between October and April. Drainage from the OARB and Maritime sub-district storm drains into the Middle Harbor will be equipped with treatment systems as part of the 50-Foot Channel Deepening Project. Localized ponding of runoff has occurred in the southern portion of the Berths 55-58 area when storm drainage systems were overloaded or clogged. Although the ponding has been substantial, it has not resulted in flooding of buildings. Other areas in the vicinity of Berths 55-58 have occasionally experienced ponding due to storm drain blockages.

These historical drainage problems have been corrected by the Port. In addition, Southern Pacific has rerouted a portion of its storm drainage to bypass the Berths 55-58 area and connect directly with the Oakland main storm drainage system.

Table 4.15-1
Concentrations of Trace Substances in Bay Water Located Near the Study Area
1998 and 1999

Parameter[a]	Lowest WQO of Proposed CTR[a,b]	Yerba Buena Island[c]		Alameda[d]	
		1998	1999	1998	1999
Temperature (^{o}C)		13.3-17.3	11.4-16.5	13.4-17.5	10.8-19.7
Salinity (ppt)		17.6-25.0	16.7-29.1	21.0-27.9	21.9-28.7
Total Suspended Solids (mg/L)		4-23	3.8-19.2	1-17	11.1-55.7
Dissolved Oxygen (mg/L)		6.8-13.1	7.2-9.2	6.5-11.1	6.8-9.3
PH		7.9-8.3	7.9	7.9-8.3	7.9
Nitrate (µg/L)		200-400	10-400	200-300	190-420
Nitrite (µg/L)		6-38	1-15	6-39	4-19
Ammonia (µg/L)		30-140	20-130	20-160	50-140
Phosphate (µg/L)		20-170	10-180	20-170	40-220
Silicates (mg/L)		2-4	1.05-3.7	1-3	1.03-2.53
Total Metals (µg/L)					
Arsenic	36	1.52-1.98	1.11-2.14	1.44-2.09	1.54-2.64
Cadmium	2.2	0.02-0.07	NA	0.04-0.07	NA
Chromium	11	0.71-3.05	NA	0.50-2.84	NA
Copper	3.7	1.3-2.2	1.6-2.3	1.2-1.9	1.9-3.0
Lead	2.5	0.16-0.67	0.29-0.63	0.13-0.43	0.37-1.29
Mercury	0.012	0.0023-0.0055	0.0035-0.007	0.001-0.0049	0.0044-0.0135
Nickel	8	1.6-3.5	2.2-3.7	1.4-2.9	2.6-5.7
Selenium	5	0.12-0.19	0.02-0.11	0.10-0.19	ND-0.07
Silver	1.9	0.0040-0.010	0.005-0.012	0.0030-0.0090	0.008-0.020
Zinc	81	2.0-4.2	2.3-3.9	1.5-3.1	2.8-6.8
Organics (pg/L)					
Total PAHs	31,000	S-53,000[e]	17,000-34,000	S-28,000	47,000-70,000
Total PCBs	170	250-1000	258-386	150-250	409-941
Total DDT	590	S-190	150-221	S-190	171-347
Total Chlordanes	590	97-140	38-49	S-130	43-96

Source: SFEI 1998 and 1999.

Notes:

[a] CTR – California Toxics Rule
DDT – 1,1,1-trichloro-2,2-bis(p-chlorophenyl)ethane
mg/L – milligrams per liter
µg/L– micrograms per liter
NA – not analyzed
WQO – Water Quality Objective
ND – not detected
PAH – polynuclear aromatic hydrocarbons
PCB – polychlorinated biphenyls
pg/L – picograms per liter
ppt – parts per thousand

[b] Lowest water quality objective in the proposed California Toxics Rule.

[c] Sampling Station No. BC10

[d] Sampling Station No. BB70

[e] S – Compounds generally comprising a significant portion of sum not quantifiable, sum not calculated.

Flood Hazards. The OARB sub-district and most of the Maritime sub-district have not been mapped by FEMA for flood hazards. The portions that have been mapped, including the 16th/Wood sub-district and a portion of the Maritime sub-district, are not located within either a 100- or 500-year flood hazard area (ESRI and FEMA 2002). The project area is not near surface drainage channels, and is therefore not subject to flooding from over-bank spillage. Anecdotal information exists that flooding has historically occurred within the study area in the Burma Road area and near Berths 8 and 9 (old Wharf 6). Also, according to the Land Use and Transportation Element (LUTE) of the Oakland General Plan, the entire area west of Maritime Street in both the OARB and Maritime redevelopment sub-districts is a potential tsunami inundation zone.

No known natural surface streams exist in the study area. Additionally, no portion of the project area is below the coastal base flood elevation (6.6 feet above mean sea level [msl]) identified for the Oakland Harbor. The estimated stillwater elevation during a 100-year flood at high tide in the area is 7.0 feet National Geodetic Vertical Datum (NGVD) (FEMA 1982).

The storm drain system, installed mostly during World War II, collects surface water runoff using catch basins and approximately 16 miles of underground pipe, and drains into San Francisco Bay. Pipe up to 27 inches in diameter is made of vitrified clay, and larger pipe is made of reinforced concrete. Most of OARB is covered with either buildings or pavement. Roads are crowned and other paved areas are sloped to facilitate stormwater flow to the catch basins and collection pipes. However, soil subsidence has created pipe separations, reverse flows, and shallow ponding areas at some locations. Catch basins and inlets have been added to the system to correct these problems, but some localized flooding still occurs, causing temporary closure of some roadways. The primary cause of flooding appears to be outfalls located below the tide level. While the localized temporary flooding limits use of a few roads for short periods of time, it is not a significant factor in limiting use of the Base. Moreover, problematic portions of the storm drain system in the OARB sub-district will be replaced.

Stormwater Runoff Water Quality

OARB Sub-District. According to a Pipeline Investigation conducted in 1999 by the Army (I.T. Corporation 1999), two conditions at the OARB have the potential to affect water quality, potentially exceeding standards:

- storm drain sediments contain elevated concentrations of metals, pesticides, and PCBs; and
- elevated concentrations of metals may be present in stormwater.

Maritime Sub-District. Stormwater runoff quality is managed in the Maritime sub-district through implementation of Best Management Practices (BMPs) at each of the currently occupied facilities, as required under the Industrial Activities Stormwater General Permit. Each tenant is responsible for complying with the requirements of the permit, which include development and implementation of a stormwater pollution prevention plan, monitoring, and quarterly inspections of facilities for non-stormwater discharges. The Port has developed a

regional SWPPP, which it uses and supplies to tenants as a model that is to be tailored to each particular facility by each tenant. The regional SWPPP outlines the steps needed to develop a SWPPP, and lists generic BMPs that are to be considered by the tenants when preparing SWPPPs for the individual facilities. The BMPs are designed to reduce the quantities of materials used that may produce pollutants, change the way various products and materials are handled or stored, employ various structural and nonstructural devices to catch and restrict the release of pollutants, set out appropriate responses to spills and leaks, and monitor the effectiveness of the BMPs. They include recommendations to perform vehicle maintenance indoors or under cover, minimize the use of hazardous materials, properly store and dispose of hazardous waste, prepare spill response plans, train employees in spill response and hazardous materials handling, and to practice good housekeeping. Supplementary site-specific information to be supplied by the tenants includes the following:

- site map;
- pollution prevention team;
- description of potential pollutant sources;
- list of significant materials;
- summary of industrial activities, pollutant sources, and potential pollutants;
- records of hazardous material spills;
- assessment of potential pollutant sources; and
- site-specific BMPs.

Industrial facilities in the Maritime sub-district participate in a Group Stormwater Monitoring Program (GMP). The Port serves as the group leader for this program, arranges sampling and analysis of stormwater discharges as required, and prepares annual group monitoring reports as required. The tenants serve as group members and are responsible for making quarterly periodic non–storm event observations; conducting monthly observations of stormwater discharge during the wet period (October through May); conducting an annual site inspection, maintaining appropriate records, and preparing the facility Annual Comprehensive Site Compliance Evaluation and Annual Report.

Surface runoff from representative Port facilities has been sampled as a part of the GMP. Facility activities are assigned to five categories for assessment of potential pollutants: Vehicle and Equipment Maintenance; Vehicle Generator Maintenance; Vehicle Fueling; Container Freight Yards; or Break Bulk Storage. Potential pollutants associated with these activities include petroleum products (gas, diesel, motor oil, hydraulic fluid), solvents (VOCs, aromatics), metals (cadmium, copper, lead, nickel, zinc), antifreeze, and surfactants. In general, runoff samples from the vehicle/generator maintenance areas contained higher concentrations of petroleum and metals than samples from other areas. There are no effluent limitations for

industrial stormwater runoff; rather, compliance with the industrial stormwater NPDES permit is achieved through implementation of the SWPPP.

16th/Wood Sub-District. This sub-district, historically dedicated to industrial uses, is now generally underutilized. The large historic Amtrak station building remains, but is boarded up in a derelict state. Non-smokestack industrial and light industrial uses, such as warehousing/distribution centers, waste recycling facilities, and truck repair businesses are located in or adjacent to this sub-district, as are miscellaneous businesses located in older buildings. Commercial and industrial tenants must comply with the Industrial Activities Stormwater General Permit. The permit requires development and implementation of a SWPPP, monitoring, and quarterly inspections of facilities for non-stormwater discharges.

4.15.5 Impact Analysis Methodology

The analysis of surface water impacts resulting from redevelopment is consistent with the level of information available regarding redevelopment elements and activities, and based on the criteria described below:

Significance Criteria

Redevelopment would have a significant impact on the environment if it would:

- Violate any water quality standards or waste discharge requirements;
- Result in substantial erosion or siltation on or off site that would affect the quality of receiving waters;
- Result in flooding on or off site;
- Create or contribute runoff which would exceed the capacity of existing or planned stormwater drainage systems;
- Create or contribute runoff that would be an additional source of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map;
- Place within a 100-year flood hazard area structures that would impede or redirect flood flows;
- Expose people or structures to a substantial risk of loss, injury, or death involving flooding, inundation by seiche, tsunami, or mudflow; or
- Fundamentally conflict with elements of the City of Oakland Creek Protection Ordinance intended to protect hydrologic resources. Although there are no specific, numeric/quantitative criteria to assess impacts, factors considered in determining significance include whether there is substantial degradation of water quality through:

- discharging a substantial amount of pollutants into a creek;
- significantly modifying the natural flow of the water or capacity;
- depositing substantial amounts of new material into a creek or causing substantial bank erosion or instability; or
- substantially endangering public or private property or threatening public health or safety.

Not all criteria above apply. There are no creeks in or near the project area, and conditions do not exist that could cause a conflict with the City's Creek Protection Ordinance. The only residential or quasi-residential (live/work) uses would be located in the 16th/Wood sub-district, which is not within the 100-year flood hazard zone. Therefore, no housing would be placed within a 100-year flood hazard area.

4.15.6 Impacts

Impacts related to the risk of introduction of exotic invasive species in Bay water are evaluated in Section 4.12: Biological Resources.

Benefits

Several redevelopment elements, activities, and design features would result in substantial benefit to surface water quality. Some existing storm sewers in the OARB sub-district are in disrepair, allowing contaminated sediment and water to be discharged to the Bay. These storm sewers would be capped in place or removed during redevelopment, which would improve the quality of stormwater discharge to the Bay. BMPs implemented in the course of development would lead to better maintained storm drain systems and ultimately reduce the mass of pollutants released into stormwater from storm drains. Inclusion of post-construction stormwater controls in design and operation of redevelopment elements, which are not currently present in the redevelopment area, would improve the quality of stormwater runoff from the site. Finally, redevelopment would result in a reduction of routine maintenance dredging of the Outer Harbor channel and Berths 7 and 9, 10, 20 and 21, due to the creation of New Berth 21. This reduction in dredging would in turn reduce dredge-associated turbidity.

Impacts

Impact 4.15-1: In-water construction or remediation would increase turbidity, and could release contaminants, affecting water quality.

Significance: Significant (turbidity); potentially significant (contaminants)

Mitigation 4.15-1: Prior to in-water construction, the contractor shall prepare a water quality protection plan acceptable to the RWQCB, including site-specific best management practices for protection of Bay waters, and shall implement this plan during construction.

Mitigation 4.15-2: Contractors and developers shall comply with all permit conditions from the Corps, RWQCB, and BCDC.

Residual Significance: Less than significant

Shoreline excavation, construction, and maintenance dredging activities would disturb sediments, creating turbidity in the Bay. Should disturbed sediments be contaminated, they could release contaminants to Bay waters. Substantial turbidity would be expected to result from in-water activities, and is considered a significant impact. Release of contaminants may or may not occur, and is considered a potentially significant impact. With implementation of Mitigation Measures 4.15-1 and 4.15-2, the impact would be minimized, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.15-2: Under certain circumstances, disturbance of soils during construction could result in erosion, which in turn could increase sediment loads to receiving waters.

Significance: Potentially significant

Mitigation 4.15-3: Prior to ground-disturbing activities, the contractor shall develop and implement a Stormwater Pollution Prevention Plan to be reviewed by the City or the Port, including erosion and sediment control measures.

Residual Significance: Less than significant

Construction activities can result in mobilization of soil that can become entrained in stormwater. Should this polluted stormwater reach receiving waters, it could affect their quality through increased turbidity and associated pollutant loads. Should this occur, it would be considered a significant impact. Because the occurrence of this impact depends on rainfall that may or may not occur, the impact is considered potentially significant. With implementation of Mitigation Measure 4.15-3, the impact would be avoided or minimized, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.15-3: During construction or remediation, shallow groundwater may be encountered that could be contaminated with sediment or chemicals, and could enter nearby receiving waters as could contaminated stormwater.

Significance: Potentially significant

Mitigation 4.15-4: Prior to construction or remediation, the contractor shall develop and implement a Stormwater Pollution Prevention Plan, including protocols for determining the quality and disposition of construction water which includes shallow groundwater encountered during construction/remediation.

Residual Significance: Less than significant

Groundwater underlying the project area is shallow, particularly in the near-shore areas. Contamination of groundwater by chemicals has been identified within the OARB and Maritime sub-districts (see Section 4.7: Hazardous Materials). During construction excavation (for foundations, underground utilities, remediation, etc.), the contractor could encounter shallow groundwater, which is generally removed from the excavation by pumping, a practice termed dewatering. Depending on location, the shallow groundwater encountered could contain sediment, or it may be contaminated by chemicals. Because the occurrence of this impact depends on several circumstances that may or may not occur, it is considered potentially significant. With implementation of Mitigation Measure 4.15-4, the impact would be avoided or minimized, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.15-4: Net changes in impervious surface could result in higher pollutant loads to receiving waters.

Significance: Potentially significant

Mitigation 4.15-5: Post-construction controls of stormwater shall be incorporated into the design of new redevelopment elements to reduce pollutant loads.

Residual Significance: Less than significant

Redevelopment would result in a change (increase or decrease) in impervious surface area. At some currently undeveloped sites, impervious cover is likely to increase with redevelopment. Increases in impervious area could result in more stormwater runoff, higher velocities, and larger pollutant loads to receiving waters. Because design details are not developed, and the occurrence and magnitude of the effect is not known, the impact is considered potentially significant. With implementation of Mitigation Measure 4.15-5, the impact would be avoided or minimized, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.15-5: Use of recycled water for non-potable purposes could lead to degradation of surface water quality.

Significance: Potentially significant

Mitigation 4.15-6: Site-specific design and best management practices shall be implemented to prevent runoff of recycled water to receiving waters.

Residual Significance: Less than significant

EBMUD intends to provide recycled water to the redevelopment project area for non-potable purposes as part of its East Bayshore Recycled Water Project. Title 22 of the California Code of Regulations does not allow runoff of recycled water to surface waters. Because occurrence of this impact depends on design that is not yet developed, the impact is considered potentially significant. With implementation of Mitigation Measure 4.15-6, the impact would be avoided or minimized, and the residual impact is considered less than significant.

❖ ❖ ❖

Impact 4.15-6: New construction could result in changes in localized flooding.

Significance: Potentially significant

Mitigation 4.15-7: New development shall conform with the policies of the City of Oakland's Comprehensive Plan Environmental Health Hazards Element regarding flood protection.

Mitigation 4.15-8: The City and the Port shall complete flood hazard mapping in the project area, where necessary and applicable to delineate 100- and 500-year flood hazard zones.

Residual Significance: Impact avoided

Much of the project area is not mapped for flood hazards: the entire OARB sub-district and most of the Maritime sub-district are not currently included on FEMA flood hazard maps. The portion of the project area that is mapped, the 16th/Wood sub-district and a portion of the Maritime sub-district, is not located within either a 100- or 500-year flood hazard zone. The project area is not near any surface drainage channels and is therefore not subject to flooding from over-bank spillage.

Once flood hazard mapping is complete, development on portions of the study area that fall within 100- or 500-year flood hazard zones would be required to comply with National Flood Insurance Program policies set by the FEMA. Because the flood hazard area has not been delineated, and because redevelopment elements are not definite, the impact is considered potentially significant. With implementation of Mitigation Measures 4.15-7 and 4.15-8, the impact would be avoided.

❖ ❖ ❖

Impact 4.15-7: Potential inundation by seiche or tsunami.

Significance: Less than significant

Mitigation: Mitigation is not warranted.

The largest seiche recorded in San Francisco Bay was in 1906, measured at four inches. This would have little or no effect on study area flooding. Calculations of the theoretical tsunami run-up in the San Francisco Bay near the project area range from 4.7 to 5.5 feet above mean sea level (msl) (Houston and Garcia 1975). The elevation of land within the project area exceeds 5.5 msl, except the armored slopes of shorelines and the beach of the Middle Harbor Shoreline Park. Because no non-beach areas would be subject to inundation, the impact is considered less than significant.

❖ ❖ ❖

4.15.7 Mitigation

Implementation of the following mitigation measures will avoid, minimize, reduce, rectify, or compensate for significant impacts of redevelopment.

Mitigation 4.15-1: Prior to in-water construction, the contractor shall prepare a water quality protection plan acceptable to the RWQCB, including site-specific best management practices for protection of Bay waters, and shall implement this plan during construction.

This measure applies to Impact 4.15-1 and Cumulative Impact 5.15-1.

BMPs to effectively control turbidity and/or contaminant suspension and migration would be site-specific. They may include, and are not limited to, the following:

- Use environmental or clamshell dredges or hydraulic cutterhead dredges designed to reduce release of solids.
- Reduce or eliminate overflow of decant water from barges used to transport material.
- Use silt curtains or other specialized equipment to reduce dispersion of material during dredging and filling operations.

❖ ❖ ❖

Mitigation 4.15-2: Contractors and developers shall comply with all permit conditions from the RWQCB, Corps, and BCDC.

This measure applies to Impact 4.15-1 and Cumulative Impact 5.15-1.

This measure shall be enforced on Contractors by contract specifications.

❖ ❖ ❖

Mitigation 4.15-3: Prior to ground-disturbing activities, the contractor shall develop and implement a Stormwater Pollution Prevention Plan that is acceptable to the RWQCB, including erosion and sediment control measures.

This measure applies to Impact 4.15-2 and Cumulative Impact 5.15-1.

All construction activities shall be undertaken in accordance with requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction Activity (General Permit). The General Permit requires that all dischargers develop and implement a SWPPP that specifies BMPs that would prevent construction pollutants from contacting stormwater with the intent of keeping products of erosion from moving off site into receiving waters.

The contractor shall prepare and implement a site-specific SWPPP. The SWPPP shall be reviewed by either the City or Port, and shall be available for review by the RWQCB. While erosion/sediment/pollution control measures included in the plan would be site-specific, they must be effective at prevention of accelerated erosion by the following: minimizing the length of time soils are exposed; reducing total area of exposed soil during the rainy season; protecting critical areas (the Bay); and monitoring before and after each rain storm to assess control measure effectiveness. SWPPP erosion and sediment control measures may include, and are not limited to, the following:

- Schedule construction to occur during dry season;
- Avoid run-on (divert run-off from up-slope sites so it does not enter construction zone);
- Preserve existing vegetation;
- Seed and mulch, or hydromulch;
- Dust control;
- Blankets, geotextiles, fiber rolls; and
- Tire washers at exits.

Additional SWPPP sediment control measures may include, and are not limited to, the following:

- Stabilize the construction entrance;
- Silt fencing;
- Temporary straw bale dike;
- Sand/gravel bag;
- Brush/rock filter;
- Inlet protection;
- Catch basin inlet filter; and

- Sediment basin or trap.

SWPPP pollution control measures generally are "good housekeeping" BMPs, and may include, and are not limited to, establishing practices and protocols for the following:

- Solid and demolition waste management;
- Hazardous materials and waste management;
- Spill prevention and control;
- Vehicle and equipment maintenance;
- Covered materials storage;
- Handling and disposal of concrete/cement;
- Pavement construction management;
- Contaminated soil and water management; and
- Sanitary/septic waste management.

❖ ❖ ❖

Mitigation 4.15-4: Prior to construction or remediation, the contractor shall develop and implement a Stormwater Pollution Prevention Plan, including protocols for determining the quality and disposition of construction water, which includes shallow groundwater encountered during construction.

This measure applies to Impact 4.15-3 and Cumulative Impact 5.15-2.

The contractor's SWPPP shall include a RWQCB-acceptable protocol and BMPs for handling construction water. The SWPPP shall include methods for visual inspection, triggers for laboratory testing, and appropriate use/disposal of the water.

❖ ❖ ❖

Mitigation 4.15-5: Post-construction controls of stormwater shall be incorporated into the design of new redevelopment elements to reduce pollutant loads.

This measure applies to Impact 4.15-4 and Cumulative Impact 5.15-2.

NPDES permitting requires that BMPs to control post-construction stormwater be implemented to the maximum extent practicable. Analysis of anticipated runoff volumes and potential effects to receiving water quality from stormwater shall be made for specific redevelopment elements, and site-specific BMPs shall be incorporated into design. BMPs shall be incorporated such that runoff volume from 85 percent of average annual rainfall at a development site is pre-treated prior to its discharge from that site, or a pre-treated volume in compliance with RWQCB policy in effect at the time of design.

Non-structural BMPs may include and are not limited to good housekeeping and other source control measures, such as the following:

- Stencil catch basins and inlets to inform the public they are connected to the Bay;
- Sweep streets on a regular schedule;
- Use and dispose of paints, solvents, pesticides, and other chemicals properly;
- Keep debris bins covered; and
- Clean storm drain catch basins and properly dispose of sediment.

Structural BMPs may include and are not limited to the following:

- Minimize impervious areas directly connected to storm sewers;
- Include drainage system elements in design as appropriate such as:
  - infiltration basins
  - detention/retention basins
  - vegetated swales (biofilters)
  - curb/drop inlet protection.

❖ ❖ ❖

Mitigation 4.15-6: Site-specific design and best management practices shall be implemented to prevent runoff of recycled water to receiving waters.

This measure applies to Impact 4.15-5.

Design of subsequent redevelopment activities shall ensure recycled water does not leave the site and enter receiving waters. Best management practices shall be implemented to prevent runoff of recycled water. These BMPs may be either structural or non-structural in nature and may include but are not limited to the following:

- Preventing recycled water from escaping designated use areas through the use of:
  - berms
  - detention/retention basins
  - vegetated swales (biofilters)
- Not allowing recycled water to be applied to irrigation areas when soils are saturated.
- Plumbing portions of irrigation systems adjacent to receiving waters with potable water.

❖ ❖ ❖

Mitigation 4.15-7: New development shall conform with policies of the City of Oakland's Comprehensive Plan Environmental Health Hazards Element regarding flood protection.

This measure applies to Impact 4.15-6.

The Hazards Element includes development controls that place the burden of demonstrating flood safety upon the individual developer. In addition, the Hazards Element includes policies regarding support of flood control and management programs of other agencies, maintenance of the natural character of creeks to the maximum extent possible, and City participation in the federal Flood Insurance Program.

❖ ❖ ❖

Mitigation 4.15-8: The City and the Port shall complete flood hazard mapping in the project area, where necessary and applicable, to delineate 100- and 500-year flood hazard zones.

This measure applies to Impact 4.15-6.

The City and Port shall determine with the appropriate federal agencies (FEMA, Corps) the necessity and process for mapping flood hazard zones within the non-mapped portions of the project area. If necessary and applicable, the City and/or Port shall cause a flood hazard delineation for the 100-year and 500-year flood hazard zones to be prepared, which would submit the delineation to the Corps for verification. Once verified, the delineation would be submitted to FEMA, for inclusion to the Flood Insurance Program.

❖ ❖ ❖

❖

5. CUMULATIVE IMPACTS

According to Section 21083 of the California Environmental Quality Act (CEQA), an action may have a significant effect on the environment requiring dsclosure in an Environmental Impact Statement (EIR) if its possible effects are individually limited but "cumulatively considerable." As defined in *CEQA Guidelines* Section 15065(c), cumulatively considerable means the incremental effects of an action are considerable when viewed in connection with the effects of past projects, other current projects, and probable future projects. Evaluation of cumulative effects should reflect the severity of impacts as well as the likelihood of their occurrence, but the level of detail need not be as great as for evaluation of project-specific impacts.

Section 15130 of the *CEQA Guidelines* provides direction regarding cumulative impact analysis as follows:

- An EIR should not discuss cumulative impacts that do not result in part from the proposed action.
- A lead agency may determine that an identified cumulative impact is less than significant, and shall briefly identify facts and analysis in the EIR supporting its determination.
- A lead agency may determine that an action's incremental effect is not cumulatively considerable, and therefore is not significant, and shall briefly describe in the EIR the basis of its determination.
- A lead agency may determine that an action's cumulatively considerable contribution to a significant cumulative impact may be rendered less than cumulatively considerable and therefore residually not significant, if the action implements or funds its fair share of a mitigation measure or measures designed to alleviate the cumulative impact, and shall identify facts and provide analysis supporting its determination.

5.1 CUMULATIVE IMPACT ANALYSIS METHODOLOGY

To analyze cumulative impacts for each environmental factor, a lead agency may elect to use a list of other past, current, and probable future projects, including those outside the control of the agency. A lead agency may also elect to use a summary of projections from adopted planning documents (*Guidelines* § 15130).

Table 5-1 identifies both plans and projects used to conduct the cumulative impact analysis. The table identifies each environmental factor for which cumulative impacts are analyzed, and which plan(s) or project(s) were used in that analysis.

The temporal scope of the cumulative analysis is the year 2020. The physical scope of the analysis generally encompasses the City of Oakland and adjacent jurisdictions.

Table 5-1
Plans and Probable Future Projects Used in Cumulative Impact Analysis

Plan or Project Name Agency	**Description**	**Status**	**Relevant Environmental Factors**
	Plans		
General Plan City of Oakland	City-wide plan	Last updated to include *Estuary Policy Plan* Element in 1999	Land Use Traffic Air Quality Noise Public services
West Oakland Cumulative Growth Scenario Update City of Oakland	Update of existing and future economic and land use assumptions for more than 50 area planned projects (included in Appendix 5)	Update completed January 2002	Land Use Traffic Air Quality
Projections 2002 Association of Bay Area Governments	Demographic projections for nine Bay area counties through 2025	Published 2001	Traffic Air Quality Noise Population/ Employment/ Housing Public services
General Plan City of Emeryville	City-wide plan	Last updated to revise the *Housing* Element in 2001	Land Use Traffic Air Quality Public Services
Alameda Point General Plan Amendment City of Alameda	Re-designation of land uses and adoption of General Plan policies for 1,444 acres	Public Review Draft EIR published November 2001	Land Use Public Services Traffic Air Quality
	Projects		
Vision 2000 Program Port of Oakland	Marine and rail terminals, regional public park	Terminals in operation, park under construction	Land Use Traffic Air Quality Cultural Resources Biology Recreation Surface Water
–50 Foot Navigation Improvements U.S. Army Corps of Engineers (Corps), Port of Oakland	Dredge Oakland Outer and Inner harbors to –50 feet mean lower low water	EIS/R complete Construction approximately 2001–2005	Noise Biology Surface Water
Bay Bridge Replacement California Department of Transportation (Caltrans)	Replacement of the Bay Bridge from Yerba Buena Island to Oakland	EIS complete Construction approximately 2002–2006	Noise Biology Surface Water

Table 5-1
Plans and Probable Future Projects Used in Cumulative Impact Analysis

Plan or Project Name Agency	**Description**	**Status**	**Relevant Environmental Factors**
Main Wastewater Treatment Plant Improvement East Bay Municipal Utility District (EBRPD)	Expansion of treatment plant facilities, capacity, and administration facilities	Undetermined future	Land Use Air Quality Noise
Alameda Point Wildlife Refuge U.S. Fish and Wildlife Service (USFWS)	565 upland acres, 413 submerged acres for a wildlife refuge	EA complete	Land Use Biology
Catellus Mixed Use Development EIR City of Alameda	Mixed use, including affordable housing at former Fleet and Industrial Supply Center (FISC) Annex	EIR complete	Land Use Traffic Air Quality
Oakland Airport Development Program Port of Oakland	Airport expansion: terminals, circulation, parking	EA complete SEIR in progress Construction of some component projects underway	Air Quality Noise
San Francisco Airport Expansion	Airport expansion	EIS/R complete Undetermined future	Air Quality Noise
Reuse of Bay Area Military Bases Multiple agencies	Conversion from military to community uses, including demolitions Oakland: Fleet and Industrial Supply Center, Oakland (FISCO) and Oak Knoll Alameda: NAS and FISCO Annex San Francisco: the Presidio, Hunters Point Naval Annex, and NAS Treasure Island Vallejo: Mare Island Shipyard Novato: Hamilton Army Airfield	In various stages of reuse Build-out: various	Land Use Cultural resources

5.2 CUMULATIVE IMPACT ANALYSIS

Each environmental factor discussed for redevelopment-specific impacts in Chapter 4: Setting and Baseline, Impacts, and Mitigation, is evaluated below relative to cumulative impacts.

5.2.1 Consistency with Plans and Policies

There is no evidence that significant cumulative impacts currently exist relative to fundamental conflicts with applicable plans and policies to which the redevelopment program could contribute. Generally, development within the City and surrounding jurisdictions occurs in accordance with relevant plans and policies, as they may be amended from time to time.

In order for redevelopment to occur as proposed in Chapter 3: Description, amendment of the Oakland General Plan is first required to reflect the redevelopment program; through that amendment process, the redevelopment program would be fully consistent with the General Plan, and would not create cumulative impacts related to consistency with plans and policies.

❖ ❖ ❖

5.2.2 Land Use

There is no evidence that significant cumulative land use impacts currently exist relative to community cohesion (physical division of an established community) to which the redevelopment program could contribute. In West Oakland, community cohesion has improved after realignment of I-880 to the boundary of that community, which the freeway formerly bisected. Redevelopment as proposed in combination with past, other current, and probable future actions would not divide or worsen the division of an established community, nor otherwise result in or contribute to impacts related to community cohesion.

Benefits

Large-scale land use changes could result from redevelopment as proposed in combination with past, other current, and probable future projects, including the Vision 2000 Program, and as described in the West Oakland Cumulative Growth Scenario Update, general plans of Oakland and nearby cities. In the broader West Oakland area, redevelopment as proposed in this EIR, in combination with other area redevelopment efforts, would improve land use compatibility throughout West Oakland. This would be a cumulative benefit.

Bay Area military base conversions afford communities opportunities to substantially change land uses. It is presumed that Base reuse efforts, including the proposed redevelopment program, reuse of Alameda Point, and reuse of FISC Alameda for the Catellus Mixed Use Project, would result in uses more compatible—rather than less—with local community character, both a local and region-wide cumulative benefit.

❖ ❖ ❖

Impacts and Mitigation

Impact 5.2-1: Contribution to existing land use incompatibilities.

Land use compatibility in West Oakland outside the redevelopment project area is cumulatively impacted. Over time, industrial and commercial land uses have become inter-mixed with

residential uses (HEG 2000; see Section 4.2: Land Use, for a discussion; see Section 4.11: Aesthetics, for photographic documentation). In addition, large areas of industrialized land are located near the West Oakland community, including the OARB, the Port, and EBMUD's Main WWTP. While industrial uses are planned for portions of West Oakland, including redevelopment elements such as the New Intermodal Facility, Port maritime expansion, Light Industrial and Warehousing/Distribution facilities in the Gateway development area, and the expansion of the EBMUD Main WWTP, these industrial uses are separated from unlike uses in West Oakland by the elevated I-880 and West Grand Avenue structures. Due to this physical separation, development of industrial facilities in West Oakland as planned would not result in or substantially contribute to existing land use incompatibilities. The contribution of redevelopment to land use incompatibilities would not be cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation is not warranted.

❖ ❖ ❖

5.2.3 Transportation and Traffic

There is no evidence that significant cumulative impacts currently exist relative to fundamental conflict with support for alternative transportation to which the redevelopment program could contribute. Compliance with adopted policies, plans, or programs supporting alternative transportation (*e.g.*, bus turnouts, bicycle racks) would not be affected by other projects. Likewise, redevelopment would have no effect on the ability of other projects to comply with adopted policies, plans, or programs supporting alternative transportation. Redevelopment as proposed in combination with past, other current, and probable future projects would not result in reduced support of alternative transportation.

Impact Analysis Methodology

The same methods of analysis as described in Section 4.3 were used for the analysis of transportation impacts of redevelopment in combination with past, other current, and probable future projects. The analysis of traffic impacts reflects build-out assumptions of the Oakland, Alameda, and Emeryville General Plans, and all activities anticipated in the West Oakland Cumulative Growth Scenario Update, included in Appendix 5. In addition, this analysis reflects the Port of Oakland's Vision 2000 program, and the Catellus Mixed use development in Alameda.

Traffic forecasts were based on the 2001 version of the Alameda Countywide Model as required by the Alameda County Congestion Management Agency (CMA). The model provides forecasts of travel demand for 2005 and 2025 based on ABAG's *Projections 2000* socioeconomic forecasts. Two levels of analysis were performed for the analysis of cumulative traffic impacts using the Alameda Countywide Model. A Congestion Management Program (CMP) analysis

was performed using the model with the ABAG land uses for 2005 and 2025.[1] A summary of the CMP analysis is provided in Appendix 4.3.

A more detailed analysis was conducted for purposes of assessing cumulative environmental impacts to the transportation system and the extent to which redevelopment would contribute to cumulative impacts. In the environmental analysis, a cumulative growth approach was developed for the City, using a forecast-based approach — an approach based on regional forecasts of economic activity and demographic trends. The updated cumulative growth scenario for the City considered recent and anticipated future development projects in Oakland, as well as other changes in employment and population. Development projects and other changes in Oakland were identified based on input from City and Port staffs, and analysis of economic and real estate market data and trends. Future development projects were identified to include approved, proposed, and potential development projects expected by the year 2020, including buildout of the OARB area redevelopment project area.

The 2020 employment and population data developed by the method described above were compared against 2025 employment and population in the 2000 ABAG land use dataset, and the former exceeded the latter within the City. The ABAG land use data for the City of Oakland were replaced in the ABAG 2025 land use data set and were used as the basis for the analysis of cumulative conditions, because this scenario was deemed to be a worst case scenario under CEQA.

The Alameda Countywide Model was used with the land use data developed for the City to determine the traffic volumes that would be present with redevelopment in combination with past, other current, and probable future projects. The contribution of redevelopment to cumulative impacts was determined by removing redevelopment traffic (derived from ITE trip generation rates as depicted in Section 4.3) from the cumulative traffic volumes. This environmental impact analysis yielded more conservative results — an assessment of greater cumulative impacts — than the CMP analysis.

The same significance criteria used to evaluate redevelopment-specific impacts were used to evaluate the contribution of redevelopment to existing or anticipated cumulative impacts. These criteria are described in detail in Section 4.3: Transportation and Traffic, with the following addition: redevelopment was considered to make a considerable contribution to cumulative impacts if it contributes five (5) percent or more of the cumulative traffic increase as measured by the difference between existing and cumulative (with project) conditions.

[1] For the CMP analysis, the land uses in the Alameda Countywide Model were modified to reflect the effect of redevelopment. For the analysis of 2005 conditions, the amount of redevelopment in the district expected to be completed by 2005 (375 live-work units) was added to the ABAG land use data and the model results were compared to model results without redevelopment. For 2025 conditions, the entire redevelopment program was coded into the land use dataset and the model results were compared to model results reflecting only existing and approved projects in the traffic analysis zones for the redevelopment project area.

Benefits

As described in Section 4.3, redevelopment would substantially reduce hazards to bicyclists and pedestrians in the redevelopment project area by implementing substantial portions of the Bay Trail. Redevelopment (as mitigated by measures included in Section 4.3) in combination with construction of other portions of the Bay Trail by Caltrans, the City, and the Port would result in a substantial cumulative safety benefit for bicyclists and pedestrians.

The provision of 105 acres of ancillary maritime support within the redevelopment project area in combination with efforts by the Port to provide satellite trucking facilities at strategic locations could have a cumulative benefit in providing relief from truck traffic and parking for nearby areas with incompatible land uses depending on the extent to which those facilities are used for truck parking, container freight handling, and container storage.

The elimination of two railroad/highway crossings on Maritime Street as part of redevelopment in combination with the Public Utility Commission's (PUC's) ongoing program to improve traffic control and/or eliminate railroad/highway crossings would provide a cumulative benefit in improving mobility and safety.

~ ~ ~

Impacts and Mitigation

Impact 5.3-1: Increased congestion at intersections exceeding the cumulatively significant threshold.

Redevelopment, in combination with past, other current, and probable future projects as described in the description of methodology, above, would cause the level of service (LOS) to degrade to worse than LOS D at the following intersections located outside the Downtown area:

- West Grand Avenue/Maritime Street during the a.m. and p.m. peak hours;
- West Grand Avenue/I-880 Frontage Road during the a.m. and p.m. peak hours; and
- 7th /Maritime Street.

Redevelopment, in combination with past, other current, and probable future projects, would cause total intersection average delay to increase by four seconds at the Powell Street/I-80 northbound ramps intersection which would otherwise operate at LOS E during the p.m. peak hour.

Redevelopment, in combination with past, other current, and probable future projects would cause total intersection average vehicle delay to increase by more than two seconds at the following signalized intersections that would operate at LOS F during the a.m. peak hour:

- 7th Street/I-880 northbound ramp;

- 12th Street/Brush Street;
- Powell/I-80 northbound; and
- Atlantic Avenue/Webster Street (for this intersection, redevelopment contributes less than five percent of traffic to the impact).

Redevelopment traffic, in combination with past, other current, and probable future projects would add more than ten vehicles to the following unsignalized intersections that would satisfy the Caltrans peak hour volume warrant:

- 3rd Street/Adeline Street during the a.m. peak hour; and
- 3rd Street/Market Street during the p.m. peak hour.

The contribution of redevelopment to impacts at the intersections listed above — except for the Atlantic Avenue/Webster Street Intersection, to which redevelopment contributes less than five percent of the increase in cumulative traffic — would be cumulatively considerable, and the incremental effect of redevelopment is considered significant.

The impact of redevelopment on study area intersections, in combination with past, other current, and probable future projects is summarized in Table 5.2-1.

Table 5.2-1
Unmitigated Intersections Operations for Redevelopment (Cumulative Conditions)

	Without Redevelopment				Cumulative			
	A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
Intersection	LOS	Delay[a]	LOS	Delay[a]	LOS	Delay[a]	LOS	Delay[a]
West Grand Avenue/Maritime Street	C	28.5	C	21.1	***F***	***254.6***	***F***	***253.2***
West Grand Avenue/I-880 Frontage Road	D	38.2	C	30.0	***F***	***87.4***	***F***	***160.1***
West Grand Avenue/Mandela Parkway	B	11.1	B	11.9	B	15.2	B	18.8
West Grand Avenue/Adeline Street	A	8.6	B	10.5	B	15.2	B	15.7
West Grand Avenue/Market Street	B	10.8	B	11.5	B	10.7	B	11.2
West Grand Avenue/San Pablo Avenue	B	11.4	B	11.6	B	13.6	B	13.7
West Grand Avenue/MLK Jr. Way [b]	B	15.3	B	17.7	B	13.5	B	16.9
West Grand Avenue/Northgate Avenue [b]	C	23.6	C	20.9	C	24.7	C	24.2
West Grand Avenue/Harrison Street [b]	C	26.5	C	25.2	C	29.0	C	28.7
7th Street/Maritime Street	F	150.6	E	55.9	***F***	***188.5***	***F***	***112.3***
7th Street/I-880 Southbound Ramp	A	3.6	A	2.3	A	4.3	B	10.9
7th Street/I-880 Northbound Ramp	C	34.3	D	36.5	***F***	***82.5***	D	40.0
7th Street/Peralta Street	B	12.7	A	8.7	B	12.1	A	7.9
7th Street/Mandela Parkway	B	16.4	B	16.4	B	15.8	B	15.9
7th Street/Union Street	A	8.0	B	16.7	A	7.8	B	16.1
7th Street/Adeline Street	B	11.7	B	10.3	B	11.7	B	12.5
7th Street/Market Street	C	27.6	C	27.3	D	40.1	C	28.3
7th Street/Harrison Street [b]	B	14.0	C	20.4	B	14.2	C	20.7
7th Street/Jackson Street [b]	C	21.0	C	22.2	D	39.2	C	25.3
6th Street/Jackson Street [b]	B	10.5	B	11.7	B	10.5	B	11.7
5th Street/Union Street/I-880 Ramps	C	30.7	C	29.9	C	32.0	C	30.4
5th Street/Adeline Street	D	42.1	C	32.2	D	53.8	C	34.7

Table 5.2-1
Unmitigated Intersections Operations for Redevelopment (Cumulative Conditions)

Intersection	Without Redevelopment				Cumulative			
	A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
	LOS	Delay[a]	LOS	Delay[a]	LOS	Delay[a]	LOS	Delay[a]
I-880 Off Ramp/Market Street	C	21.6	B	20.0	C	22.0	C	20.4
5th Street/Broadway [b]	C	27.8	D	46.6	C	28.5	E	55.7
3rd Street/Adeline Street (unsignalized) [c]	D	26.8	C	17.8	***E***	***42.2***	C	22.1
3rd Street/Market Street (unsignalized) [c]	D	30.5	F	177.0	E	46.1	***F***	***207.3***
14th Street/Mandela Parkway	A	7.8	A	7.8	A	9.1	A	8.4
12th Street/Brush Street [b]	F	83.2	C	25.4	***F***	***87.6***	C	25.4
12th Street/Castro Street [b]	B	16.2	C	21.7	B	16.2	C	21.7
27th Street/SR 24-580 SB Off-Ramp	B	15.5	B	16.0	B	15.1	B	16.5
27th Street/SR 24-580 NB On-Ramp	B	11.2	B	19.1	B	12.9	C	25.3
West MacArthur Blvd/Adeline Street	C	33.5	D	45.6	D	41.4	D	50.6
West MacArthur Blvd/Market Street	B	16.7	C	20.8	B	16.6	C	21.2
Powell Street/I-80 Frontage Road	C	21.8	C	22.4	C	21.8	C	22.4
Powell Street/I-80 NB Ramps	C	28.1	E	71.3	C	28.5	***E***	***75.3***
Powell Street/Christie Street	C	32.9	D	35.7	C	32.9	D	35.8
Powell Street/Hollis Street	C	26.7	E	63.1	C	26.8	E	66.7
Powell Street/San Pablo Avenue	D	37.3	D	45.2	D	38.6	D	46.8
Stanford Avenue/Market Street	C	30.7	C	32.7	C	30.8	C	33.4
Stanford Avenue/MLK Jr. Way	B	18.2	F	98.0	B	18.1	F	97.8
Ashby Avenue/7th Street	D	35.8	D	52.3	D	36.6	D	53.1
Ashby Avenue/San Pablo Avenue	C	34.8	E	60.4	D	36.8	E	63.0
Marina Village/Constitution Way	D	42.4	C	29.3	D	47.0	C	29.6
Atlantic Avenue/Webster Street	F	84.5	D	45.2	***F***	***86.6***	D	46.7
Atlantic Avenue/Constitution Way	D	45.5	D	37.1	D	50.6	D	40.4
Loop Road/GDA Spine Road	-	-	-	-	B	18.1	C	20.2

Source: Dowling Associates 2002
Notes:
Significant impacts of redevelopment are shown in ***Boldface Italics***.
[a] Delay in seconds per vehicle.
[b] Defined as a downtown intersection.
[c] Significant impacts at unsignalized intersections are based on signal warrants – not delay.

Mitigation: ***West Grand Avenue/Maritime Street.*** Implementation of Mitigation Measure 4.3-1 would reduce cumulative impacts at the Maritime Street/West Grand Avenue intersection during the a.m. peak hour, but would not reduce cumulative impacts during the p.m. peak hour to a level that is less than significant. No feasible mitigation measures have been identified that would reduce cumulative impacts to a level that is less than significant; therefore, residual cumulative impacts at the Maritime Street/West Grand Avenue intersection would be significant and unavoidable.

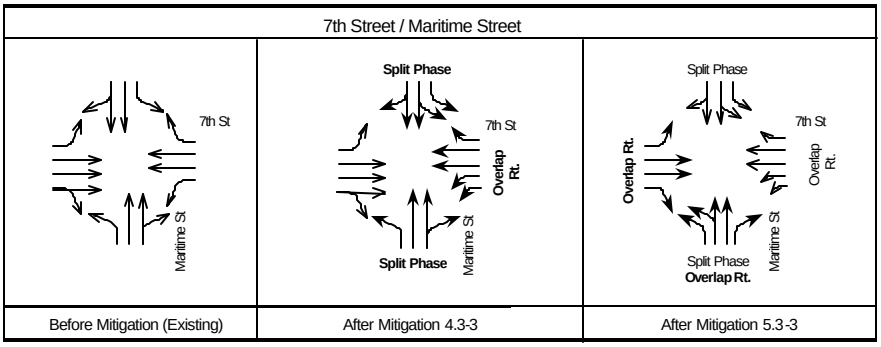
~ ~ ~

Mitigation: ***West Grand Avenue/I-880 Frontage Road.*** Implementation of Mitigation Measure 4.3-2 would reduce cumulative impacts at the West Grand Avenue/I-880 Frontage Road intersection to a level that is less than significant.

~ ~ ~

Mitigation: *7th/Maritime Street.* Implementation of Mitigation Measure 4.3-3 would reduce redevelopment-specific impacts at the 7th/Maritime Street intersection to a level that is less than significant, but would not be capable of accommodating all cumulative traffic at this intersection. Implementation of the following measure would reduce cumulative impacts at the 7th /Maritime Street intersection to a level that is less than significant.

Mitigation 5.3-1: *7th/Maritime Street.* Project area developers shall fund a fair share of additional modifications at the 7th /Maritime Street intersection.



Improvements for cumulative effects shall include the following:

1. Revise the northbound Maritime Street lanes to provide:

    a. 1 left-turn lane
    b. 1 combination left-through lane
    c. 1 through lane
    d. 1 right-turn lane with overlap signal phasing (green arrow)

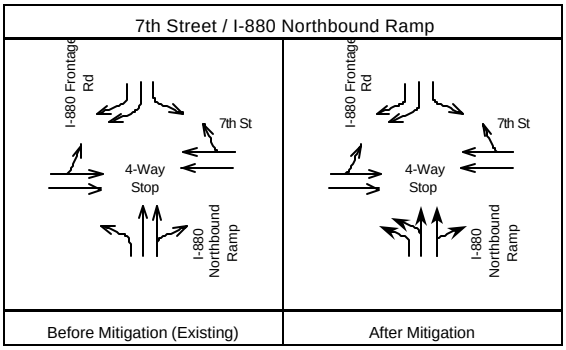
2. Revise the eastbound 7th Street lanes to provide:

    a. 1 left-turn lane
    b. 2 through lanes
    c. 1 right-turn lane with overlap signal phasing (green arrow)

~ ~ ~

Implementation of the following measure would reduce cumulative impacts at the 7th Street/I-880 northbound ramp intersection to a level that is less than significant.

Mitigation 5.3-2: *7th Street/I-880 Northbound Ramps.* Project area developers shall fund a fair share of modifications at the 7th Street/I-880 Northbound ramp.



Improvements for cumulative effects shall include the following:

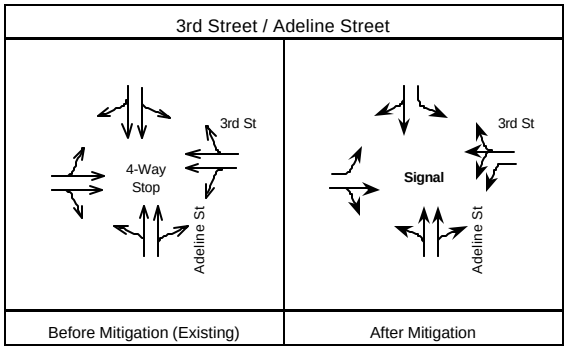
1. Revise the northbound I-880 ramp lanes to provide:

    a. 1 left-turn lane
    b. 1 combination left-through lane
    c. 1 through-right lane

~ ~ ~

Implementation of the following measure would reduce cumulative impacts at the 3rd/Adeline Street intersection to a level that is less than significant.

Mitigation 5.3-3: *3rd/Adeline Street.* Project area developers shall fund a fair share of the modifications at the 3rd/Adeline Street intersection.



Improvements for cumulative effects shall include the following:

1. Convert the traffic signal that is currently functioning as a flashing beacon to a fully operational traffic signal.
2. Provide permitted phasing for the northbound Adeline Street left-turning movement.
3. Revise the southbound Adeline Street lanes to provide:

    a. 1 left-turn lane
    b. 1 combination through right-lane lane

4. Revise the eastbound 3rd Street lanes to provide:

    a. 1 left-turn lane
    b. 1 combination through-right lane

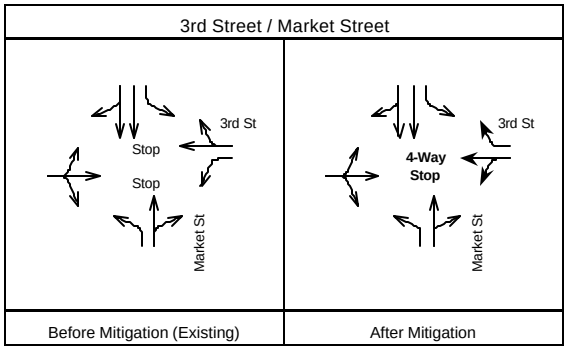
5. Revise the westbound 3rd Street lanes to provide:

    a. 1 left-turn lane
    b. 1 combination left-through-right lane

~ ~ ~

Implementation of the following measure would reduce cumulative impacts at the 3rd/Market Street ramp intersection to a level that is less than significant.

Mitigation 5.3-4: *3rd/Market Street.* Project area developers shall fund a fair share of modifications at the 3rd/Market Street intersection.



Improvements for cumulative effects shall include the following:

1. Install 4-way stop sign control.

2. Revise the westbound 3rd Street lanes to provide:

   a. 1 combination left-through lane
   b. 1 right-turn lane

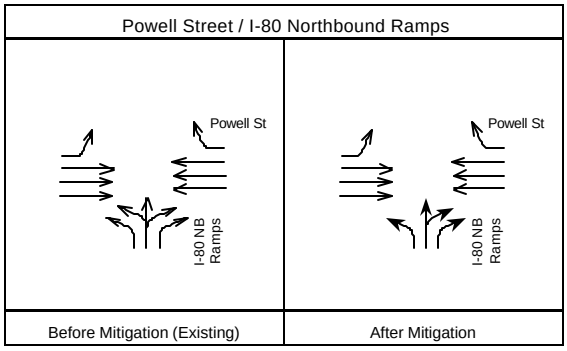
~ ~ ~

Mitigation 5.3-5: *12th /Brush Street.* Project area developers shall fund a fair share of modifications to the 12th/Brush Street intersection to increase the signal cycle length to **102** seconds. Implementation of this mitigation measure would reduce cumulative impacts at the 12th /Brush Street intersection to a level that is less than significant.

~ ~ ~

Implementation of the following measure would reduce cumulative impacts at the Powell Street/I-80 northbound ramps intersection to a level that is less than significant.

Mitigation 5.3-6: *Powell Street/I-80 Northbound Ramps.* Project area developers shall fund a fair share of modifications at the Powell Street/I-80 northbound ramps intersection.



Improvements for cumulative effects shall include the following:

1. Revise the northbound I-80 ramp lanes to provide:

   a. 1 left-turn lane
   b. 1 combination through-right lane
   c. 1 right-turn lane

~ ~ ~

The effects of the mitigation measures described above are shown in Table 5.2-2.

Table 5.2-2
Intersections Operations After Mitigation (Cumulative Conditions)

	Cumulative				Redevelopment with Mitigation			
	A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
Intersection	LOS	Delay[a]	LOS	Delay[a]	LOS	Delay[a]	LOS	Delay[a]
West Grand Avenue/Maritime Street	F	254.6	F	253.2	D	41.6	F	85.7
West Grand Avenue/I-880 Frontage Road	F	87.4	F	160.1	D	47.1	D	52.4
7th Street/Maritime Street	F	188.5	F	112.3	D	48.7	D	39.8
7th Street/I-880 Northbound Ramp	F	82.5	D	40.0	D	39.8	D	36.5
3rd Street/Adeline Street (unsignalized) [c]	E	42.2	C	22.1	D	37.1	D	26.2
3rd Street/Market Street(unsignalized) [c]	E	46.1	F	207.3	B	8.4	D	34.8
12th Street/Brush Street [b]	F	87.6	C	25.4	E	79.6	C	25.8
Powell Street/I-80 NB Ramps	C	28.5	E	75.3	C	24.3	D	50.4

Source: Dowling Associates 2002
Notes:
Significant impacts of redevelopment are shown in ***Bold Italics***.
[a] Delay in seconds per vehicle.
[b] Defined as a downtown intersection.
[c] Significant impacts at unsignalized intersections are based on signal warrants – not delay.

❖ ❖ ❖

Impact 5.3-2: Increased congestion on the Metropolitan Transportation System (MTS) exceeding the cumulatively significant threshold.

Redevelopment, in combination with past, other current, and probable future projects, would cause some roadway segments on the MTS to operate at LOS F and increase the V/C ratio by more than three percent on segments that would operate at LOS F without redevelopment.

Significant cumulative impacts would occur on the following freeway segments:

- I-80 from the Bay Bridge to east of the I-80/I-580 split
- I-880 connector to I-80 east
- I-880 from I-980 to the segment south of I-238
- I-580 from west of I-980/SR-24 to I-238
- SR-24 east of I-580

The cumulative impact of redevelopment is considered significant.

Mitigation: Implementation of Mitigation Measure 4.3-4 would reduce traffic demand on the MTS, but the residual cumulative impact would remain significant, and is considered unavoidable. No feasible mitigation measures have been identified that would reduce cumulative freeway impacts to a level that is less than significant. Increasing freeway capacity

by adding lanes would not be feasible because of high cost, negative impacts to air quality, and other factors. Moreover, adding lanes is inconsistent with the policies of the responsible regional agencies.

~ ~ ~

Impact 5.3-3: Increased traffic hazards.

Redevelopment, in combination with past, other current, and probable future projects, could result in increased traffic hazards to motor vehicles, bicycles, or pedestrians due to inadequate design features, incompatible transportation modes, or increases in transport trucks on neighborhood streets. Construction of other traffic-generating projects such as the new Bay Bridge, build-out of Emeryville and former NAS Alameda, and development of planned portions of the Bay Trail would increase traffic from motor vehicles, bicycles, and pedestrians. The mixing of increased volumes of vehicular and non-motorized modes could result in increased traffic hazards, such as increased potential for conflicts between pedestrians/bikes due to traffic volumes.

Mitigation: Mitigation Measures 4.3-5, -6, and -7 would mitigate the redevelopment-specific and cumulative impact to a level that is less than significant. Additional mitigation is not warranted.

~ ~ ~

Impact 5.3-4: Inadequate emergency access.

Construction of the access roadway from Maritime Street through the center of the Gateway development area to the Gateway peninsula could result in less than two emergency access routes for this street which would exceed 1000 feet in length. The cumulative impact of redevelopment in combination with the Bay Bridge Replacement Project could make it infeasible to provide a second road access to the western portion of the Gateway development area, and could result in cumulative impacts to emergency access.

Mitigation: Mitigation Measure 4.3-8 would mitigate the redevelopment-specific and cumulative impact to a level that is less than significant. Additional mitigation is not warranted.

~ ~ ~

Impact 5.3-5: Inadequate truck-related parking.

Redevelopment, in combination with past, other current, and probable future projects, including the Vision 2000 Program could result in inadequate parking supply for trucks serving the Port of Oakland. The number of parking spaces required for the Gateway development area and 16th/Wood sub-district will be determined by City Code and a future demand analysis based on specific development projects. The effect of redevelopment, in combination with already approved Port maritime development and the probable development of ancillary maritime

support facilities to serve the expanded Port, could have an increased cumulative effect on the potential for truck operators to park outside the redevelopment project area. The contribution of redevelopment to a possible deficit in truck parking within the project area would be potentially significant, particularly during construction of new Port facilities, which could make unavailable land currently used for parking. The need for additional land outside the Port area is expected to occur in approximately 2010.

Approximately 105 acres have been reserved exclusively for ancillary maritime support (AMS) uses as part of the redevelopment program. Such support is essential to efficient port operation, however, most ports do not provide for truck parking within their port area, as the redevelopment program proposes. Consequently, the Port's allocation of 90 acres and the City's allocation of an additional 15 acres has been considered by BCDC staff as a "laudatory achievement," and that this amount of land, adjacent to the marine terminals and UP Intermodal railyard, is a reasonable amount of land to accommodate AMS. Nevertheless, BCDC staff, the City, Port, and trucking industry agree the City and Port should continue to work with the trucking industry and the West Oakland community to find appropriate amounts and locations of land near but outside the Port to serve trucking needs and minimize the impact of Port-related trucking on the West Oakland community.

The Port commissioned a study (Tioga Group 2001) to explore ways to accommodate truck services that must be located near the Port, while assuring that the adjacent communities are relieved of unnecessary truck traffic. The study used forecasts of cargo segment growth, typical facility designs, industry standards, and working assumptions to estimate the usable acres required for efficient, single-purpose, core services facilities. The resulting estimates as summarized below are approximate minimums that could be achieved under reasonably efficient conditions.

Estimated Core Services Land Requirements

Year	Drayage Tractor Parking	Container /Chassis Parking	Short-term Parking	Truck Services	Heavy Cargo Facilities	Working Reefer Depots	Total Core Service Acres
2000	5	7	1	4	36	18	71
2005	7	8	2	4	44	24	88
2010	9	10	2	7	56	30	114
2015	12	12	5	7	70	38	143
2020	16	14	8	8	85	47	178

Source: Tioga Group 2001.

These estimates are greater than the 105 acres dedicated under the redevelopment program, growing proportionately with cargo volume and reaching a minimum of approximately 178 acres in 2020.

The expected availability of redevelopment project area acreage from different sources over the next two decades is as follows:

Harbor-Area Acreage for Port Services by Source					
Source	**2000**	**2005**	**2010**	**2015**	**2020**
Port Controlled Interim	125	75	50	25	
Maritime Support Center (MSC)		75	75	75	75
Port Additional Lands		15	15	15	15
City Additional Lands		15	15	15	15
Total Acres Available, Redevelopment Project Area	125	180	155	130	105
Source: Tioga Group 2001.					

The supply of harbor area land available for Port services peaks in approximately 2005, and declines thereafter. The ability of the Port to accommodate core services on this harbor area land will depend on parcel configuration and the amount of land taken up by streets, rail trackage, utilities, etc.

Generally, it is anticipated there is enough space within the redevelopment project area to house efficiently configured port services through approximately 2010.

Year	Total Core Service Acres[a]	Harbor-Area Acres[a]	Est. Usable Harbor Area Acres[a] (90%)	Gap[a]
2000	71	125	113	--
2005	88	180	162	--
2010	114	155	140	--
2015	143	130	117	26
2020	178	105	95	84

Source: Tioga Group 2001.
Note: [a] All amounts rounded to nearest acre.

The 105 permanent acres currently planned for such uses will accommodate much — but not all — demand under efficient operating conditions. Additional interim space available during terminal development will help accommodate most Port services to approximately 2010. Starting in about 2010, there will be a shortfall or "gap." Not all Port services will fit on redevelopment project area land, and some will have to be housed at suitable sites elsewhere.

Mitigation 5.3-7: The City and Port shall cooperatively develop a program that combines multiple strategic objectives and implementation tools designed to reduce cumulative truck parking and other AMS impacts.

This program should consider strategies that may include, but should not be limited to the following:

- Pursue truck traffic mitigation steps, information strategies, and rail intermodal strategies.

- Identify potential land swaps and utilize additional small parcels of land in the vicinity of the port, especially for truck parking and support services.

- Prioritize the use of harbor-area land for core services, maximize the efficient use of harbor-area land and facilities, and reduce the impacts in adjacent neighborhoods.

- Promote intensive land use (doing more with less) and extended terminal gate hours.

- Actively encourage relocation of selected services to other Oakland, East Bay, or Northern California (Hinterland Loop) locations.

- Develop multi-user facilities in Oakland or in corridor locations (e.g., Richmond and San Leandro) for both core and non-core services.

Implementation of such a program may take many years, and the success of the program cannot be ascertained at this time. Therefore, this cumulative impact remains significant and unavoidable.

~ ~ ~

Impact 5.3-6: Increased ridership on AC Transit during peak weekday hours.

Redevelopment, in combination with past, other current, and probable future projects, including projects of the West Oakland Cumulative Growth Scenario Update, would increase average ridership on AC Transit lines by more than three percent on transit lines serving the redevelopment project area, but the average load factor with the redevelopment program in place would not exceed 125 percent over a peak thirty minute period, and cumulative impacts would be less than significant. Development along the AC Transit lines is not expected to create a substantial increase in the demand for bus transit service. There is adequate capacity on the AC Transit lines serving the redevelopment project area to accommodate the expected increase in demand from redevelopment in combination with other potential developments; are the cumulative impact on AC Transit service would be less than significant.

Mitigation: Mitigation is not warranted.

~ ~ ~

Impact 5.3-7: Increased ridership on BART trains.

Redevelopment, in combination with past, other current, and probable future projects, including projects of the West Oakland Cumulative Growth Scenario Update, could increase peak hour average ridership three percent where the passenger volume would exceed the standing capacity of BART trains. Transit oriented development has been proposed near the West Oakland BART station, and the combination of that development in combination with redevelopment of the project area could result in cumulative impacts on BART train service;

therefore, the cumulative impact to BART is considered potentially significant. Implementation of the following measure would reduce cumulative BART ridership impacts to a level that is less than significant.

Mitigation 5.3-8: The City and Port shall work with BART to ensure adequate BART train capacity will be available for riders to and from the redevelopment project area, and possibly fund, on a fair share basis, BART train capacity improvements.

~ ~ ~

Impact 5.3-8: Increased waiting time during peak weekday hours at BART fare gates.

Redevelopment, in combination with past projects, other current projects, and probable future projects, including projects of the West Oakland Cumulative Growth Scenario Update, would increase the peak hour average ridership at the West Oakland BART station by three (3) percent where average waiting time at fare gates could exceed one minute. Redevelopment, in combination with the transit oriented development that has been proposed near the West Oakland BART station, would likely result in cumulative impacts on BART service at fare gates; therefore, the cumulative impact is considered potentially significant.

Mitigation: Mitigation Measure 4.3-12 would mitigate the cumulative impact to a level that is less than significant. Additional mitigation is not warranted.

~ ~ ~

Impact 5.3-9: Increased delays to commercial vessels.

Increased vessel calls due to the redevelopment, in combination with past, other current, and probable future projects, including the Vision 2000 Program, could increase minor delays to commercial vessels plying their trade. Redevelopment, in combination with other probable future Port projects, is projected to increase vessel calls at the Port over 2000 vessel calls by 643 (from about 1,810 to 2,455) in the year 2020. Some of these port calls would occur at New Berth 21, with the remainder distributed in the Inner and Outer Harbors. Vessels using the Inner Harbor turn around in the Inner Harbor turning basin immediately east of the Alameda ferry terminal and about 0.25 mile west of the Oakland ferry terminal. The tug wake from turning the vessels in the basin make ferry movements in the area difficult. Ferry operators are aware of this and they wait until the vessel finished turning before attempting to pass, as is the current protocol. This causes ferry delays of 5 to 10 minutes approximately twice per month. The cumulative impact would be less than significant.

Mitigation: Mitigation is not warranted.

❖ ❖ ❖

5.2.4 Air Quality

The cumulative air quality analysis for this proposed redevelopment program follows the CEQA guidelines developed by the Bay Area Air Quality Management District (BAAQMD) (BAAQMD 1996, revised 1999). Those guidelines provide that a proposed action resulting in significant impacts to air quality is also considered to have a significant cumulative impact to air quality (BAAQMD 1996, revised 1999). The proposed action may be a specific development activity or a plan, as in the case of the proposed redevelopment program.

Impacts and Mitigation

Impact 5.4-1: Redevelopment would result in significant cumulative air quality impacts associated with emissions of nitrogen oxides (NO_x), reactive organics gases (ROG), carbon monoxide (CO), particulate matter less than 10 microns in diameter (PM_{10}), and diesel exhaust (almost entirely particulate matter less than 2.5 microns in diameter [$PM_{2.5}$]), the latter defined as a toxic air contaminant by the California Air Resources Board (CARB).

As discussed in Section 4.4: Air Quality, redevelopment would result in significant and unavoidable air quality impacts. These impacts would be associated with NO_x, ROG, CO, PM_{10}, and diesel exhaust from ships, tugboats, cargo-handling equipment, rail yard equipment, trains, transport trucks, delivery trucks, and passenger cars. Approximately 91 percent of the NO_x and 85 percent of the diesel emissions associated with redevelopment could be attributed to Port of Oakland activities (Table 4.4-5). Of these Port-generated emissions, a majority (67 percent of NO_x and 77 percent of diesel exhaust emissions) would be from cargo ships that would use new Port facilities in the redevelopment project area. A majority of gross redevelopment program CO emissions (76 percent) and roughly half of ROG emissions (53 percent) associated with redevelopment could be attributed to passenger car and delivery truck traffic generated by Port activities, the Gateway development area, and the 16th/Wood sub-district (Table 4.4-5).

As indicated above, the BAAQMD guidelines for CEQA state that a proposed action resulting in significant air quality impacts is also considered to have a significant cumulative air quality impact (BAAQMD 1996, revised 1999).

Section 4.4: Air Quality, recommends mitigation measures to reduce significant impacts associated with the proposed redevelopment program. Those measures focus on reducing emissions from redevelopment program construction and remediation activities, reducing emissions from Port of Oakland operations, reducing or off-setting emissions from diesel-burning trucks, and implementation of BAAQMD and CAP TCMs. While these mitigation measures require implementation of emission reduction technology to the maximum extent feasible, they would not reduce air quality impacts of the redevelopment project on a project-specific or cumulative basis to a less than significant level.

As indicated above, the majority of proposed redevelopment program emissions would be from ships and transport trucks (see also Table 4.4-5), and mitigation efforts focus on those sources. It is difficult for the City or the Port of Oakland, however, to control emissions from ship engines because neither the Port, the City nor any other California agency (including CARB and

BAAQMD) have jurisdiction over ship emissions, and the EPA does not have jurisdiction over ships plying international waters. Additionally, while transport truck emissions could be reduced by engine retrofits to cleaner-burning diesel fuel, with add-on exhaust controls such as catalytic oxidizers and soot filters, and other measures recommended for the redevelopment program, there are other strategies that could be implemented to reduce cumulative diesel emissions, but that are outside of the control or jurisdiction of the City or the Port.

A study of feasible mitigation measures for diesel emissions related to Port operations was conducted by the Port of Oakland for the Berths 55-58 EIR (Port of Oakland 1998). That analysis evaluated the technological and economic feasibility of numerous emissions control measures. The feasibility of these measures was evaluated with respect to each type of source that would by mitigated (e.g., ships, tugboats, locomotives, cargo-handling equipment, and transport trucks). Some of the measures were considered technically infeasible. One of the reasons for determining technical infeasibility is if the measure cannot be implemented because it is not within the authority of the lead agency. However, the City and the Port are able to encourage, lobby, and participate in demonstration projects that may advance implementation of emission control technologies that are within the jurisdiction of other agencies. Therefore, the following mitigation measure is recommended to advance emission reductions technologies that might be applied within the redevelopment project area.

Mitigation Measure 5.4-1: The City and the Port shall encourage, lobby, and potentially participate in emission reduction demonstration projects that promote technological advances in improving air quality.

Such encouragement, lobbying, and participation may include the following:

- Retrofitting locomotive engines to meet current federal standards.
- Using reduced sulfur fuels in ships while the ships are in the San Francisco Bay.
- Treating NO_x with selective catalytic reductions.
- Implementing random roadside emissions tests and develop a system of fines for trucks not in compliance with emission regulations.
- Establishing emissions-based berthing fees.
- Buying relatively old, highly polluting cars to take them off the road.

Although these programs may assist in advancing emission reduction technologies or implementing emission reduction methods, the incremental contribution of the redevelopment program would remain cumulative considerable, and the cumulative impact on air quality remains significant and unavoidable.

❖ ❖ ❖

5.2.5 Noise

Impacts and Mitigation

Impact 5.5.-1: Construction, including remediation and deconstruction, could result in short-term noise levels in excess of established standards, or that violate the City of Oakland Noise Ordinance at and near the project area, and along construction haul routes.

The –50-Foot Navigation Improvement, the Bay Bridge Replacement, and the EBMUD Main WWTP Expansion projects could be under construction in the vicinity of and concurrently with redevelopment activities. Construction activities occurring within the city limits would be subject to noise limitations under the Oakland Noise Ordinance similar to those of proposed redevelopment. Those outside the City limit are well removed from West Oakland noise-sensitive receptors. Consequently, after accounting for attenuation of noise with distance, and mitigation requirement for the redevelopment program, it is expected that cumulative noise increases from these activities at a given West Oakland receptor would be less than double the sound energy, and would not constitute a significant (greater than 5 dBA) cumulative increase to noise levels.

Mitigation: Mitigation recommended in Section 4.5 for redevelopment program impacts is adequate. Additional mitigation for cumulative impacts is not warranted.

~ ~ ~

Impact 5.5-2: Operation of redevelopment facilities would result in long-term increases in ambient noise levels.

Because the primary operational noise sources for the redevelopment project would be vehicle traffic and rail operations, the focus of the cumulative noise analysis is vehicle traffic and rail in the year 2020. It is not expected that operational noise impacts, other than that generated by traffic and rail, from the projects listed in Table 5-1 in concert with the redevelopment project will yield cumulative noise impacts. Table 5.2-3 presents data regarding 2020 cumulative freeway segment noise (based on Dowling Associates, Inc. 2002), and Table 5.2-4 presents similar data for study area intersections (non-freeway roads). In combination with past, other current, and probable future projects, redevelopment would not cause an increase in noise of 5 dBA or more, for morning or afternoon rush periods, at any of the freeway segments.

Table 5.2-3
Cumulative Changes in Traffic Noise Along Freeway Segments

		AM Peak			PM Peak		
Freeway Segment	Travel Direction	Baseline Traffic	Program Traffic	Increase in dB	Baseline Traffic	Program Traffic	Increase in dB
I-80 at the Bay Bridge	East	7,859	436	0.2	12,316	103	0.0
	West	12,022	105	0.0	11,168	421	0.2
I-80 between I-880 and I-580	East	5,736	144	0.1	8,618	785	0.4
	West	9,247	823	0.4	7,942	174	0.1

Table 5.2-3
Cumulative Changes in Traffic Noise Along Freeway Segments

Freeway Segment	Travel Direction	AM Peak Baseline Traffic	AM Peak Program Traffic	AM Peak Increase in dB	PM Peak Baseline Traffic	PM Peak Program Traffic	PM Peak Increase in dB
I-80 East of I-80/I-580 Split	East	8,791	213	0.1	10,170	830	0.3
	West	9,332	855	0.4	9,045	204	0.1
I-880 Connector to I-80 East	North	3,009	213	0.3	2,606	831	1.2
	South	1,968	855	1.6	2,042	204	0.4
I-880 Connector to I-80 West	North	1,897	5	0.0	701	1,206	4.3
	South	1,297	9	0.0	1,629	277	0.7
I-880 North of 7th St.	North	2,988	16	0.0	4,005	18	0.0
	South	2,647	25	0.0	4,200	7	0.0
I-880 South of 7th St.	North	4,249	898	0.8	4,131	231	0.2
	South	2,925	277	0.4	4,221	860	0.8
I-880 North of-980	North	5,210	882	0.7	4,192	213	0.2
	South	2,932	224	0.3	4,625	694	0.6
I-880 South of I-980	North	8,459	830	0.4	8,085	209	0.1
	South	5,968	293	0.2	7,068	784	0.5
I-880 North of I-238	North	8,555	620	0.3	8,032	157	0.1
	South	8,335	232	0.1	9,508	582	0.3
I-880 South of I-238	North	7,555	580	0.3	9,254	145	0.1
	South	10,313	178	0.1	8,558	556	0.3
I-238	East	3,282	54	0.1	5,330	26	0.0
	West	5,878	40	0.0	3,798	12	0.0
I-580 East of I-238	East	6,424	54	0.0	9,135	26	0.0
	West	9,364	40	0.0	6,670	12	0.0
I-580 West of I-238	East	6,966	44	0.0	7,595	249	0.1
	West	6,171	256	0.2	6,621	56	0.0
I-580 East of I-980/SR-24	East	4,283	124	0.1	8,500	671	0.3
	West	7,742	693	0.4	5,634	153	0.1
I-580 West of I-980/SR-24	East	6,752	144	0.1	8,964	785	0.4
	West	8,485	822	0.4	7,916	174	0.1
I-980	East	3,050	15	0.0	6,389	26	0.0
	West	6,310	30	0.0	3,088	11	0.0
SR-24 East of I-580	East	3,976	118	0.1	7,288	515	0.3
	West	7,315	528	0.3	4,340	127	0.1

Source: Traffic information from "Freeway LOS.xls", Dowling Associates, Inc. 2002.

For non-freeway roads, Table 5.2-4 shows the 2020 link volumes also provided by the traffic study (Dowling Associates, Inc. 2002). None of the intersections would generate a noise increase greater than 5 dB.

Table 5.2-4
Cumulative changes in Traffic Noise Along Non-Freeway Roads

	2020 Link Volumes					
	AM Peak			PM Peak		
Intersection	Baseline Traffic	Program Traffic	Increase in dB	Baseline Traffic	Program Traffic	Increase in dB
West Grand/Maritime	1,106	281	1.0	1,479	27	0.1
West Grand/Frontage Road	2,098	27	0.1	2,197	268	0.5
West Grand/Mandela	1,827	137	0.3	1,994	139	0.3
West Grand/Adeline	1,726	129	0.3	2,375	132	0.2
West Grand/Market	1,952	1,016	1.8	1,853	1,035	1.9
West Grand/San Pablo Avenue	2,694	794	1.1	3,103	801	1.0
West Grand/MLK Jr	1,943	797	1.5	2,069	804	1.4
West Grand/Northgate	2,335	798	1.3	2,614	803	1.2
West Grand/Harrision	5,063	258	0.2	5,640	254	0.2
7th/Maritime	3,588	846	0.9	2,263	672	1.1
7th/I-880 SB Ramp	2,002	770	1.4	1,363	1,029	2.4
7th/I-880 North Ramp	1,900	1,236	2.2	1,660	916	1.9
7th/Peralta	919	122	0.5	862	122	0.6
7th/Mandela	1,524	129	0.4	1,535	127	0.3
7th/Union	1,888	128	0.3	1,777	128	0.3
7th/Adeline	2,192	334	0.6	2,048	338	0.7
7th/Market	2,412	330	0.6	2,638	304	0.5
7th/Harrison	3,755	173	0.2	5,162	42	0.0
7th/Jackson	2,177	170	0.3	3,106	41	0.1
6th/Jackson	2,140	170	0.3	2,538	41	0.1
5th/Union/I-880 Ramps	2,287	69	0.1	1,782	179	0.4
5th/Adeline	2,703	237	0.4	2,064	321	0.6
I-880 Off Ramp/Market	1,929	146	0.3	1,773	55	0.1
5th/Broadway	2,612	44	0.1	3,139	178	0.2
3Road/Adeline	1,652	232	0.6	1,383	141	0.4
3Road/Market	1,306	104	0.3	1,467	49	0.1
14th/Mandela	624	329	1.8	546	357	2.2
12th/Brush	3,437	30	0.0	2,026	11	0.0
12th/Castro	1,497	20	0.1	3,462	31	0.0
27th/SR 24-580 Off Ramp	2,563	394	0.6	1,803	278	0.6
27th/SR 24-580 On Ramp	2,005	78	0.2	3,048	356	0.5
San Pablo Avenue/Adeline	3,192	137	0.2	3,738	135	0.2
W MacArthur/Market	2,001	137	0.3	2,872	134	0.2
Powell/I-80 Frontage Road	3,352	52	0.1	4,355	53	0.1
Powell/I-80 NB Ramps	3,772	61	0.1	5,209	94	0.1
Powell/Christie	3,485	52	0.1	4,969	52	0.0
Powell/Hollis	2,534	52	0.1	3,815	52	0.1
Powell/San Pablo Avenue	4,189	52	0.1	4,473	52	0.1
StanfoRoad/Market	2,836	52	0.1	3,387	54	0.1
StanfoRoad/MLK Jr Way	4,418	13	0.0	5,667	14	0.0
Ashby/7th	3,045	103	0.1	3,336	106	0.1
Ashby/San Pablo Avenue	4,328	104	0.1	4,743	104	0.1
Marina Village/Constitution	3,715	103	0.1	4,233	106	0.1
Atlantic/Webster	4,776	103	0.1	4,476	105	0.1
Atlantic/Constitution	3,882	103	0.1	4,028	106	0.1
Loop Road/Redevelopment Spine	n/a	601	n/a	n/a	541	n/a

Source: Traffic information from Dowling Associates, Inc. 2002.

In combination with past, other current an probable future projects and programs, including the Bay Bridge Replacement project, the Oakland Airport Development Program, expansion of San Francisco Airport, and the Vision 2000 Program, as well as build-out of area general plans, redevelopment as proposed is not expected to result in cumulative noise impacts from traffic.

There are two factors considered for cumulative rail impacts – increase in number of trains and the relocation of train activity relative to previous evaluations of noise from rail operations as described in the JIT EIR (Port of Oakland 1998). The approximately 10 percent increase in the number of daily trains to 25.4 would cause train noise levels of 57 dBA CNEL (estimated in the JIT EIR) to increase by less than 1 dBA. Although the New Intermodal Facility would move existing JIT functions (railyard operations) about 60 percent closer to noise-sensitive land use, or approximately 1,100 feet away, it is expected that the noise environment will continue to be dominated by I-880, BART, and aircraft sources, and the contribution of redevelopment to noise levels would not be cumulatively considerable.

Mitigation: Mitigation is not warranted.

❖ ❖ ❖

5.2.6 Cultural Resources

There is no evidence that significant cumulative impacts currently exist relative to loss of archaeological or paleontological resources, or human remains to which the proposed redevelopment program could contribute. CEQA and federal cultural resources laws (as described in Section 4.6: Cultural Resources) require effective mitigation of such impacts as they occur on a case-by-case basis through avoidance or data recovery. Therefore, except in rare cases where data recovery may destroy the integrity of a resource, action-specific effects are avoided through site-specific mitigation, and cumulative effects to archaeological and paleontological resources are not significant.

Because archaeological or paleontological resources or human remains are not known to occur in the redevelopment project area, in combination with past projects, other current projects, and probable future projects, redevelopment as proposed would not result in or contribute to impacts on such resources.

Impacts and Mitigation

Impact 5.6-1: Loss of historic resources.

Bay Area redevelopment has resulted in the significant cumulative and permanent loss of historic resources, including buildings, structures, and historic districts. In particular, redevelopment of Bay Area military bases for community use, including FISCO reuse for the Vision 2000 Program, has resulted in, and is expected to continue to result in loss of a portion or all World War II-era resources at specific bases (depending on final reuse plans). These resources document an important time in American history, but due to their design, condition, or

location, are not suited for modern community reuse, and must be demolished to accommodate such reuse. While a great amount of data has been recovered from these structures in order to minimize the effect of their demolition, no region-wide mitigation program exists for the loss of Bay Area military cultural resources, and their permanent and cumulative loss is considered an unavoidable adverse impact. The contribution of proposed redevelopment to cumulative impacts on historic resources would be cumulatively considerable, and the incremental effect of the redevelopment program is considered significant. With application of all feasible mitigation, the impact is reduced, but not to a level that is less than significant, and the residual impact is considered unavoidable and adverse.

Mitigation: Mitigation is recommended in Section 4.6, for redevelopment program impacts. Additional feasible redevelopment-specific and cumulative mitigation is not available.

❖ ❖ ❖

5.2.7 Hazardous Materials

There is no evidence that significant cumulative impacts currently exist relative to exposure to hazardous materials to which the redevelopment program could contribute. As elsewhere, hazardous materials in and around the City of Oakland and adjacent jurisdictions for both operations and construction and remediation are required to be handled in accordance with applicable regulations intended to protect public health and safety, as described in Section 4.7: Hazardous Materials. While occasional upset events may occur resulting in release of hazardous materials or wastes, they do not occur at a frequency greater than in other urban areas and must be remedied pursuant to applicable laws. In combination with past projects, other current projects, and probable future projects, redevelopment as proposed could cumulatively increase the quantity of hazardous materials handled in Oakland and adjacent jurisdictions. Because these materials must be handled in accordance with laws intended to protect public health and safety, the potential increase in their transport, use, and disposal does not represent a significant cumulative impact.

Benefits

The project area includes areas of contamination, as described in Section 4.7, as do all other Bay Area military facilities slated for realignment and closure (California Economic Diversification and Revitalization (CEDAR) Program 2000). Implementation of redevelopment, in concert with remediation of contaminants as required by regulatory agencies, would remediate site contamination, a cumulative environmental benefit to Oakland. Throughout the Bay Area, redevelopment of military bases for community use would result in widespread remediation of contamination and hazardous wastes, a substantial cumulative environmental benefit.

❖ ❖ ❖

Impact 5.7-1: Increased exposure to hazardous wastes during construction.

Should multiple redevelopment demolition/deconstruction and remediation efforts in structures containing hazardous materials or wastes, or multiple ground-disturbing construction efforts concurrently occur in areas where soils are contaminated with hazardous wastes in and around the redevelopment project area, workers or others could be exposed to an increased cumulative risk of contact or ingestion/inhalation of hazardous wastes. With adherence to existing applicable laws limiting human exposure to hazardous substances as described in Section 4.7, the cumulative impact is considered less than significant.

Mitigation: Mitigation is recommended in Section 4.7 and adherence to existing regulations is required for redevelopment program impacts that would reduce the impact as well as the incremental contribution of redevelopment to a level that is less than significant.

❖ ❖ ❖

5.2.8 Population, Employment, and Housing

There is no evidence that significant cumulative impacts currently exist relative to displacement of housing units, or that such impacts are likely to result from implementation of the redevelopment program as proposed. Large-scale clearance of housing units has not occurred in the Bay Area, and in combination with past projects, other current projects, and probable future projects such as the Catellus mixed-use project, reuse of NAS Alameda, and build-out of the Oakland General Plan, redevelopment as proposed is expected to increase—not displace—housing units, and would not result in cumulative impacts to the amount of housing stock.

Benefits

At least 20 percent, and up to 25 percent of the tax increment generated by redevelopment would be set aside to increase, improve, and preserve the supply of low-income housing in the City of Oakland, a substantial benefit to increasing affordable housing stock.

The inclusion of approximately 375 live/work units would augment the available supply of housing in Oakland, a cumulative benefit.

As described in Section 4.8: Population, Employment, and Housing, redevelopment is expected to generate approximately 46,100 new direct and indirect/induced jobs in the Bay Area region. This is a substantial cumulative benefit.

❖ ❖ ❖

Impacts and Mitigation

Impact 5.8-1: Substantial population growth.

As in-migration to the Bay Area responded to job generation, the economic expansion of the late 1990s resulted in cumulative population growth that exceeded planning projections regarding both population and housing growth. Population grew at a faster rate than household rate, and demand for Bay Area housing exceeded supply: from 1990 to 2000, the Bay Area region increased population by 12.9 percent, and households (occupied units) by 9.8 percent. For the same period, Oakland increased population by 7.3 percent and households by 4.3 percent. Therefore, while Oakland grew during the 1990s, it did not keep pace with the regional rate of either population or household growth. While the region experienced cumulatively substantial growth in both population and housing, Oakland did not make a cumulatively considerable contribution to that growth (ABAG 2001).

Through 2020, the region is expected to experience more moderate rates of population and household growth than in the recent past, and Oakland is projected to continue to trail the region in its rate of growth of both population and households. From 2000 through the build-out horizon of 2020, the region is not expected to experience unusually high growth; Oakland—including redevelopment as proposed in this EIR—is projected to continue to lag behind the region (ABAG 2001). The contribution of redevelopment to population or housing growth would not be cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation is not warranted.

❖ ❖ ❖

Impact 5.8-2: Displacement of low-income households.

The Bay Area region has experienced substantial unanticipated population growth in the past decade, leading to a cumulative imbalance of effective housing demand versus supply ("effective demand" is demand that is legally and financially capable of consuming available supply). While most households benefit during times of economic expansion, gentrification—the displacement of existing households of relatively lesser economic means by those of relatively greater economic means—can occur. While not direct physical displacement, gentrification nevertheless results in gradual economic displacement of households of lesser economic means. The expansion of the Bay Area economy during the late 1990s resulted in gentrification in the Bay Area region. As described above, pursuant to the Community Redevelopment Law, monies generated by proposed redevelopment would be set aside to increase, improve, and preserve the supply of low-income housing in Oakland, which would counter-balance the effects of gentrification. In addition, redevelopment as proposed includes substantial housing near the source of new jobs; assuming that new OARB area workers take advantage of newly available nearby housing stock, the contribution of redevelopment to gentrification would not be

cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation is not warranted.

❖ ❖ ❖

5.2.9 Public Services and Utilities

Impacts and Mitigation: Public Services

Impact 5.9-1: Increased demand for fire-related services.

There is no evidence that cumulative impacts currently exist relative to fire-related services (fire suppression, first responder medical emergency, and hazardous materials response) to which the redevelopment program could contribute. As described in Section 4.9: Public Services and Utilities, more than one fire station serves the redevelopment project area and surrounding area with fire, hazmat, and first responder medical emergency services. Redevelopment in combination with other past, present, and probable future actions, including projects of the West Oakland Cumulative Growth Scenario Update, could increase demand for fire-related services to the extent that response time goals of the Oakland Fire Department could not be met at the redevelopment project area, or other areas served by local stations, a significant cumulative impact. With implementation of mitigation measures as described in Section 4.9 the cumulative impact would be reduced to a level that is less than significant.

Mitigation: Mitigation is recommended in Section 4.9 for redevelopment program impacts that would completely address program-generated increased demand for fire-related services. Additional mitigation is not warranted.

❖ ❖ ❖

Impact 5.9-2: Increased demand for police protection services.

There is no evidence that cumulative impacts currently exist relative to police protection services to which the redevelopment program could contribute. While the Port of Oakland generates special traffic and parking enforcement needs related to trucking that could otherwise drain needed area-wide police resources, the Port funds the cost of additional required resources. Redevelopment in combination with other past, current, and probable future actions, including projects of the West Oakland Cumulative Growth Scenario Update, could increase demand for police protection services to the extent that response time goals of the Oakland Police Department could not be met, a significant cumulative impact.

Mitigation: As described in Section 4.9, existing funding mechanisms applied to individual redevelopment activities would allow the City to rectify both redevelopment specific and the cumulative impact to a level that is less than significant. Additional mitigation is not warranted.

❖ ❖ ❖

Impact 5.9-3: Increased demand for library services.

There is no evidence that cumulative impacts currently exist relative to library services. The Oakland Library system has major facilities in West Oakland outside the redevelopment project area that operate efficiently and serve the community well. Redevelopment in combination with other past, current, and probable future actions, including projects of the West Oakland Cumulative Growth Scenario Update, could increase demand for library service to the extent that new facilities would be required.

Mitigation: As described in Section 4.9, existing funding mechanisms applied to individual redevelopment activities would allow the City to rectify both redevelopment specific and the cumulative impact to a level that is less than significant. Additional mitigation is not warranted.

❖ ❖ ❖

Impact 5.9-4: Increased demand for hospital services.

There is no evidence that cumulative impacts currently exist relative to hospital services to which the redevelopment program could contribute. Redevelopment in combination with other past, current, and probable future actions, including projects of the West Oakland Cumulative Growth Scenario Update, could increase demand for hospital services to the extent that new facilities would be required. Redevelopment would replace older, less safe facilities with more modern, safer facilities, and it is expected redevelopment would have little, if any, effect on demand for hospital services; the contribution of the project area redevelopment to demand for hospital services would not be cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation is not warranted.

❖ ❖ ❖

Impact 5.9-5: Increased demand for water.

EBMUD has stated it has sufficient water supplies to serve demand as presented in non-drought years, but cannot serve all demand presented in times of drought, and the water supply is considered cumulatively impacted. Redevelopment as proposed would contribute to this shortage, and the impact is considered significant.

As described in Section 4.9, redevelopment would be required to implement measures that would reduce redevelopment-specific water demand to the extent practicable. In addition, the City of Oakland recently implemented a reclaimed water landscaping ordinance pursuant to the Recycling in Landscaping Act (Government Code §§ 65601-65607) to require both public and private new facilities of a certain size located within water reuse areas to include provision for

the use of reclaimed water for irrigation in accordance with CCR Title 22. This requirement would further reduce the need for potential water within Oakland outside the redevelopment project area. With implementation of redevelopment-specific mitigation measures, and with implementation of Oakland's recently-adopted recycled water ordinance, the contribution of project area redevelopment to water demand would not be cumulatively considerable, and the residual incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation as recommended in Section 4.9 for redevelopment program impacts is adequate. Additional mitigation for cumulative effects is not warranted.

❖ ❖ ❖

Impact 5.9-6: Increased sewer flows and demand for sewage transport and treatment services.

There is no evidence that cumulative impacts currently exist relative to sewage transport and treatment services to which the redevelopment program could contribute. As described in Section 4.9, EBMUD has sufficient sewage transport and treatment capacity to serve reasonably anticipated need. Redevelopment in combination with other past, current, and probable future actions could increase demand for sewage transport and treatment services to the extent that new or expanded facilities would be required. As described in Section 4.9, each new action that could increase sewer flows must demonstrate to EBMUD that capacity exists in the sewage transport system for those flows. The capacity of the sewage transport system and treatment system are related, and by demonstrating on a case-by-case basis that the transport system has adequate capacity to accommodate flows, the applicant is also demonstrating the treatment system has adequate capacity. As discussed in Section 4.9, the existing system has capacity to accommodate all flows from the redevelopment program; the contribution of project area redevelopment to sewer demand would not cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant. At the time EBMUD determines new regional transport and treatment facilities are required, it will assess local jurisdictions their fair share of costs of improvements.

Mitigation: Mitigation is not warranted.

❖ ❖ ❖

Impact 5.9-7: Increased demand for solid waste services.

There is no evidence that cumulative impacts currently exist relative to solid waste services to which redevelopment could contribute. As described in Section 4.9, both landfills and the transfer station that serve the area have current sufficient capacity to serve existing need and redevelopment as proposed. Both major landfills accepting waste from the redevelopment project area, however, are expected to reach capacity before the build-out horizon. Redevelopment in combination with other past, current, and probable future actions, including the build-out of the Oakland, Emeryville, and Alameda General Plans, as well as nearly any of

the development projects in the East Bay, could increase demand for solid waste services to the extent that new or expanded facilities would be required. Redevelopment as proposed, particularly construction activities, would make a considerable contribution to this demand, and the impact is considered significant. As described in Section 4.9, redevelopment would be required to implement measures that would reduce action-specific demand for solid waste services to the extent practicable. With implementation of these measures, the contribution of project area redevelopment to solid waste demand would not be cumulatively considerable, and the residual incremental effect of the redevelopment program is considered less than significant. In addition, the City of Oakland does and intends to continue to meet its state-mandated goals for source diversion and recycling, further reducing the City's contribution to the cumulative effect.

Mitigation: Mitigation as recommended in Section 4.9 for redevelopment program impacts is adequate. Additional mitigation for cumulative effects is not warranted.

❖ ❖ ❖

Impact 5.9-8: Increased demand for energy.

Evidence exists that cumulative impacts currently exist relative to energy supplies during peak demand. Evidence also exists that sufficient and likely excess energy supplies will exist within the next three years, and the current cumulative impact will be eliminated. Redevelopment will use more energy efficient building design relative to existing facilities, and will facilitate the use of solar energy systems, and the contribution of redevelopment would not be cumulatively considerable. The incremental effect of redevelopment is considered less than significant.

Mitigation: Mitigation is not warranted.

❖ ❖ ❖

5.2.10 Recreation and Public Access

The City of Oakland does not meet its goals of 10.0 acres of total and 4.0 acres of urban parkland per 1,000 residents, as stated on the *Open Space, Conservation, and Recreation* Element of the Oakland General Plan (City of Oakland 1996), and a cumulative deficit exists.

There is no evidence that significant cumulative impacts currently exist relative to construction or expansion of recreational facilities that may have an adverse physical effect on the environment, or that such impacts are likely to result from implementation of the redevelopment program as proposed.

Benefits

In combination with existing recreation facilities, those under construction, and planned facilities, at build-out the project area would include approximately 65 acres of parks and other public

open space. With approximately 975 new project area residents due to redevelopment, this amount of parkland is more than six times the OSCAR goal for total parkland per capita and more than 16 times the OSCAR goal for urban total parkland per capita. This would help the City to meet its goals, mitigating the current parkland deficit; this would be a substantial cumulative environmental benefit.

Development of Bay Trail segments and public open space as part of redevelopment and the Bay Bridge Replacement Project would contribute to development of regional public access to and along the Bay. This would be a substantial cumulative environmental benefit.

❖ ❖ ❖

5.2.11 Aesthetics

There is no evidence that significant cumulative impacts currently exist relative to creation of light, glare, or shadows, or that such impacts are likely to result from implementation of the redevelopment program as proposed. The City and surrounding jurisdictions are located in an urban environment with substantial nighttime lighting appropriate to the context. As advances in lighting technology progress over time, effective lighting improves, and light scatter is reduced, improving nighttime light and glare.

Visual blight in the redevelopment project area and surrounding community is well established (HEG 2000; Section 4.11: Aesthetics), and a significant cumulative impact exists relative to the degraded visual environment. The redevelopment program would not contribute to this existing cumulative impact.

Benefits

In combination with other Bay Area base conversions, redevelopment as proposed would result in an overall visual setting more rich and less homogeneously industrial in nature. In addition, by improving public access, base conversions would cumulatively increase visual access to San Francisco Bay. This would be a substantial cumulative environmental benefit.

Cumulatively, the need for nighttime illumination would not be substantially different than at present. Modern security lighting, however, is available in designs that minimize off-site scatter of light, and the cumulative visual effect is expected to be a reduction in light and glare. This would be a cumulative environmental benefit.

❖ ❖ ❖

5.2.12 Biological Resources

Special-status species are known to or have the potential to occur in the Bay Area region, including plants, as well as avian, terrestrial, and aquatic wildlife species. Because resource

agencies have classified these species as sensitive, meaning their survival or recovery is uncertain, they are considered cumulatively impacted.

Wetlands are an important water quality and biological resource, and are federal and/or state protected waters. California has lost more than 90 percent of its original wetlands, and the Bay Area has lost approximately 92 percent of its original tidal and seasonal wetlands (Save the Bay 2000). Due to these losses, wetlands are considered cumulatively impacted.

Impacts and Mitigation

Impact 5.12-1: Effects to sensitive species.

As described in Section 4.12: Biological Resources, several special-status species are known to or have the potential to occur near the redevelopment project area, including and not limited to, adjacent waters and the proposed Alameda Point Wildlife Refuge. Redevelopment in combination with construction of other current, and probable future projects, including the Vision 2000 Program, 50-foot Navigation Project, and Bay Bridge Replacement Project, could disturb aquatic habitat or increase turbidity, further affecting special-status species.

As described in Section 4.12, redevelopment as proposed includes mitigation measures that would avoid or minimize effects to sensitive species from both construction and operations; the contribution of redevelopment to impacts on sensitive species would not be cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation as recommended in Section 4.12 for redevelopment program impacts is adequate. Additional mitigation for cumulative effects is not warranted.

❖ ❖ ❖

Impact 5.12-2: Loss of protected wetlands and waters of the U.S.

Bay Area development has resulted in and will continue to result in the cumulative and permanent loss of wetlands. In addition, fill for transportation facilities, including the Oakland sea and air ports, Bay Bridge, and San Francisco Airport have and will result in loss of Bay waters. Redevelopment as proposed includes mitigation to compensate for the loss of such isolated wetlands, should fill occur, and the contributing redevelopment would not be cumulatively considerable. In addition, redevelopment as proposed includes mitigation for loss of Bay waters. The contribution of redevelopment to the loss of Bay waters may be cumulatively considerable and the impact is considered significant. Mitigation as recommended in Section 4.12 would compensate for the impact, rendering the contribution of redevelopment less than considerable, and the incremental effect of redevelopment is considered less than significant.

Mitigation: Mitigation as recommended in Section 4.12 for redevelopment program impacts is adequate. Additional mitigation for cumulative effects is not warranted.

❖ ❖ ❖

Impact 5.12-3: Redevelopment could increase potential risk of invasive species being established in San Francisco Bay.

Based upon the San Francisco Bay Area Seaport Plan, it is estimated that cargo throughput at San Francisco Bay Ports will increase by over 200% by 2020. This will increase the number of ship calls. The increase in ship calls, therefore will likely result in an unquantifiable increase in the volume of ballast water discharges. As discussed in Section 4.12, there are many uncertainties regarding the quality of those discharges and the corresponding risks of NIS introductions. However, if it is assumed that no substantial improvements are made in ballast water management/treatment and control of hull fouling, then the risk of new NIS introductions from ship traffic bay-wide will be potentially cumulatively significant by 2020.

Seaport Plan Projections of Throughput Capabilities in 2020[a]

Cargo Type metric tons	2020	2000	% Increase
Container	32,567,000	14,334,000	227
Break Bulk	1,146,000	498,000	230
Neo-Bulk	2,117,000	1,290,000	164
Dry Bulk	6,902,000	3,677,000	188
Liquid Bulk	983,000	654,000	150
Total	43,715,000	20,453,000	214

Source: San Francisco Bay Seaport Plan

Note: [a] Includes only ports within BCDC's jurisdiction—excludes Stockton and Sacramento.

As described in Section 4.12, the Port of Oakland would be required to implement measures that would reduce its redevelopment-specific effect with regard to invasive species to less than significant. With implementation of these measures, the mitigated contribution would remain cumulatively considerable.

Mitigation: Although mitigation is recommended in Section 4.12 for redevelopment program impacts, additional feasible redevelopment-specific and cumulative mitigation is not available.

❖ ❖ ❖

5.2.13 Geology, Soils, and Seismicity

The Bay Area is a seismically active region, and persons and property within this region are at risk from earthquake damage; as the number of structures and people increase due to redevelopment as proposed in combination with past, other current, and probable future projects comprising people-attracting land uses, the cumulative risk to persons and property increases.

There is no evidence that significant cumulative impacts currently exist relative to erosion of topsoils, exposure to expansive soils, or exposure to sub-grade risks to which redevelopment as proposed would contribute, or that such impacts are likely to result from implementation of the redevelopment program as proposed. The redevelopment project area is primarily fill, which does not represent topsoil; and expansive soils and sub-grade features, should they exist at the project area, would be effectively managed on a case-by-case basis, as described in Section 4.13: Geology, Soils, and Seismicity.

Impacts and Mitigation

Impact 5.13-1: Exposure of persons or property to seismic risk.

By law, new structures must be designed to applicable California Building Code standards, substantially reducing seismic risk. Redevelopment as proposed includes mitigation measures that would further minimize seismic risk. With implementation of these measures, the contribution of project area redevelopment to seismic risk would be rendered less than cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation as recommended in Section 4.13 for redevelopment program impacts is adequate. Additional mitigation for cumulative effects is not warranted.

❖ ❖ ❖

5.2.14 Groundwater

There is no evidence that significant cumulative impacts currently exist relative to depleted groundwater supplies. Approximately 40 percent of available yield is extracted annually from the East Bay Plain Groundwater Basin (less than 2 percent of total water used in the Plain), well below safe yields (Regional Water Quality Control Board [RWQCB] 1999). Redevelopment would be served by EBMUD, not wells, and would have no effect on groundwater quantity.

Due to the urbanized, largely paved nature of the Oakland and adjacent jurisdiction flatlands, it is assumed that substantial interference with natural recharge may occur. As a largely paved, urbanized area, reuse of redevelopment project area land would result in similar impervious coverage, and as proposed, redevelopment would have no measurable additional effect on groundwater recharge.

Due to its brackish quality, groundwater beneath the majority of the project area (in the Oakland Shoreline/Alameda Point Brackish Shallow Water Groundwater Zone) has been proposed for de-designation as a source of municipal drinking water (RWQCB 1999), and the quality of groundwater is considered cumulatively impacted.

Impacts and Mitigation

Impact 5.14-1: Concurrent operation of multiple remediation wells or construction dewatering activities could further impair groundwater quality.

A described in Section 4.14: Groundwater, it is possible that operation of a well to pump contaminated water to the surface for treatment could create a gradient that causes migration of saline water or other contaminated water into the area. This could also occur with pumping for the de-watering of construction sites. Concurrent operation of proximate multiple pumping activities for redevelopment construction or remediation would increase the probability of this occurring, as well as increasing the intensity of the gradient. Redevelopment as proposed includes mitigation measures that would minimize the effects of remediation wells on groundwater quality. With implementation of these measures, the contribution of redevelopment to groundwater impacts would be rendered less than cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation as recommended in Section 4.14 for redevelopment program impacts is adequate. Additional mitigation for cumulative effects is not warranted.

❖ ❖ ❖

5.2.15 Surface Water

There is no evidence that significant cumulative impacts currently exist relative to risk from flooding, tsunami, seiche, or excessive run-off; or that such impacts are likely to result from implementation of the redevelopment program as proposed. While portions of the City of Oakland and adjacent jurisdictions within 100-year flood and tsunami inundation zones, these higher-risk areas, including portions of the redevelopment project area, are localized, do not represent a substantial cumulative risk (City of Oakland 1972).

The quality of area receiving waters, specifically the San Francisco Bay, are cumulatively impacted. The U.S. EPA identifies San Francisco Bay as a 303(d) water body under the Clean Water Act, meaning it does not achieve water quality standards (EPA 2001). See Section 4.15: Surface Water, for a discussion of parameters of concern. The EPA identifies sources of parameters of concern as atmospheric deposition, industrial and municipal point, non-point, natural, resource extraction, urban runoff/storm sewer, and ballast water.

In addition, California's Bay Protection and Toxic Cleanup Program classifies the entire San Francisco Bay as a High Priority Candidate Toxic Hot Spot. The reason for this classification is potential risk to human health from consumption of non-migratory aquatic wildlife, primarily due to elevated levels of PCBs and mercury in fish tissue.

Impacts and Mitigation

Impact 5.15-1: Construction-related increases in erosion and sedimentation/turbidity.

The U.S. EPA does not identify San Francisco Bay waters as significantly impacted by turbidity (EPA 2001). Concurrent construction or remediation of multiple subsequent redevelopment activities, or of redevelopment with other in- or near-water projects proximate to the redevelopment project area, including the Bay Bridge Replacement Project and the –50-Foot Navigation Improvement Project, could substantially increase turbidity of receiving waters. This would be considered a potential significant cumulative impact to water quality.

With implementation of mitigation measures described in Section 4.15: Surface Water, the contribution of redevelopment on surface water quality would be minimized to the extent feasible, and would be rendered less than cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation as recommended in Section 4.15 for redevelopment program impacts is adequate. Additional mitigation for cumulative effects is not warranted.

❖ ❖ ❖

Impact 5.15-2: Increases in 303(d) pollutants and toxics.

Intensification of (particularly waterfront) land uses, increased vehicle miles traveled, and increased maritime activity resulting from redevelopment and from the Vision 2000 Program, the Bay Bridge Replacement Project, and the –50-Foot Navigation Project, could result in increases in 303(d) water pollutants and toxics and/or local increases in runoff quantities, which could contribute to further impairment of Bay waters. The impacts related to the risk of introduction of exotic invasive species in Bay water are evaluated in Section 4.12: Biological Resources, and in this section under Impact 5.12-3.

With implementation of mitigation measures described in Section 4.15, the contribution of redevelopment to surface water quality impacts would be rendered less than cumulatively considerable, and the incremental effect of the redevelopment program is considered less than significant.

Mitigation: Mitigation as recommended in Section 4.15 of this EIR for redevelopment program impacts is adequate, and additional mitigation for cumulative effects is not warranted.

❖ ❖ ❖

❖

6. CONSIDERATION OF IMPACTS OF PROPOSED REDEVELOPMENT

Section 21100 of the California Environmental Quality Act (CEQA) sets forth requirements for the disclosure of types of impacts in an Environmental Impact Statement (EIR). Sections 15126 and 15128 of the CEQA Guidelines identify the following subjects to be addressed in an EIR related to impacts that would occur with implementation of a proposed project or program:

- effects determined to be less than significant;
- significant environmental effects;
- significant environmental effects that cannot be avoided;
- mitigation measures to avoid or reduce significant impacts;
- alternatives to avoid or reduce significant impacts;
- significant irreversible environmental changes; and
- the potential to induce growth and associated secondary impacts.

Chapter 4: Setting and Baseline, Impacts, and Mitigation, and Chapter 5: Cumulative Impacts, include CEQA-required information regarding less than significant program impacts, significant and unavoidable adverse program impacts, and feasible measures recommended to mitigate significant impacts. Chapter 7: Alternatives to the Proposed Redevelopment Program, includes CEQA-required information regarding alternatives to avoid or reduce significant impacts of program implementation. These subjects are also summarized in Chapter 1: Summary.

The remainder of this chapter presents information regarding the two CEQA-required impact discussions not addressed elsewhere in this document: significant irreversible environmental changes that would occur with implementation of the redevelopment program; and the potential of the redevelopment program to induce growth and associated secondary impacts.

6.1 SIGNIFICANT, IRREVERSIBLE ENVIRONMENTAL CHANGES OF REDEVELOPMENT

6.1.1 Definition

Irreversible environmental changes may include the following:

- Significant consumption of non-renewable resources (*e.g.*, soils, water, fossil fuels) during construction or during operation of an action are considered irretrievable commitments. A large commitment of non-renewable resources makes their removal from an area or non-use thereafter unlikely. Irretrievable commitments of resources should be evaluated to ensure consumption is warranted.

- Primary impacts and, in particular, secondary impacts (such as a new roadway that provides access to a previously inaccessible area) generally commit future generations to similar uses.
- Environmental accidents associated with an action may be irreversible.

6.1.2 Analysis

For purposes of this analysis, the unavoidable, adverse, long-term impacts of redevelopment identified in Chapter 4 and summarized in Chapter 1 are considered irreversible environmental changes, and others are identified in the following discussion.

Commitment of the following resources would occur under redevelopment as proposed:

Land. Approximately 700 acres of land would be permanently committed for a variety of uses. The majority of this land is currently developed, or was previously developed and is now vacant. Although this is a substantial land dedication, given its current developed status, its irreversible commitment to the redevelopment program is considered less than significant.

Bay. Approximately 26 net acres of Bay surface, 26 net acres of deepwater and related habitats, and 2.5 million cubic yards of Bay volume would be permanently committed to creating fastland for New Berth 21. The irreversible commitment of this Bay resource to redevelopment is considered significant; with implementation of mitigation (permit conditions) imposed by the relevant regulatory agencies at the time of permitting, this commitment would be rendered less than significant.

Non-Renewable Energy. As a result of redevelopment, fossil-based products would be permanently committed to fuel construction-phase equipment; operations-phase mobile equipment, including vehicles (passenger cars, busses, transport trucks), trains, cargo handling equipment, and ships; and lighting, climate control, and site maintenance. The amount of energy consumed to implement redevelopment is not expected to be unusually large or wasteful, and its irreversible commitment is not considered significant.

6.2 GROWTH-INDUCING IMPACTS

6.2.1 Definition

Growth-inducing impacts include ways in which a proposed action could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in the definition of growth-inducing projects are those that would remove obstacles to population growth. For example, a major expansion of a waste water treatment plant might, for example, promote more construction in service areas. Additionally, increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. An EIR must also discuss the

characteristics of some projects that may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively.

The environmental impacts of growth inducement are secondary, or indirect, physical effects of growth that may be passively "accommodated" or actively stimulated by a project. Secondary effects of growth inducement typically include, but are not limited to, increased traffic, degradation of air quality, loss of biological resources, and increased demand on public services. The Oakland General Plan establishes land use development patterns and growth policies that allow for the orderly expansion of urban development supported by adequate urban public services, such as water supply, roadway infrastructure, sewer service, schools, parks, and solid waste service. An action that would result in growth that conflicted with the General Plan could indirectly cause additional adverse environmental impacts and other public services impacts not previously envisioned, and not previously evaluated and disclosed under CEQA.

6.2.2 Analysis

Redevelopment as proposed represents "infill" development—development in an area surrounded by urban development, and served by existing utilities and public services. Utilities and public services such as water and sewer already exist at the site. While utilities and service systems would be rebuilt to serve redevelopment, the rebuilt system would be located and sized to serve the redevelopment program: the systems would not be extended into undeveloped or underdeveloped areas outside the redevelopment project area, nor would they include excess capacity that could allow additional growth beyond that envisioned for the redevelopment program. As such, the provision of infrastructure to the redevelopment area would not induce growth beyond that planned under the redevelopment program and discussed in Chapter 4: Setting and Baseline, Impacts, and Mitigation.

Job generation is a key benefit of this redevelopment program; however, job generation can induce growth by attracting new employees from outside the area. As discussed in Section 4.8: Population, Housing, and Employment, employment from the redevelopment program would result in modest amounts of population and housing growth in the area; these amounts fall well within the estimates of growth projected for Oakland through 2020 by the Association of Bay Area Governments. This modest amount of growth would induce commensurate modest increases in traffic (and associated air pollutants), and demand for infrastructure and public services. These effects would be modest and within projections[1]. Redevelopment would intensify land uses and expand existing transportation facilities, which would result in increased ship, vehicle, and train activity. Reconfiguration of marine and rail facilities and realignment of area roadways would substantially increase efficiencies of the redevelopment project area transportation system. This increase in efficiency would somewhat offset the increased activity,

[1] Increases in population and vehicle activity, and demand for housing and services related to such increases as a direct or indirect result of redevelopment, are discussed in relevant sections of Chapter 4: Setting and Baseline, Impacts, and Mitigation.

and would substantially improve the transportation system relative to future conditions without efficiencies due to redevelopment. Therefore, the growth-inducing impact of redevelopment is considered less than significant.

❖ ❖ ❖
❖

7. ALTERNATIVES TO THE PROPOSED REDEVELOPMENT PROGRAM

CEQA requires an EIR to consider alternatives to a proposed action that could avoid or otherwise reduce the identified significant environmental impacts of the proposed action. In this manner, alternatives serve the same purpose under CEQA as mitigation—development of an environmentally sound action. Analysis of alternatives is intended to support informed decision-making and public participation.

7.1 ALTERNATIVES ANALYSIS METHODOLOGY

The City used the following process to identify a reasonable range of feasible alternatives to the proposed redevelopment plan:

1. Identify objectives.
2. Identify significant impacts to be avoided or reduced.
3. Develop a list of potential alternatives.
4. Develop screening criteria for feasibility.
5. Screen alternatives to a reasonable range.
6. Conduct a comparative analysis of the proposed program and each alternative.

7.1.1 Identify Program Objectives

Through the Base reuse and redevelopment planning processes, the City and Port developed basic objectives guiding future development of redevelopment project area lands within their respective jurisdictions. The full text of proposed program objectives is included in Section 3: Description. A summary of basic program objectives follows:

- Alleviate economic and social degradation.
- Eliminate blighting influences.
- Create a vibrant and balanced land use pattern.
- Strengthen the economic base.
- Allow for sustainable job creation.
- Expand low/moderate-income housing.
- Provide for high-quality public/community services .
- Provide for safe, efficient, effective movement of people and goods.
- Protect, preserve, enhance environmental resources.
- Minimize waste generation, maximize reuse/recycling.

- Accommodate the Port's share of regional cargo throughput in 2020.
- Respond to trends, requirements of maritime shipping.
- Increase Port productivity and efficiency.
- Provide sufficient capacity to substitute for West Coast gateways in event of an emergency.
- Keep competitive with other West Coast ports.

7.1.2 Identify Significant Impacts to Be Avoided or Reduced

Chapter 4: Setting and Baseline, Impacts, and Mitigation, presents a detailed analysis of impacts that could result with implementation of the proposed redevelopment program. A summary of relevant impacts appears in Table 7.5-2, below.

7.1.3 Develop a List of Potential Alternatives

Based on scoping comments and potential significant program impacts, the City developed a suite of reuse or "action" alternatives for consideration, as follows:

- **High Intensity.** This alternative represents the upper range of potential development options within the redevelopment project area.
- **Reduced Intensity.** This alternative represents the lower range of potential development options within the redevelopment project area.
- **Full Maritime.** This alternative examines development of the OARB and Maritime sub-districts solely for Port use and Port-supportive industries and businesses.
- **No New Intermodal Facility.** This alternative examines replacement of the proposed New Intermodal Railyard with other Port maritime and ancillary maritime support (AMS) uses.
- **No New Berth 21.** This alternative is the same as the proposed Redevelopment/Reuse Plan, except that New Berth 21 would not be constructed.
- **Full Adaptive Reuse.** This alternative examines the adaptive reuse of historic structures of the OARB sub-district.
- **Gateway Adaptive Reuse/Eco-Park.** This alternative examines adaptive reuse of Gateway development area structures in the development of an eco-park.

These alternatives are described in detail in Section 7.3: Alternatives Considered and Determined Infeasible, and Section 7.4: Alternatives Put Forth for Further Consideration.

7.1.4 Develop Screening Criteria for Feasibility

Feasibility is an important concept in the selection of alternatives. CEQA (§ 21061) defines feasible as "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic, environmental, social, and technological factors." The

CEQA Guidelines (§ 15364) further include "legal" in the definition of feasibility. Specifically regarding alternatives, the *Guidelines* identify the following factors that may be used to assist the lead agency to make its determination of feasibility:

- site suitability;
- economic viability;
- availability of infrastructure;
- general plan consistency;
- other plans or regulatory limitations;
- jurisdictional boundaries; and
- whether the proponent can acquire or control an optional site.

Because the program is fundamentally linked to reuse of a specific area, the City determined locational alternatives to be infeasible. Therefore, alternatives screening for feasibility utilized all but the last CEQA-identified screening criteria listed above.

7.1.5 Screen Alternatives to a Reasonable Range

Potential alternatives underwent a three-tiered screening process, and were first screened against redevelopment basic objectives as criteria. Any potential alternative that fundamentally did not attain one or more objectives (completely failed to achieve or partially achieve an objective) was eliminated from further consideration, other than the No Redevelopment Program alternative, whose complete analysis is required by CEQA. Next, potential alternatives were screened for their ability to avoid or substantially reduce the significant impacts of the proposed redevelopment program. Those potential alternatives that obviously could not accomplish this were eliminated from further consideration. Potential alternatives were lastly screened for feasibility against the relevant criteria identified above. Those found infeasible were eliminated from further consideration.

Those alternatives that may meet basic program objectives, that may mitigate significant and potentially significant impacts of the proposed program, and that are considered potentially feasible, were put forth for further consideration and comparative analysis in this EIR.

7.1.6 Conduct a Comparative Analysis

Alternatives put forth for further consideration were comparatively evaluated for their ability to attain program objectives. Alternatives put forth for further consideration were also comparatively evaluated for their ability to achieve benefits of the proposed program; to avoid or substantially reduce significant impacts of the proposed program; and for their potential to result in significant impacts not associated with the proposed program. Each alternative was rated,

and then based on the order of its rating was ranked relative to the other alternatives. This analysis is presented in Section 7.5.

7.2 BACKGROUND OF ALTERNATIVES DEVELOPMENT

This EIR evaluates alternatives relative to the proposed redevelopment program as described in Chapter 3: Description. Alternatives for consideration in this EIR were developed as follows:

- the City included a "no action" alternative pursuant to regulatory requirements;
- the City developed several alternatives intended to meet basic program objectives and to avoid or substantially reduce anticipated significant impacts of the proposed program; and
- community members identified several alternatives during EIR scoping.

7.3 ALTERNATIVES CONSIDERED AND DETERMINED INFEASIBLE

The following alternatives were screened and determined to be infeasible:

- Full Adaptive Reuse;
- No New Intermodal Facility;
- No New Berth 21; and
- Reduced Geographic Area.

7.3.1 Full Adaptive Reuse

The purpose of the Full Adaptive Reuse alternative is to avoid or substantially reduce significant environmental impacts of the proposed redevelopment program to historic resources, disclosed in Section 4.6: Cultural Resources. The OARB includes a historic district comprising 19 contributing buildings and three wharves, most of which would be de-constructed (removed) under the proposed redevelopment program. This alternative would preclude the Port from removing buildings that are historic district contributors along existing Maritime Street for construction of the New Intermodal Facility, as well as historic district contributors for construction of New Berth 21. This alternative would also preclude the City from de-constructing historic structures in the Gateway development area to provide for its redevelopment.

This alternative is expected to result in the following buildout:

Table 7.3-1
Build-Out of the Full Adaptive Reuse Alternative

		Redevelopment Sub-District						
		OARB[a]						
Potential Land Uses	**Units**	**Gateway**		**Port**		**Maritime 16th/Wood**		**Total**
Light Industry	sq. ft.	0	0	0	0	0	305,000	305,000
Office, R&D[c]	sq. ft.	961,000	198,000	0	56,500	0	1,437,000	2,652,500
Retail	sq. ft.	0	0	0	0	0	1,300	1,300
Warehouse/Distribution	sq. ft.	0	444,000	0	1,195,000	0	0	1,639,000
Total square feet		**961,000**	**642,000**	**0**	**1,251,500**	**0**	**1,743,300**	**4,597,800**
Live/Work units		**0**	**0**	**0**	**0**	**0**	**375**	**375**
From uses listed above	ac.	75	74		64	0	40	253
Park, Public Access	ac.	29	0	0	0	0	1	30
New Marine Terminals	ac.	0	0	46	0	0	0	46
Marine Terminal Realignment	ac.	0	0		0	0	0	0
Ancillary Maritime Support	ac.	15	0	75	0	0	0	90
New Intermodal Facility	ac.	0	0	0	0	0	0	0
Acres to be redeveloped/reused[d]		**119**	**74**	**121**	**64**	**0**	**41**	**419**
Total acres		228		241		1,290	41	1,800

Notes:

[a] Left-hand columns are square footages or acres to be rebuilt, and right-hand columns are square footages or acres to be adaptively reused.

[b] sq. ft. = square feet; ac. = acres

[c] Includes 50,000 square feet of training facilities for the Joint Apprentice and Training Committee (JATC).

[d] Acreages identified above are gross land use acreage, inclusive of roadway and utility rights-of way.

The Full Adaptive Reuse alternative would generate approximately 10,370 total direct jobs. Accounting for the number of baseline year (1995) jobs—approximately 2,045—this alternative would generate about 8,325 net direct jobs, or 58 percent of the net direct jobs generated by the proposed redevelopment program.

OARB Sub-District, Gateway Development Area

As required under the Reuse Plan, the Full Adaptive Reuse alternative recognizes certain conveyances and commitments of land within the Gateway development area including the following:

- the 3-acre conveyance from the ORA to the Joint Apprenticeship and Training Committee (JATC);
- the 15-acre conveyance from the Army to the East Bay Regional Park District (EBRPD);

- the commitment of Caltrans to provide public access improvements in the area[1];
- the City's commitment to provide 15 acres of land for AMS; and
- the Legally Binding Agreement between the OBRA, City, and the Homeless Collaborative. This alternative assumes the entirety of homeless assistance programs would be located within the OARB sub-district.

Within the remainder of the Gateway development area, approximately 74 acres are located within the OARB Historic District, including Buildings No. 1, 4, 60, 85, 812, 821, 822, and 823, plus portions of Buildings No. 88 and 99, about one-quarter of the total space within the 800-series warehouses, and about two-thirds of the linear frontage of the historic wharves. Under this alternative, these buildings and structures would be retained and adaptively reused for new purposes.

With preservation of historic district buildings, and with the land use commitments identified above for other lands, approximately 75 acres of the Gateway development area would be available for construction of new land uses. At an average floor-area ratio (FAR) of 0.35 (consistent with the Redevelopment and Reuse plans), this remaining land could accommodate approximately 961,000 square feet of new building space.

OARB Sub-District, Port Development Area

Within the Port development area, approximately 64 acres are located within the OARB Historic District, including Buildings No. 90 and 991, portions of Buildings No. 88 and 99, about three-quarters of the total space within the 800-series warehouses, and about one-third of the linear frontage of the historic wharves. Under the Full Adaptive Reuse alternative, these buildings and structures would be retained and adaptively reused, and the Port would not develop the Port-related improvements anticipated for this area. Improvements precluded under this alternative include the following:

- full realignment of Maritime Street, plus any extension of that street (to avoid the loss of Buildings No. 802 to 808, and 991);
- the New Intermodal Facility (to avoid the loss of the same structures); and
- that portion of New Berth 21 located in the Port development area (to avoid loss of Buildings No. 88, 90, 99, Wharf 6, and a portion of Wharf 6½ for berths and terminals).

Without implementation of these Port-related improvements, that portion of Maritime Street south of the OARB Historic District would be realigned in order to incorporate 46 acres of this development area into existing Outer Harbor marine terminals (west of the realigned street). A maritime support center (MSC) would be developed in the area east of the partially realigned Maritime Street. In addition to the MSC, approximately 1.3 million square feet of primarily

[1] This commitment results from BCDC permits conditions for two Caltrans projects: re-construction and realignment of Interstate (I-)-880, and the Bay Bride Replacement project. The requirements of these permits are described in Section 4.10: Recreation and Public Access.

Office/R&D and Warehousing/Distribution uses would be developed in the Port development area.

Maritime Sub-District

Under the Full Adaptive Reuse alternative, the Port would continue to develop, and the Port and its tenants to operate, facilities within the Port area, including facilities of the Vision 2000 Program. Key differences of sub-district development under this alternative relative to the proposed program include the following:

- The Port would not develop the New Intermodal Facility within the Port development area, and the Joint Intermodal Facility (JIT) would remain in its current location.
- Maritime terminal expansion into a portion of the current JIT site would not occur.
- Development of the 75-acre MSC on a portion of the JIT site would not occur in this sub-district (rather, a MSC would be located in the Port development area).
- A reduction in the excavation and Bay fill for New Berth 21 would occur (to avoid loss of historic Wharf 6 and a portion of Wharf 6½ during shoreline reconfiguration).

Rather than invest in a new berth and terminal with less than optimal operational geometry, the Port may elect to not construct New Berth 21, and to continue to operate existing berths in the vicinity (Berths 8, 9, 10, 20, and 21).

16th/Wood Sub-District

Under the Full Adaptive Reuse alternative, the 16th/Wood sub-district would be developed consistent with the proposed redevelopment program, including the preliminary development concept for adaptive reuse of the historic SPRR (Amtrak) station site and Business Mix uses.

Why this Alternative is Considered Infeasible

This alternative would preserve historic structures (buildings and wharves) for reuse, and maintain the integrity of the National Register OARB Historic District; such preservation would prevent key redevelopment components from being developed. Under this alternative, development of new land uses at the Gateway development area would be substantially reduced. In the Port development area, the New Intermodal Facility would not occur, and New Berth 21 would not be constructed in its entirety. These components are necessary to fundamentally achieve basic project objectives. Moreover, the New Intermodal Facility and New Berth 21 are necessary to achieve goals and for consistency with policies of the *San Francisco Bay Plan* and the *San Francisco Bay Area Seaport Plan*, adopted regional planning documents, regarding projected cargo throughput in 2020, as well as minimization of Bay fill.

Under this alternative, the existing JIT would remain in its present location; this would prevent use of the limited land adjacent to the deepwater Outer Harbor, 7th Street, and Inner Harbor areas for expansion of existing marine terminals to 1,000 acres, as is contemplated in the Seaport Plan. A total of 1,000 acres is needed in the Port area for container terminals and related activities for the Port to handle its share of Bay Area throughput of approximately 24.5

million metric tons (MT) per year of containerized cargo in 2020, as described the Seaport Plan. In addition, without development of New Berth 21, the Outer Harbor shoreline would not be fully reconfigured, and would continue to operate under a less efficient geometry, with an inadequate amount of marine terminal and related acreage. In the absence of all Bay fill required for New Berth 21, existing land that would have created the container yard for the new berth would continue to function as marine berths, terminals, and AMS, but would operate under a less efficient geometry. All efficiencies made possible by full shoreline reconfiguration for New Berth 21 would not occur, nor would all increase in efficiencies in adjacent terminals occur, as planned under the proposed redevelopment program. Development of New Berth 21, along with other elements of the proposed program, is an alternative to filling approximately 153 acres of San Francisco Bay in order to achieve projected throughput as described in the Seaport Plan.

As described below, due to the nature of buildings at the Base and existing environmental impairments, this alternative fails to balance historic preservation, site remediation, and economic development goals.

Failure to Achieve Basic Redevelopment Objectives. This alternative was not put forth for detailed analysis, because it fails to achieve several basic redevelopment objectives, as follows:

- **Strengthen the economic base.** While this alternative would partially fulfill this objective by creating jobs, it would not create the types of high-quality jobs envisioned in the Reuse Plan. Due to the character of older buildings at the Base, they have been determined to be suitable for reuse as Class "B" office space. Class B office space is not the type of redevelopment contemplated in the OARB Reuse Plan, which instead mandates that Class A office space be constructed to establish the OARB as the "gateway" to the City of Oakland. The alternative would substantially fail to achieve this program objective.

  Without removal of historic structures designed and located to support a mid-20th century military operation, land use and circulation inefficiencies would prevent generation of sufficient capital to defray anticipated costs of reuse. This alternative would also be limited in its ability to achieve other basic objectives, including alleviation of economic and social degradation, and provision of high-quality public/community services.

- **Accommodate the Port's share of regional cargo throughput in 2020.** As described above, this alternative would prevent the Port of Oakland from handling its share of Bay Area 2020 cargo throughput. The alternative fundamentally fails to achieve this basic program objective.

- **Increase Port productivity and efficiency.** Without the acreage of the existing JIT for marine terminal use, the optimization of rail operations possible with the New Intermodal Facility, and the inter-marine terminal efficiencies made possible by New Berth 21, the productivity and efficiency of the Port would be limited and may, in fact, deteriorate over time as increased throughput is processes through a facility that cannot accommodate it. The alternative fundamentally fails to achieve this program objective.

- **Provide sufficient capacity to substitute for other West Coast gateway ports in the event of natural disaster or other emergency.** In the absence of substantially increased Port productivity and efficiency that cannot be achieved under this alternative, the Port would not be able to provide additional throughput capacity, required in the event an emergency (such as a major earthquake) disabled one of the two other West Coast cargo gateways (Los Angeles/Long Beach or Seattle/Tacoma). The alternative fundamentally fails to achieve this program objective.

- **Keep competitive with other West Coast ports.** In the absence of future major increases in acreage in the Port area, the Port can best increase its share of the intermodal market through increased rail facility efficiencies, not possible under this alternative. With an efficient rail operation, the Port can decrease the amount of time a container is stored at the Port, and can more efficiently use the land it has, without filling the Bay to create new land for such purposes. The alternative substantially fails to achieve this program objective.

Inability to Reduce Significant Impacts of Redevelopment. This alternative would result in significant impacts not associated with the proposed redevelopment program.

- **Inability to balance effective remediation of environmental impairments with preservation of historic resources.** Building No. 1, the OARB Main Administration Building, is located centrally within the Gateway development area. This key building has been evaluated for its reuse potential as Class B multi-tenant office space at a rehabilitation cost of approximately $20 million. This estimate, however, does not consider the necessity of demolishing two wings of the floor space of this four-wing building to remove tarry, contamination-impacted soil and a hazardous plume located beneath the building and on adjacent land. This required remediation is currently projected to be the single most extensive environmental clean up requirement for the Base.

- **Exposure of residents to potentially hazardous materials in contradiction of OARB clean-up levels.** This alternative would locate the Homeless Collaborative program onto the Gateway development area of the OARB. The Homeless Collaborative program includes a childcare facility and transitional housing, among other things. Allowing these residential uses on the Gateway development area would be inconsistent with the remediation levels and land use restrictions contemplated by the City, the Army and the DTSC that will be applicable to the Gateway development area. The proposed Remedial Action Plan/Risk Management Plan (RAP/RMP) for the OARB is consistent with the City of Oakland Urban Land Redevelopment Program, which allows for remediation levels based on a target risk of 10^{-5} for sites where contamination issues are known. However, the proposed remediation levels for the Gateway development area are not suitable for residential uses. Therefore, this alternative would result in potentially significant impact from allowing a use inconsistent with proposed remediation on the Gateway development area.

Other Plans or Regulatory Limitations. Because this alternative would prevent the Port from handling its share of Bay Area 2020 throughput as described in the Seaport Plan, it is fundamentally inconsistent with that plan, as well as the Bay Plan (which incorporates the

Seaport Plan). For this reason, it is unlikely that permits would be obtained for elements of the program under the jurisdiction of the Bay Conservation and Development Commission (BCDC), which implements the Bay Plan.

7.3.2 No New Intermodal Facility

The purpose of this alternative is to identify additional land outside but near the existing Port area to address trucking needs, and to minimize the effect of Port-related trucking operations on the West Oakland community. Under this alternative, approximately 130 acres of the Port development area proposed for the New Intermodal Facility would instead be developed in AMS uses.

This alternative is expected to result in the following buildout:

Table 7.3-2
Build-Out of the No New Intermodal Facility Alternative

		Redevelopment Sub-District				
		OARB				
Potential Land Uses	**Units**	**Gateway**	**Port**	**Maritime**	**16th/Wood**	**Total**
Light Industry[b]	sq. ft.	494,000	0	0	305,000	799,000
Office, R&D	sq. ft.	1,528,000	0	0	1,437,000	2,965,000
Retail	sq. ft.	185,000	0	0	1,300	186,300
Warehouse/distribution	sq. ft.	300,000	500,000	0	0	800,000
Total square feet		**2,507,000**	**500,000**	**0**	**1,743,300**	**4,750,300**
Live/Work units		**0**	**0**	**0**	**375**	**375**
From uses listed above	ac.	183	25	0	40	248
Park, Public Access	ac.	29	0	0	1	30
New Marine Terminals	ac.	0	55	65	0	120
Marine Terminal Realignment	ac.	0	0	0	0	0
Ancillary Maritime Support	ac.	0	105	0	0	105
New Intermodal Facility	ac.	0	0	0	0	0
Acres to be redeveloped[c]		**212**	**185**	**65**	**41**	**503**
Total acres		**228**	**241**	**1,290**	**41**	**1,800**

Notes:

[a] sq. ft. = square feet; ac. = acres

[b] Includes 50,000 square feet of training facilities for the JATC.

[c] Acreages identified above are gross land use acreage, inclusive of roadway and utility rights-of way. In addition to land acreage, approximately 3 acres of existing land and wharf (solid and covered fill) will be removed to create open water.

The No New Intermodal Facility alternative would generate approximately 13,750 total direct jobs. Accounting for the number of baseline year (1995) jobs—approximately 2,045—this alternative would generate about 11,705 net direct jobs, or 82 percent of the net direct jobs generated by the proposed redevelopment program.

OARB Sub-District, Gateway Development Area

Under the No New Intermodal Facility alternative, the City would develop the Gateway development area as envisioned under the proposed redevelopment program. This development would include up to a maximum of approximately 2.5 million square feet of new Light Industrial, Office/R&D, and Warehouse/Distribution uses, with High-End Retail and Hotel uses possible.[2] This alternative recognizes certain conveyances and commitments of land within the Gateway development area, including:

- the 3-acre conveyance from the ORA to the JATC;
- the 15-acre conveyance from the Army to the EBRPD;
- the commitment of Caltrans to provide public access improvements in the area; and
- the Legally Binding Agreement between the OBRA, City, and the Homeless Collaborative, which requires identification of sites for homeless assistance programs, assumed to be accommodated at appropriate off-site locations.

Because, as described below, expanded AMS facilities would be developed in the Port development area, the Baldwin railyard would not be required for AMS, and that site would be available to the City for flexible development uses. Under this alternative, "big box" retail would be developed at the Baldwin Yard site.

OARB Sub-District, Port Development Area

Under the No New Intermodal Facility alternative, the Port would not develop the New Intermodal Facility as envisioned under the proposed redevelopment program. Construction of New Berth 21 (including shoreline reconfiguration) would occur, including cargo terminal expansion on Port development area lands not slated for the New Intermodal Facility.

Instead of the New Intermodal Facility, approximately 130 acres of land within the OARB between realigned Maritime Street and I-880 would be dedicated to AMS uses; this amount of AMS exceeds the Port's requirement to provide 90 acres of AMS, as described in the most-recently amended Bay Plan. This area could accommodate approximately ½ million square feet of Warehouse/Distribution space. AMS would also include facilities for trans-loading cargo, and container handling space (repair, cleaning, empty storage, etc.). Additionally, this area could accommodate a full-service truck stop and a tractor-trailer parking lot. The truck stop could provide a variety of services, including truck fueling and maintenance facilities, as well as a restaurant, convenience store, and motel. It is unlikely that existing buildings within the Port development area could be adaptively re-used to accommodate such uses, other than Jacobs Hall (Building No. 650), which is not a contributing structure to the OARB historic district. Most if not all of the warehouses would to be de-constructed to provide space for AMS uses.

[2] See Appendix 7 for an evaluation of these land use options.

Maritime Sub-District

Under the No New Intermodal Facility alternative, the Port would continue to develop, and the Port or its tenants to operate, facilities within the Maritime sub-district, including facilities of the Vision 2000 Program. The Port would maintain in its present configuration the JIT adjacent to the Outer, Seventh Street, and Middle Harbor container terminals, and the functions of the JIT would not be relocated to the Port development area. New Berth 21 would be developed within this sub-district as envisioned in the proposed redevelopment program. Key differences in sub-district development under this alternative relative to the proposed program include the following:

- The existing JIT would remain in its current location.
- Maritime terminal expansion into a portion of the current JIT site would not occur.
- Development of the 75-acre MSC would not occur on a portion of the JIT site (but rather at the Port development area, as described above).

16th/Wood Sub-District

Under the No New Intermodal Facility alternative, the 16th/Wood sub-district would be developed consistent with the proposed redevelopment program, including the preliminary development concept for the Amtrak station site and Business Mix uses.

Why this Alternative is Considered Infeasible

Maintaining the existing JIT in its present location under this alternative would prevent use of the limited land adjacent to the deepwater Outer Harbor, 7th Street, and Inner Harbor areas for expansion of existing marine terminals to 1,000 acres, as is contemplated in the Seaport Plan. A total of 1,000 acres is needed in the Port area for container terminals and related activities for the Port to handle its share of Bay Area cargo throughput—approximately 24.5 million metric tons (MT) per year of containerized cargo in 2020, as described the Seaport Plan.

Failure to Achieve Program Objectives. This alternative was not put forth for detailed analysis, because it fails to achieve basic redevelopment objectives as follows:

- **Accommodate the Port's share of regional cargo throughput in 2020.** As described above, this alternative would prevent the Port of Oakland from handling its share of 2020 Bay Area cargo throughput. The alternative fundamentally fails to achieve this basic program objective.
- **Increase Port productivity and efficiency.** By "freeing up" the land area of the JIT for marine terminal use while maximizing the amount of cargo traveling by train rather than truck, the New Intermodal Facility is a key element of increased Port productivity and efficiency. Without the acreage of the existing JIT for marine terminal use, and the optimization of rail operations possible with the New Intermodal Facility, the productivity and

efficiency of the Port would not substantially improve over current levels. The alternative substantially fails to achieve this program objective.

- **Provide sufficient capacity to substitute for other West Coast gateway ports in the event of natural disaster or other emergency.** In the absence of substantially increased Port productivity and efficiency that cannot be achieved under this alternative, the Port would not be able to provide substantial additional throughput capacity, required in the event an emergency (such as a major earthquake) disabled one of the two other West Coast cargo gateways (Los Angeles/Long Beach or Seattle/Tacoma). The alternative substantially fails to achieve this basic program objective.

- **Keep competitive with other West Coast ports.** In the absence of future major increases in acreage in the Port area, the Port can best increase its share of the intermodal market through increased rail facility efficiencies, not possible under this alternative. With an efficient rail operation, the Port can decrease the amount of time a container is stored at the Port, and can more efficiently use the land it has, without filling the Bay to create new land for such purposes. The alternative substantially fails to achieve this program objective.

Other Plans or Regulatory Limitations. Because this alternative would prevent the Port from handling it share of Bay Area 2020 throughput described in the Seaport Plan, it is fundamentally inconsistent with that plan, as well as with the Bay Plan (which incorporates the Seaport Plan). For this reason, it is unlikely that permits would be obtained for elements of the program under the jurisdiction of the Bay Conservation and Development Commission (BCDC), which implements the Bay Plan.

7.3.3 No New Berth 21

This alternative deviates from the proposed redevelopment program in one aspect: the proposed Outer Harbor shoreline reconfiguration (including excavation and Bay fill) required to achieve an operational geometry for New Berth 21 would not occur. This alternative would avoid impacts to transportation, air quality, biological resources, and water quality associated with the proposed redevelopment program as a result of Bay fill and in-water construction. These impacts are described in Sections 4.3: Transportation and Traffic, 4.4: Air Quality, 4.12: Biological Resources, and 4.15: Surface Water.

This alternative is expected to result in the following buildout:

Table 7.3-3
Build-Out of the No New Berth 21 Alternative

Potential Land Uses	Units[a]	Redevelopment Sub-District				
		OARB				
		Gateway	Port	Maritime	16th/Wood	Total
Light Industry[b]	sq. ft.	494,000	0	0	305,000	799,000
Office, R&D	sq. ft.	1,528,000	0	0	1,437,000	2,965,000
Retail	sq. ft.	25,000	0	0	1,300	26,300
Warehouse/distribution	sq. ft.	300,000	0	0	0	300,000
Total square feet		**2,347,000**	**0**	**0**	**1,743,300**	**4,090,300**
Live/Work units		**0**	**0**	**0**	**375**	**375**
From uses listed above	ac.	168	0	0	40	208
Park, Public Access	ac.	29	0	0	1	30
New Marine Terminals	ac.	0	47	65	0	112
Marine Terminal Realignment	ac.	0	0	82	0	82
Ancillary Maritime Support	ac.	15	2	88	0	105
New Intermodal Facility	ac.	0	130	35	0	165
Acres to be redeveloped[c]		**212**	**179**	**270**	**41**	**702**
Total acres		**228**	**241**	**1,290**	**41**	**1,800**

Notes:

[a] sq. ft. = square feet; ac. = acres

[b] Includes 50,000 square feet of training facilities for the JATC.

[c] Acreages identified above are gross land use acreage, inclusive of roadway and utility rights-of way.

The No New Berth 21 alternative would generate approximately 15,680 total direct jobs. Accounting for the number of baseline year (1995) jobs—approximately 2,045—this alternative would generate about 13,635 net direct jobs, or 95 percent of the net direct jobs generated by the proposed redevelopment program.

OARB Sub-District, Gateway Development Area

The No New Berth 21 alternative would include development of the Gateway development area as envisioned under the proposed redevelopment program. This alternative includes approximately 2.3 million square feet of new Light Industrial, R&D, Warehouse/Distribution, and Office uses, with High-End Retail and Hotel uses possible. This alternative recognizes certain conveyances and commitments of land within the Gateway development area, including the following:

- the 3-acre conveyance from the ORA to the JATC;
- the 15-acre conveyance from the Army to the EBRPD;
- the commitment of Caltrans to provide public access improvements in the area;
- the City's commitment to provide 15 acres of land for AMS; and

- the Legally Binding Agreement between the OBRA, City, and the Homeless Collaborative, which requires identification of sites for homeless assistance programs, assumed to be accommodated at appropriate off-site locations.

OARB Sub-District, Port Development Area

Under the No New Berth 21 alternative, the land use program for the Port development area would remain similar to that envisioned under the proposed redevelopment program, including realignment and extension of Maritime Street, development of a New Intermodal Facility rail yard, and expansion of cargo terminal acreage. While realignment and expansion of the yards of existing Outer Harbor terminals could occur, shoreline reconfiguration for New Berth 21 (including excavation and Bay fill) would not occur.

Maritime Sub-District

Under the No New Berth 21 alternative, the Port would continue to develop, and the Port and its tenants to operate, facilities within the Maritime sub-district, including facilities of the Vision 2000 Program. In addition, this sub-district would be developed as envisioned under the proposed redevelopment program, including the following:

- realignment and extension of Maritime Street, (which would be also located in the Port and Gateway development areas);
- expansion of Berths 55 through 59 into a portion of the current JIT site;
- development of a new 75-acre MSC at a portion of the current JIT site and of 15 additional acres of AMS near, but not within, the Port area; and
- re-alignment of existing terminals.

This alternative would preclude development of New Berth 21, and the Port would continue to operate its current Outer Harbor terminals.

16th/Wood Sub-District

Under the No New Berth 21 alternative, the 16th/Wood sub-district would be developed consistent with the proposed redevelopment program, including the preliminary development concept for the Amtrak station site and additional Business Mix uses.

Why this Alternative is Considered Infeasible

Without development of New Berth 21, the Outer Harbor shoreline would not be reconfigured, and would continue to operate under its existing inefficient geometry, with an inadequate amount of marine terminal and related acreage. In the absence of Bay fill required for New Berth 21, existing land that would have created the container yard for the new berth would continue to function as marine berths, terminals, and AMS, but would remain in its current fragmented and inefficient geometry. Efficiencies made possible by shoreline reconfiguration for New Berth 21 would not occur, nor would efficiencies increase in adjacent terminals, as planned under the proposed redevelopment program. In addition, in the absence of the net 26 acres of

fill for New Berth 21, the Port would not have the required acreage to handle its share of Bay Area containerized cargo throughput in 2020, as described in the Seaport Plan.

Development of New Berth 21, along with other elements of the proposed program, is an alternative to filling approximately 153 acres of San Francisco Bay in order to accommodate projected throughput capacities.

Failure to Achieve Program Objectives. This alternative was not put forth for detailed analysis because it fails to achieve basic redevelopment objectives as follows:

- **Accommodate the Port's share of regional cargo throughput in 2020.** As described above, this alternative would prevent the Port of Oakland from handling its share of 2020 Bay Area cargo throughput as described in the Seaport Plan. The alternative fundamentally fails to achieve this program objective.
- **Increase Port productivity and efficiency.** In the absence of New Berth 21, substantial efficiencies resulting from consolidation of several older, inefficient terminals into a larger, geometrically optimal, and modern New Berth 21 would not occur. In addition, substantial improvement of efficiency at adjacent terminals sharing equipment, vessels, and land would not be realized. New Berth 21 is a key element of increased Port productivity and efficiency, and without that facility, the Port would not experience substantially improved productivity or efficiency over current levels. The alternative substantially fails to achieve this program objective.
- **Provide sufficient capacity to substitute for other West Coast gateway ports in the event of natural disaster or other emergency.** In the absence of substantially increased Port productivity and efficiency that cannot be achieved under this alternative, the Port would not be able to provide substantial additional throughput capacity, required in the event an emergency (such as a major earthquake) disabled one of the two other West Coast cargo gateways (Los Angeles/Long Beach or Seattle/Tacoma). The alternative substantially fails to achieve this program objective.

Inability to Reduce Significant Impacts of Redevelopment. This alternative would result in significant impacts not associated with the proposed redevelopment program.

- **Emissions of pollutants.** The proposed redevelopment program would result in significant impacts related to air quality. New Berth 21 would be a modern terminal with sufficient wharf and draft to accommodate the very large deep-draft modern cargo vessels, unlike the berths it would replace. In the absence of New Berth 21, and in order to attempt to meet its 2020 container cargo throughput commitment, the Port would need to continue to operate its smaller and relatively less efficient Outer Harbor terminals at a relatively higher number of calls by smaller vessels. These smaller vessels are generally older, less efficient, and more polluting than new-generation ships. This alternative would result in a relatively higher number of less efficient vessel calls compared to the proposed redevelopment program.

This would degrade air quality relative to and would worsen a significant impact of the proposed program.

Other Plans or Regulatory Limitations. Because this alternative would prevent the Port from handling its share of Bay Area 2020 throughput as described in the Seaport Plan, it is fundamentally inconsistent with that plan, as well as the Bay Plan (which incorporates the Seaport Plan). For this reason, it is unlikely that permits would be obtained for elements of the program under the jurisdiction of the Bay Conservation and Development Commission (BCDC), which implements the Bay Plan.

7.4 ALTERNATIVES PUT FORTH FOR FURTHER CONSIDERATION

As a requirement of CEQA, this EIR puts forth the No Program alternative for further consideration. In addition, the following "action" alternatives were screened, found to be feasible, and are put forth for further consideration:

- High Intensity;
- Reduced Intensity;
- Full Maritime; and
- Gateway Adaptive Reuse/Eco-Park.

These alternatives are described in the following section, and analyzed further in Section 7.5.

Appendix 7 includes evaluation of two land use options which may be implemented with any of the "action" alternatives: High-End Retail, and Hotel.

7.4.1 No Project

In accordance with CEQA, the EIR includes an evaluation of future conditions without redevelopment (the so-called "No Project" alternative). The No Project alternative allows City decision-makers and the public to compare anticipated impacts of the proposed project with those impacts anticipated to occur without the project. The No Project alternative described below represents reasonably expected outcomes that could occur within the redevelopment project area in the absence of redevelopment (*i.e.*, if the Redevelopment Plan and Reuse Plan as incorporated therein were not implemented).

A "no project" alternative normally assumes build-out of a project area consistent with existing land use designations (or "classifications") and zoning. The City of Oakland, the Port of Oakland, and BCDC each have land use authority in the redevelopment project area. BCDC has determined that within its land use jurisdiction, some Oakland General Plan land classifications for the OARB sub-district are not consistent with Port Priority land use designations of the Bay Plan, amended in 2001. Build-out of the OARB sub-district consistent with current General Plan land use classifications, therefore, would not be consistent with the current Bay Plan. Because the Oakland General Plan is not consistent with the current Bay

Plan, build-out of the General Plan within BCDC's jurisdiction would not be permitted, and assuming build-out of the OARB consistent with current General Plan land use designations (the usual approach to analysis of a "no project" alternative) would not provide meaningful input to the decision-making process. Moreover, in the absence of funds generated by redevelopment, development of the 16th/Wood sub-district is not likely to occur as envisioned under the current Redevelopment Plan. For these reasons, analysis of the No Project alternative assumes what is most likely to occur under build-out as follows:

- No Economic Development Conveyance of the OARB from the Army to OBRA would occur, nor would subsequent land transfers to the ORA, the Port, or JATC occur.
- The Gateway and Port development areas would not undergo substantial physical change.
- The Maritime sub-district would be developed consistent with the Oakland General Plan, the Bay and Seaport plans, the Port's Vision 2000 Program, and other Port plans.
- The 16th/Wood sub-district would be developed consistent with the Oakland General Plan and the Bay and Seaport plans, but to a substantially lower development intensity.

This alternative is expected to result in the following buildout:

Table 7.4-1
Build-Out of the No Project Alternative

		Redevelopment Sub-District				
		OARB				
Potential Land Uses	**Units[a]**	**Gateway**	**Port**	**Maritime**	**16th/Wood**	**Total**
Light Industry	sq. ft.	0	0	0	436,000	436,000
Office, R&D	sq. ft.	198,000	650,000	0	0	848,000
Retail	sq. ft.	0	0	0	0	0
Warehouse/distribution[b]	sq. ft.	880,000	1,600,000	0	0	2,480,000
Total square feet		**1,078,000**	**2,250,000**	**0**	**436,000**	**3,764,000**
Live/Work units		**0**	**0**	**0**	**0**	**0**
From uses listed above	ac.	149	183	0	41	373
Park, Public Access	ac.	29	0	0	0	29
New Marine Terminals	ac.	0	0	51	0	51
Marine Terminal Realignment	ac.	0	0	0	0	0
Ancillary Maritime Support	ac.	0	0	0	0	0
New Intermodal Facility	ac.	0	0	0	0	0
Acres to be redeveloped[c]		**178**	**183**	**51**	**41**	**453**
Total acres		**228**	**241**	**1,290**	**41**	**1,800**

Notes:

[a] sq. ft. = square feet; ac. = acres

[b] Includes the non-housing component of the Homeless Collaborative project.

[c] Acreages identified above are gross land use acreage, inclusive of roadway and utility rights-of way.

The No Project alternative would generate approximately 5,860 direct jobs. Accounting for the number of baseline year (1995) jobs—approximately 2,045—this alternative would generate about 3,815 direct jobs, or 27 percent of the net direct jobs generated by the proposed redevelopment program.

OARB Sub-District, City Gateway Development Area

The No Project alternative generally assumes continuation of the current interim leasing program within this sub-district. Therefore, some current interim use Homeless Collaborative elements, such as the food bank, would be located on the OARB. However, the alternative does include conveyances and commitments of land as follows:

- the 15-acre conveyance from the Army to the EBRPD;
- the commitment of Caltrans to provide public access improvements in the area;
- the Legally Binding Agreement between the OBRA, City, and the Homeless Collaborative requires identification of sites for homeless assistance program elements; some non-housing elements would be accommodated on-site, and the housing elements would be accommodated at appropriate off-site locations.

Full lease-up of existing buildings under the interim leasing program would result in occupancy of approximately 198,000 square feet of office space, 880,000 square feet of warehouse space, plus wharves and land.

OARB Sub-District, Port Development Area

Under the No Project alternative, substantial physical changes to the Port development area would not occur. Maritime Street would not be realigned and extended, and neither the New Intermodal Facility nor New Berth 21 would be developed. The interim-leasing program for this area would continue, and full lease-up would occur. Full lease-up of existing buildings in this area would result in occupancy of approximately 2.3 million square feet of primarily Office and Warehouse/Distribution uses, such as the Oakland Military Institute and other interim uses.

Maritime Sub-District

Under the No Project alternative, the Port would continue to develop, and the Port or its tenants to operate facilities within the Maritime sub-district, including facilities of the Vision 2000 Program. Key differences between this alternative and the proposed redevelopment project include the following:

- The Port would not develop the New Intermodal Facility within the OARB, and the JIT would remain in its current location.
- Maritime expansion into a portion of the JIT site would not occur.
- Development of the 75-acre MSC would not occur on a portion of the JIT site.
- New Berth 21 would not be developed in a portion of this sub-district.

16th/Wood Sub-District

Under the No Project alternative, some new development would still be anticipated to occur within this sub-district. In the absence of redevelopment funds, however, the scale and extent of such new development would be substantially reduced from that predicted under the proposed redevelopment project, due to environmental and infrastructure constraints and physically blighted conditions. A lower intensity of new and improved land use in this area would occur, at an average FAR of approximately 0.25.

7.4.2 High Intensity

Although its analysis is not required under CEQA, the High Intensity alternative assesses an upper range of potential development intensities within the redevelopment project area, and provides an understanding of potential "worst-case" environmental impacts that may be associated with such redevelopment. Under this alternative, land uses for each redevelopment sub-district would generally remain the same as anticipated under the proposed redevelopment program, but the intensity of private development would increase.

This alternative is expected to result in the following buildout:

Table 7.4-2
Build-Out of the High Intensity Alternative

		Redevelopment Sub-District				
		OARB				
Potential Land Uses	**Units[a]**	**Gateway**	**Port**	**Maritime**	**16th/Wood**	**Total**
Light Industry[b]	sq. ft.	1,594,000	0	0	500,000	2,094,000
Office, R&D	sq. ft.	6,512,000	0	0	1,100,000	7,612,000
Retail	sq. ft.	2,050,000	0	0	600,000	2,650,000
Warehouse/distribution	sq. ft.	1,594,000	0	0	0	1,594,000
Total square feet		**11,750,000**	**0**	**0**	**2,200,000**	**13,950,000**
Live/Work units		**0**	**0**	**0**	**375**	**375**
From uses listed above	ac.	168	0	0	40	208
Park, Public Access	ac.	29	0	0	1	30
New Marine Terminals	ac.	0	55	65	0	120
Marine Terminal Realignment	ac.	0	0	82	0	82
Ancillary Maritime Support	ac.	15	2	88	0	105
New Intermodal Facility	ac.	0	130	35	0	165
Acres to be redeveloped[c]		**212**	**187**	**270**	**41**	**710**
Total acres		**228**	**241**	**1,290**	**41**	**1,800**

Notes:

[a] sq. ft. = square feet; ac. = acres

[b] Includes 50,000 square feet of training facilities for the JATC.

[c] Acreages identified above are gross land use acreage, inclusive of roadway and utility rights-of way. In addition to land acreage, approximately 3 acres of existing land and wharf (solid and covered fill) will be removed to create open water.

The High Intensity alternative would generate approximately 38,680 total direct jobs. Accounting for the number of baseline year (1995) jobs—approximately 2,045—this alternative would generate about 36,145 net direct jobs, or 252 percent of the net direct jobs generated by the proposed redevelopment program.

OARB Sub-District, Gateway Development Area

The proposed redevelopment program anticipates a maximum development potential within the Gateway development area of approximately 2.3 million square feet of land use types consistent with those of the "Flexible Alternative" of the Reuse Plan, resulting in a gross FAR of approximately 0.35. The High Intensity alternative envisions the Gateway development area developed at a gross FAR of 1.5 (or a net FAR on individual development sites of 4.0), the maximum development intensity allowed under the General Plan within the Business Mix land use category. This high intensity of development would yield approximately 11,750,000 square feet of Light Industrial, Office and support uses, R&D, Warehouse/Distribution, Ancillary Retail uses. Additionally, this alternative would include "big-box" retail use on the 19-acre Subaru site. This alternative also includes the following conveyances and commitments of land:

- the 3-acre conveyance from the ORA to the JATC;
- the 15-acre conveyance from the Army to the EBRPD;
- the commitment of Caltrans to provide public access improvements in the area;
- the City's commitment to provide 15 acres of additional land for AMS; and
- the Legally Binding Agreement between the OBRA, City, and the Homeless Collaborative, which requires identification of off-site locations for homeless assistance programs, assumed to be accommodated at appropriate off-site locations.

OARB Sub-District, Port Development Area

Under the High Intensity alternative, the Port development area would be developed as envisioned in the proposed redevelopment program. New facilities would include the following:

- realigned and extended Maritime Street;
- the New Intermodal Facility;
- a portion of New Berth 21 (including shoreline reconfiguration); and
- cargo terminal expansion.

Maritime Sub-District

Under the High Intensity alternative, the Port would continue to develop and the Port and its tenant to operate new and expanded facilities within the Maritime sub-district, including facilities

of the Vision 2000 Program. In addition, this sub-district would be developed as envisioned under the proposed redevelopment program as follows:

- realignment and extension of Maritime Street (which would be also located in the Port and Gateway development areas);
- expansion of Berths 55 through 59 terminals into a portion of the current JIT site;
- development of a new 75-acre MSC at a portion of the current JIT site, and of 15 additional acres of AMS near, but not within, the Port area;
- construction of a portion of New Berth 21; and
- realignment of existing terminals.

16th/Wood Sub-District

The High Intensity alternative for this sub-district would include redevelopment of the Amtrak station site with approximately 1.7 million square feet of new Commercial/Office space, approximately 375 live/work units, and redevelopment of the historic Amtrak station with approximately 70,000 square feet of office and event space. Additional redevelopment activity on the surrounding properties would also be anticipated, resulting in a total of approximately 500,000 square feet of Light Industrial and Business Mix uses.

7.4.3 Reduced Intensity

The Reduced Intensity alternative assesses lower-density development options within the redevelopment project area. This alternative was developed to determine whether lower-intensity development would avoid or reduce environmental impacts associated with the proposed redevelopment program. Under this alternative, land use types for each sub-district within the redevelopment project area would generally remain the same as anticipated under the proposed redevelopment program, but intensities of projected future development activities would be reduced.

This alternative is expected to result in the following buildout:

Table 7.4-3
Build-Out of the Reduced Intensity Alternative

Potential Land Uses	Units[a]	Redevelopment Sub-District				Total
		OARB				
		Gateway	Port	Maritime	16th/Wood	
Light Industry[b]	sq. ft.	266,000	0	0	220,000	486,000
Office, R&D	sq. ft.	1,091,000	0	0	750,000	1,841,000
Retail	sq. ft.	18,000	0	0	0	18,000
Warehouse/distribution	sq. ft.	266,000	0	0	0	266,000
Total square feet		**1,641,000**	**0**	**0**	**970,00**	**2,611,000**
Live/Work units		**0**	**0**	**0**	**280**	**280**
From uses listed above	ac.	168	0	0	40	208
Park, Public Access	ac.	29	0	0	1	30
New Marine Terminals	ac.	0	55	65	0	120
Marine Terminal Realignment	ac.	0	0	82	0	82
Ancillary Maritime Support	ac.	15	2	88	0	105
New Intermodal Facility	ac.	0	130	35	0	165
Acres to be redeveloped[c]		**212**	**187**	**270**	**41**	**710**
Total acres		**228**	**241**	**1,290**	**41**	**1,800**

Notes:

[a] sq. ft. = square feet; ac. = acres

[b] Includes 50,000 square feet of training facilities for the JATC.

[c] Acreages identified above are gross land use acreage, inclusive of roadway and utility rights-of way. In addition to land acreage, approximately 3 acres of existing land and wharf (solid and covered fill) will be removed to create open water.

The Reduced Intensity alternative would generate approximately 11,920 total direct jobs. Accounting for the number of baseline year (1995) jobs—approximately 2,045—this alternative would generate about 9,875 net direct jobs, or 69 percent of the net direct jobs generated by the proposed redevelopment program.

OARB Sub-District, Gateway Development Area

The Reuse Plan anticipates a maximum development potential within the Gateway development area of approximately 2.3 million square feet of land uses consistent with the "Flexible Alternative" Reuse Plan, resulting in a gross FAR of approximately 0.35. The Reduced Intensity alternative envisions the Gateway development area developed at a gross FAR of 0.25, an approximately 30 percent reduction of development intensity. As a general rule, a Commercial FAR of 0.25 enables construction of one- to two-story structures, with parking demand met by surface parking lots. Based on this FAR, the Reduced Intensity alternative would yield approximately 1.6 million square feet of Light Industrial, Office, R&D, and Ancillary Retail uses. This alternative also includes the following conveyances and commitments of land:

- the 3-acre conveyance from the ORA to the JATC;

- the 15-acre conveyance from the Army to the EBRPD;
- the commitment of Caltrans to provide public access improvements in the area;
- the City's commitment to provide 15 acres of land for AMS; and
- the Legally Binding Agreement between the OBRA, City, and the Homeless Collaborative, which requires identification of off-site locations for homeless assistance programs, assumed to be accommodated at appropriate off-site locations.

OARB Sub-District, Port Development Area

Under the Reduced Intensity alternative, the Port development area would be developed as envisioned in the proposed redevelopment program. New facilities would include the following:

- realigned and extended Maritime Street;
- the New Intermodal Facility;
- a portion of New Berth 21 (including shoreline reconfiguration); and
- cargo terminal expansion.

Maritime Sub-District

Under the Reduced Intensity alternative, the Port would continue to develop, and the Port or its tenants to operate, facilities within the Maritime sub-district, including facilities of the Vision 2000 Program. In addition, this sub-district would be developed as envisioned under the proposed redevelopment program as follows:

- realignment and extension of Maritime Street (which would be also located in the Port and Gateway development areas);
- expansion of Berths 55 through 59 terminals into a portion of the current JIT site;
- development of a new 75-acre MSC at a portion of the current JIT site, and of 15 additional acres of AMS near, but not within, the Port area;
- construction of a portion of New Berth 21; and
- realignment of existing terminals.

16th/Wood Sub-District

Under the Reduced Intensity alternative, there would be approximately 1,000,000 square feet of new Office/R&D space, approximately 280 live/work units, and reuse of the historic Amtrak station with approximately 70,000 square feet of office and event space. Additional redevelopment activity within this sub-district would occur at an average FAR of 0.25, resulting in a total of approximately 220,000 square feet of Light Industrial uses.

7.4.4 Full Maritime

During EIR scoping, several residents and business owners from the West Oakland community expressed the opinion the OARB could provide increased opportunities for AMS industries and businesses. These types of businesses and industries may include the following:

- intermodal trucking companies,
- container freight stations,
- trans-load facilities,
- refrigerated container depots,
- container cleaning, repair and storage, and
- truck repair and fueling.

A recent study commissioned by the Port (the Tioga Group 2001) concluded that demand for such uses within or near the Port of Oakland's operations is expected to be approximately 178 acres by 2020.[3] According to a recent Port survey, currently more than 48 Port-related trucking businesses occupy a total of 128 acres in West Oakland, the OARB, and within the Port's Maritime sub-area (BCDC 2000). However, under the proposed redevelopment program, some of these existing businesses would be displaced by new uses within the OARB and Maritime sub-districts. Additionally, the City of Oakland has recently imposed controls on the issuance of new permits for such businesses in West Oakland in an attempt to alleviate noise, air quality, and traffic impacts on the neighborhood.

In an attempt to provide a reasonable accommodation of these uses, the proposed redevelopment program provides for a total of 105 acres of land within the OARB and Maritime sub-districts to support AMS. Sites include the Port's proposed 75-acre MSC at the location of the JIT (Maritime sub-district), 15 acres at the Baldwin Yard (Gateway development area), and an additional 15 acres to be provided by the Port within the Maritime sub-district. Although dedication of this amount of land resource has been considered by the BCDC as "a laudatory achievement" and "a reasonable amount of land to accommodate trucking services," additional maritime support space will eventually be needed. BCDC staff have recommended that the Port should "continue to work with the trucking industry and the West Oakland community to find appropriate amounts and locations of nearby land outside the Port to serve trucking needs, and to minimize the impact of trucking connected to the Port's operation on the West Oakland community." (BCDC 2000).

[3] This estimate is based on forecasts of cargo segment growth, typical facility design, industry standards and working assumptions to estimate usable acres for efficient, single-purpose core service facilities. This process is necessarily imprecise, and the resulting estimates are most suitable for planning purposes rather than detailed land allocation or facility design decisions. These figures should therefore be interpreted as approximate minimums that could be achieved under reasonably efficient conditions (the Tioga Group 2001).

If additional lands within the OARB sub-district were to be dedicated for such uses, then land needed for these uses would either be taken out of the Gateway development area or the Port development area. This alternative is based in part on the Maritime Redevelopment alternative (Alternative 2) analyzed in the OARB Disposal and Reuse EIS (Corps, Final EIR, December 2001).

This alternative is expected to result in the following buildout:

Table 7.4-4
Build-Out of the Full Maritime Alternative

		Redevelopment Sub-District				
		OARB				
Potential Land Uses	**Units[a]**	**Gateway**	**Port**	**Maritime**	**16th/Wood**	**Total**
Light Industry	sq. ft.	50,000	0	0	500,000	550,000
Office, R&D	sq. ft.	0	0	0	1,000,000	1,000,000
Retail	sq. ft.	0	0	0	1,300	1,300
Warehouse/distribution	sq. ft.		0	0	305,000	305,000
Total square feet		**50,000**	**0**	**0**	**1,806,300**	**1,856,300**
Live/Work units		**0**	**0**	**0**	**375**	**375**
From uses listed above[b]	ac.	3	0	0	40	43
Park, Public Access	ac.	29	0	0	1	30
New Marine Terminals	ac.	0	55	65	0	120
Marine Terminal Realignment	ac.	0	0	157	0	157
Ancillary Maritime Support	ac.	161	2	0	0	163
New Intermodal Facility	ac.	0	130	41	0	171
Acres to be redeveloped[c]		**193**	**187**	**263**	**41**	**684**
Total acres		**228**	**241**	**1,290**	**41**	**1,800**

Notes:

[a] sq. ft. = square feet; ac. = acres

[b] Includes 50,000 square feet of training facilities for the JATC.

[c] Acreages identified above are gross land use acreage, inclusive of roadway and utility rights-of way. In addition to land acreage, approximately 3 acres of existing land and wharf (solid and covered fill) will be removed to create open water.

The Full Maritime alternative would generate approximately 11,565 total direct jobs. Accounting for the number of baseline year (1995) jobs—approximately 2,045—this alternative would generate about 9,520 net direct jobs, or 66 percent of the net direct jobs generated by the proposed redevelopment program.

OARB Sub-District, Gateway Development Area

This alternative includes the following conveyances and commitments of land:

- the 3-acre conveyance from the ORA to the JATC;
- the 15-acre conveyance from the Army to the EBRPD;

- the commitment of Caltrans to provide public access improvements in the area;
- the City's commitment to provide 15 acres of additional land for AMS; and
- the Legally Binding Agreement between the OBRA, City, and the Homeless Collaborative, which requires identification of off-site locations for homeless assistance programs, assumed to be accommodated at appropriate off-site locations.

Allowing for these commitments of land, approximately 161 acres of land within the Gateway development area could be dedicated to AMS. All existing facilities within the Gateway development area would be demolished or de-constructed, and the area would be developed as a MSC. Except for the JATC facility, none of the mixed land uses envisioned in the proposed redevelopment program would occur.

OARB Sub-District, Port Development Area

Under the Full Maritime alternative, the land use program for the Port development area would remain generally the same as under the proposed redevelopment program. Improvements would include the following:

- realignment and extension of Maritime Street, (which would be also located in the Gateway development area and maritime sub-district);
- the New Intermodal Facility;
- portions of New Berth 21 (including shoreline reconfiguration); and
- cargo terminal expansion.

Maritime Sub-District

Under the Full Maritime alternative, the Port would continue to develop, and the Port and its tenants to operate, facilities within the Maritime sub-district, including facilities of the Vision 2000 Program. In addition, this sub-district would be developed generally as envisioned under the proposed redevelopment program as follows:

- realignment and extension of Maritime Street (which would be also located in the Port and Gateway development areas);
- expansion of Berths 55 through 59 terminals into the current JIT site;
- construction of a portion of New Berth 21; and
- realignment of existing terminals.

It is likely the location for the Port's MSC would be re-located to the Gateway development area under this alternative. This would enable the entire JIT site to be used for additional marine cargo terminal needs.

16th/Wood Sub-District

Under the Full Maritime alternative, the 16th/Wood sub-district would support maritime development with the inclusion of Warehouse/Distribution uses and an increase in Light Industrial uses. Similar to the proposed program, this sub-district would also include Office/R&D, Retail, and Live/Work uses.

7.4.5 Gateway Adaptive Reuse/Eco-Park

The Gateway Adaptive Reuse/Eco-Park alternative provides for partial avoidance of significant impacts to historic resources associated with the proposed redevelopment program, as disclosed in Section 4.6: Cultural Resources. Historic resources located within the Gateway development area except for Building No. 1 and a portion of Wharf 6½,[4] would be adaptively reused, but not those within the Port development area. The remainder of the redevelopment project area would be redeveloped consistent with the proposed redevelopment program. In addition to adaptive reuse of historic buildings and structures in the Gateway development area, this alternative also reduces less than significant effects of the proposed redevelopment program relative to public services and utilities (as disclosed in Section 4.9: Public Services and Utilities) by developing an eco-park (described below) within the Gateway development area.

This alternative is expected to result in the following buildout:

Table 7.4-5
Build-Out of the Gateway Adaptive Reuse Alternative

		Redevelopment Sub-District					
		OARB					
Potential Land Uses	**Units[a]**	**Gateway[b]**		**Port**	**Maritime**	**16th/Wood**	**Total**
Light Industry	sq. ft.	500,000	0	0	0	305,000	805,000
Office, R&D[c]	sq. ft.	461,000	198,000	0	0	1,437,000	2,096,000
Retail	sq. ft.	0	0	0	0	1,300	1,300
Warehouse/distribution	sq. ft.	0	444,000	0	0	0	444,000
Total square feet		**961,000**	**642,000**	**0**	**0**	**1,743,300**	**3,346,300**
Live/Work units		**0**	**0**	**0**	**0**	**375**	**375**
From uses listed above	ac.	75	74	0	0	40	189
Park, Public Access	ac.	29	0	0	0	1	30
New Marine Terminals	ac.	0	0	55	65	0	120
Marine Terminal Realignment	ac.	0	0	0	82	0	82
Ancillary Maritime Support	ac.	15	0	2	88	0	105
New Intermodal Facility	ac.	0	0	130	35	0	165
Acres to be redeveloped/reused[d]		**119**	**74**	**187**	**270**	**41**	**691**
Total acres		**228**		**241**	**1,290**	**41**	**1,800**

Notes:

[a] sq. ft. = square feet; ac. = acres

[b] Left-hand columns are square footages or acres to be rebuilt, and right-hand columns are square footages or acres to be adaptively reused.

[c] Includes 50,000 square feet of training facilities for the Joint Apprentice and Training Committee (JATC).

[d] Acreages identified above are gross land use acreage, inclusive of roadway and utility rights-of way.

The Gateway Adaptive Reuse/Eco-Park alternative would generate approximately 13,160 total direct jobs. Accounting for the number of baseline year (1995) jobs—approximately 2,045—this

[4] Building No. 1 must be demolished to remediate the tarry residue located beneath that building, and a portion of Wharf 6 ½ will be demolished as part of the Port's development.

alternative would generate about 11,115 net direct jobs, or 77 percent of the net direct jobs generated by the proposed redevelopment program.

OARB Sub-District, Gateway Development Area

As required under the Reuse Plan, the Gateway Adaptive Reuse alternative includes certain conveyances and commitments of land, including the following:

- the 3-acre conveyance from the ORA to the JATC;
- the 15-acre conveyance from the Army to the EBRPD;
- the commitment of Caltrans to provide public access improvements in the area;
- the City's commitment to provide 15 acres of additional land for AMS; and
- the Legally Binding Agreement between the OBRA, City, and the Homeless Collaborative, which requires identification of off-site locations for homeless assistance programs, assumed to be accommodated at appropriate off-site locations.

The Gateway development area includes eight buildings contributing to the OARB Historic District, portions of two other contributing buildings, portions of five contributing warehouses, and about two-thirds of the linear frontage of historic wharves. Under this alternative, these buildings and structures would be retained and adaptively reused for new uses.

With preservation of some of the contributing structures of the OARB Historic District and with the land use commitments identified above for other lands, approximately 63 acres of the Gateway development area would be available for new uses.[5] Under this alternative, this land would be developed with Industrial, Light Industrial, R&D and supporting uses, consistent with eco-park development concepts.

Eco-Industrial Park. An eco-industrial park can be described as: ". . . a variety of linked manufacturing and service businesses within an industrial ecosystem. Such a park embodies ecological principles to achieve the most beneficial, least damaging interaction with the environment. By integrating all aspects of environmental management into one site, an eco-industrial park offers individual companies savings from waste recycling, avoidance of regulatory penalties, and increased efficiency in terms of materials and energy."[6]

Several basic strategies are fundamental to the generally regarded definition of an eco-industrial park.[7] These strategies include:

---

[5] As a variant of this alternative, preservation of a smaller portion of the OARB Historic District could be considered (e.g., preservation of a portion of Building No. 1, one of the 800-series warehouses, or Wharf 6½). This variant would leave greater land area available for new redevelopment uses.

[6] Sheila Martin, Economist with the Research Triangle Institute.

[7] This information has been derived from several sources, including the following web-sites: http://www.indigodev.com/Ecoparks.html, http://www.rti.org/news/; http://www.cfe.cornell.edu/wei/EIDP/design.html, and http://www.cfe.cornell.edu/wei/EIDP/eid.html

Information Technologies. New information technologies such as the World Wide Web assist eco-park participants in developing supplier/customer relationships for byproducts and assist in marketing efforts.

Water Reuse. Because many industries use substantial amounts of water in manufacturing, collaborative efforts can reduce the need for water and minimize the amount of effluent entering water treatment systems.

Recovery, Recycling, Reuse, and Substitution. Many environmental technologies for eco-parks involve development of new processes for reusing wastes and byproducts, including conversion or separation technologies capable of preparing former wastes for other uses. Rehabilitation and reuse of existing buildings, emphasis on pollution prevention, maximizing re-use and recycling of materials, reduction of toxic materials risks through integrated site-level waste treatment, and business links to companies in the surrounding region as consumers and generators of usable byproducts via resource exchanges and recycling networks are all included in this strategy.

Energy. Beyond recycling and reuse technologies, three energy technologies are most appropriate for eco-parks: co-generation systems, energy recovery processes, and alternative sources. Eco-parks seek to maximize energy efficiency through facility design or rehabilitation, co-generation (the capture and use of otherwise wasted heat from the electrical generating process), and energy cascading (the use of residual heat in liquids or steam from a primary process to provide heating or cooling to a later process). Other strategies include achieving higher efficiency through inter-plant energy flows; and use of renewable energy.

Transportation. The transportation sector is a major contributor to a number of environmental problems, including non-point source pollution and air emissions. Eco-parks would provide new means of moving people and goods throughout and beyond the eco-park, including using clean burning alternative fuel vehicles, electric vehicles, and application of sophisticated logistics management systems for delivery of goods and services.

Environmental Monitoring. Effective environmental monitoring technologies can provide information to environmental regulatory agencies and the public about industrial performance, and enable an objective evaluation of how well the eco-park environmental programs are working.

Effective Management. In addition to standard industrial park service, recruitment, and maintenance functions, eco-park management includes maintaining a mix of companies over time best suited to use each others' by-products. Management would also be needed to support improvement in environmental performance for individual companies, and operate a park-wide information system that supports inter-company communications, informs members of local environmental conditions, and provides feedback on eco-park performance.

Although the eco-industrial park concept is directly interwoven into this alternative because of its adaptive reuse component, similar development concepts could equally be applied to all Gateway development area alternatives that provide for industrial and business support uses, including the proposed redevelopment program. Specific development conditions, regulations and enforcement provisions are required in order to implement eco-park concepts.

OARB Sub-District, Port Development Area

Under the Gateway Adaptive Reuse/Eco-Park alternative, the land use program for the Port development area would remain generally the same as under the proposed redevelopment program. Improvements would include the following:

- realignment and extension of Maritime Street (which would be also located in the Gateway development area and maritime sub-district);
- the New Intermodal Facility,
- portions of New Berth 21 (including shoreline reconfiguration), and
- cargo terminal expansion.

Maritime Sub-District

Under the Gateway Adaptive Reuse/Eco-Park alternative, the Port would continue to develop, and the Port and its tenants to operate facilities within the Maritime sub-district, including facilities of the Vision 2000 Program. In addition, this sub-district would be developed as envisioned under the proposed redevelopment program as follows:

- realignment and extension of Maritime Street (which would be also located in the Port and Gateway development areas);
- expansion of Berths 55 through 59 into a portion of the current JIT site;
- development of a new 75-acre MSC at a portion of the current JIT site and of 15 additional acres of AMS;
- construction of a portion of New Berth 21; and
- realignment of existing terminals.

16th/Wood Sub-District

Under the Gateway Adaptive Reuse/Eco-Park alternative, the 16th/Wood sub-district would be redeveloped consistent with the proposed redevelopment program, including the preliminary development concept for the Amtrak station site and additional Business Mix uses.

7.5 ANALYSIS OF ALTERNATIVES

This section presents the results of a comparative analysis assessing how well each alternative put forth for further consideration may avoid or substantially reduce the unavoidable adverse

effects of the proposed program. Table 7.5-1 comparatively summarizes development at build-out under the proposed program and each alternative put forth for analysis:

Table 7.5-1
OARB Redevelopment Project Area Build-Out, 2002 through 2020, by Alternative

Potential Land Uses	Units[a]	Proposed Program	No Project	High Intensity	Reduced Intensity	Full Maritime	Gateway Reuse/ Eco-Park
Light Industry	sq. ft.	799,000	436,000	2,094,000	486,000	550,000	805,000
Office, R&D	sq. ft.	2,965,000	848,000	7,612,000	1,841,000	1,000,000	2,096,000
Commercial/Retail	sq. ft.	26,300	0	2,650,000	18,000	500,000	1,300
Warehouse/distribution	sq. ft.	300,000	2,480,000	1,594,000	266,000	305,000	444,000
Total square feet		**4,090,300**	**3,764,000**	**13,950,000**	**2,611,000**	**1,856,000**	**3,346,300**
Live/Work units		**375**	**0**	**375**	**280**	**375**	**375**
From uses listed above	ac.	208	373	208	208	43	189
Park, Public Access	ac.	30	29	30	30	30	30
New Marine Terminals	ac.	120	51	120	120	120	120
Marine Terminal Realignment	ac.	82	0	82	82	157	82
Ancillary Maritime Support	ac.	105	0	105	105	163	105
New Intermodal Facility	ac.	165	0	165	165	171	165
Acres to be redeveloped[b]		**710**	**453**	**710**	**710**	**684**	**691**
Total direct jobs generated[c]		**16,415**	**5,860**	**38,680**	**11,920**	**11,565**	**13,160**

Notes:

[a] sq. ft. = square feet; ac. = acres

[b] Acreages are gross land use, and are inclusive of roadway and utility rights-of way.

[c] These numbers should be reduced by 2,045 to derive net direct jobs generated..

7.5.1 Ability to Avoid or Reduce Program Impacts

This section presents a comparative evaluation of the ability of each alternative to avoid or substantially reduce significant impacts of the proposed program. The table also identifies whether an alternative would result in a significant impact not associated with the proposed program. The table identifies the level of significance of impacts prior to and after mitigation.

Under CEQA, the purpose of alternatives analysis is to identify and evaluate options that both meet the fundamental purpose of a proposed program, and have the potential to avoid or substantially reduce one or more significant impact of that proposed program. With mitigation, most significant impacts of the proposed program can be reduced to a level that is less than significant. Therefore, the following discussion focuses on those few residually significant (unavoidable and adverse) impacts of the proposed program that may be avoided or reduced to a level that is less than significant with implementation of an alternative. These impacts include the following:

- Increases in traffic on certain Metropolitan Transportation System (MTS) facilities already experiencing degraded levels of service (LOS)—I-80 east of the I-80/I-580 split; I-880

connector to I-80 east; I-880 from 7th Street to the segment south of I-238; I-580 east and west of I-980/SR-24; and SR-24 east of I-580.

- Contribute considerably to traffic on certain MTS freeway facilities experiencing cumulatively degraded LOS—I-80 from the Bay Bridge to east of the I-80/I-580 split; I-880 connector to I-80 east; I-880 from I-980 to the segment south of I-238; I-580 from west of I-980/SR-24 to I-238; and SR-24 east of I-580.
- Degrade LOS at the Maritime Street/West Grand Avenue intersection under the cumulative condition.
- Inadequate truck-related parking supply under the cumulative condition.
- Short-term increases in criteria air pollutants and diesel emissions from construction equipment.
- Long-term substantial increases in criteria air pollutants and diesel emissions from Maritime, rail, and trucking operations.
- Long-term increases in certain criteria pollutants from passenger vehicles and delivery trucks.
- Contribute considerably to long-term cumulative increases in criteria pollutants and diesel emissions.
- Loss of structures contributing to the National Register–eligible OARB Historic District.
- Loss of the integrity of the OARB Historic District.
- Contribute considerably to the cumulative loss of Bay Area military historic resources.
- Loss of visual evidence of the military history of West Oakland.
- Increases in risk of introduced invasive species in San Francisco Bay under redevelopment-specific and cumulative conditions.

The discussion also identifies unavoidable adverse impacts associated with alternatives that are not expected to occur with implementation of the proposed program. Finally, the discussion identifies benefits of the proposed program not realized by alternatives, or benefits of alternatives not realized by the proposed program. In this manner, decision-making can be efficiently informed regarding the most relevant differences between the proposed program and alternatives.

Table 7.5-2 summarizes the results of the alternatives analysis.

Table 7.5-2
Comparative Analysis: Ability to Avoid/Substantially Reduce Significant Environmental Impacts and to Achieve Benefits

Benefits and Significant Impacts	Proposed Program	No Project	High Intensity	Reduced Intensity	Full Maritime	Gateway Reuse/ Eco-Park
CONSISTENCY WITH PLANS AND POLICIES						
Advance Bay Plan polices regarding fish and wildlife, water quality, water-related industry, ports, recreation, and public access	B	**S/S**	B	B	B	B
Advance Seaport Plan policies regarding cargo forecasts, Port Priority use areas, marine terminals, and the Port of Oakland	B	**S/S**	B	B	B	B
Advance objectives and policies of the LUTE regarding expansion, retention of the Oakland job base and economic strength; provision of adequate infrastructure; reduction of truck effects on local neighborhoods; encouragement of waterfront access; creation of a high-quality natural and built waterfront environment; promotion of the Port of Oakland; provision of commercial areas; and construction of housing	B	**S/S**	LTS	B	B	B
TRANSPORTATION AND TRAFFIC						
Degrade LOS to below D at non-Downtown intersections	S/LTS	LTS	**S/S**	S/LTS	S/LTS	S/LTS
Effect LOS on MTS roadway segments	S/S	***LTS***	**S/S**	S/S	S/S	S/S
Increased traffic hazards	PS/LTS	LTS	**S/S**	PS/LTS	S/S	PS/LTS
Inadequate parking supply	PS/LTS	LTS	**S/S**	PS/LTS	PS/LTS	PS/LTS
Increased peak hour BART ridership at the West Oakland station	PS/LTS	LTS	**S/S**	PS/LTS	PS/LTS	PS/LTS
Contribute considerably to degraded LOS at the Maritime Street/West Grand Avenue intersection under cumulative conditions	S/S	***LTS***	**S/S**	***LTS***	S/S	***LTS***

Legend: B = Benefit LTS = Less than significant S = Significant PS = Potentially significant
Significance before mitigation/residual significance

Note: **Boldface** indicates an alternative's residual negative effect is substantially greater than that of the proposed program. ***Boldface Italics*** indicate an alternative's residual beneficial effect is substantially greater than that of the proposed program

Table 7.5-2
Comparative Analysis: Ability to Avoid/Substantially Reduce Significant Environmental Impacts and to Achieve Benefits

Benefits and Significant Impacts	Proposed Program	No Project	High Intensity	Reduced Intensity	Full Maritime	Gateway Reuse/ Eco-Park
Contribute considerably to increased congestion on the MTS system	S/S	***LTS***	**S/S**	S/S	S/S	S/S
Contribute considerably to cumulative deficit in truck parking facilities	S/S	PS/S	**S/S**	S/S	***LTS***	S/S
Contribute considerably to cumulatively impacted waiting times at BART gates	S/LTS	LTS	**S/S**	S/LTS	PS/LTS	S/LTS
AIR QUALITY						
Short-term increases in construction-related criteria pollutants and diesel emissions	S/S	***LTS***	S/S	S/S	S/S	PS/S
Long-term increases in criteria pollutants and diesel emissions from maritime, rail, and trucking operations	S/S	***S/LTS***	S/S	S/S	S/S	S/S
Long-term Increases in criteria pollutants and diesel emissions from passenger cars and delivery trucks	S/S	***LTS***	**S/S**	S/S	S/S	S/S
Contribute considerably to cumulatively impacted air quality	S/S	***LTS***	**S/S**	S/S	S/S	S/S
CULTURAL RESOURCES						
Loss of resources of the OARB Historic District	S/S	***LTS***	S/S	S/S	S/S	S/S
Loss of eligibility of the OARB Historic District to the National and California Registers of Historic Places	S/S	***LTS***	S/S	S/S	S/S	S/S
Cumulative loss of Bay Area cultural resources, particularly WWII era resources	S/S	***LTS***	S/S	S/S	S/S	S/S
POPULATION, HOUSING, AND EMPLOYMENT						
Population growth	LTS	LTS	**S/S**	LTS	LTS	LTS

Legend: B = Benefit LTS = Less than significant S = Significant PS = Potentially significant
Significance before mitigation/residual significance

Note: **Boldface** indicates an alternative's residual negative effect is substantially greater than that of the proposed program. *Italics* indicates an alternative's residual beneficial effect is substantially greater than that of the proposed program

Table 7.5-2
Comparative Analysis: Ability to Avoid/Substantially Reduce Significant Environmental Impacts and to Achieve Benefits

Benefits and Significant Impacts	Proposed Program	No Project	High Intensity	Reduced Intensity	Full Maritime	Gateway Reuse/ Eco-Park
PUBLIC SERVICES AND INFRASTRUCTURE						
Increased sewer flows	LTS	LTS	**S/S**	LTS	LTS	LTS
AESTHETICS						
Blockage of short-term, mid-ground views	LTS	N	**S/S**	LTS	LTS	N
Loss of visual evidence of the military history of West Oakland	S/S	***LTS***	S/S	S/S	S/S	***LTS***
BIOLOGICAL RESOURCES						
Increase in risk of invasive species	PS/S	***LTS***	PS/S	PS/S	PS/S	PS/S
GEOLOGY, SEISMICITY, AND SOILS						
Reduction in seismic risk by removal of older buildings	B	**S/S**	B	B	B	**S/S**

1

Legend: B = Benefit LTS = Less than significant S = Significant PS = Potentially significant
Significance before mitigation/residual significance

Note: **Boldface** indicates an alternative's residual negative effect is substantially greater than that of the proposed program. ***Boldface Italics*** indicate an alternative's residual beneficial effect is substantially greater than that of the proposed program

7.5.2 No Project Alternative

The No Project alternative would achieve few of the benefits of the proposed redevelopment program. The alternative would generate only approximately one-quarter of the number of direct jobs generated by the proposed program, and none of the housing. Other direct benefits of redevelopment that would not occur under this alternative include the following:

- advancement of many planning and environmental policies and goals of area plans;
- development of a more vibrant and compatible local and regional land use mix;
- improvement of historic character in the 16th/Wood sub-district;
- remediation of soil and water on a local, area-wide, and regional basis;
- replacement of aged infrastructure;
- development of local and regional public access facilities, including Bay Trail linkages, and a cumulative per-capita increase in Oakland parkland;
- improvement of the local and area-wide visual environment;
- improvements in wildlife water and audio environments; and
- reductions in seismic risks; and long-tem improvement of surface water quality. The No Project alternative would generate about 55 percent of the daily trips that would be generated by the proposed redevelopment program.

Avoidance or Substantial Reduction of Significant Redevelopment Impacts

Traffic. Compared to the proposed redevelopment program, this alternative would result in a relatively large decrease in economic activity, resulting in about 3,815 net direct jobs, as well as commensurate decrease in traffic. In absolute terms, the alternative would result in a moderate increase in such activity. Based on its substantially lower level of economic activity and employment relative to the proposed program, the alternative is expected to substantially reduce the effect of proposed redevelopment on MTS facilities, including area freeways. It should be noted, however, that the impact to freeways relates to facilities that would operate at degraded levels of service without redevelopment.

This alternative is not expected to result in substantially degraded LOS at the Maritime Street/West Grand Avenue intersection under the cumulative condition, as would the proposed program.

Truck Parking. Compared to the proposed program, this alternative would result in a relatively substantial decrease in economic activity, including economic activity of the Port of Oakland that could result in truck-related demand for parking. However, under this alternative, in absolute terms, Port activities would increase to their maximum extent, without the benefit of additional AMS acreage available under the proposed program. For this reason, the alternative is not

expected to substantially reduce the impact of the redevelopment program regarding a cumulative deficit in truck parking facilities**.**

Air Quality. Under this alternative, little or no construction/remediation activity would occur, and emissions from construction equipment would not occur, or would be negligible. The alternative would avoid the residually significant impact of the proposed program regarding emissions from construction equipment.

Compared to the proposed redevelopment program, this alternative would result in a relatively large decrease in economic activity, as well as a commensurate decrease in activity of mobile pollutant sources. Based on its relatively low level of economic activity, this alternative is expected to generate pollutant emissions in quantities substantially less than those of the proposed program. Nevertheless, in absolute terms it is expected this alternative would still generate amounts of criteria pollutants in excess of significance thresholds.

Cultural Resources. Under this alternative, historic structures may be adaptively reused or mothballed (they would be closed up and receive minimal maintenance). The alternative does not specifically propose active conservation of historic buildings. Buildings that are mothballed can be expected to physically decline. Nevertheless, OARB buildings would be retained in one form or another under this alternative, and it is expected this alternative would substantially reduce the residually significant direct and cumulative impacts of the proposed program regarding physical loss of historic resources.

Aesthetics. Under this alternative, OARB buildings would remain (even in a potentially altered state), and this alternative would not eliminate most visual evidence of West Oakland's military history. This alternative substantially reduces the residually significant impact of the proposed program regarding the loss of such visual evidence.

Invasive Species. Compared to the proposed redevelopment program, this alternative would result in relatively modest Port development and shipping activities, including activities resulting in ballast water discharges to the Bay. The alternative is expected to reduce the potentially significant direct and cumulative impact of the redevelopment program regarding risk from establishment of invasive species in the Bay.

Significant Impacts of the Alternative not Associated with the Proposed Program

The No Project alternative would result in the following potential residually significant impacts not associated with the proposed program:

- **Fundamental inconsistency with Bay and Seaport plan throughput projections.** The alternative would not allow the Port of Oakland to develop sufficient acreage to handle its share of Bay Area 2020 throughput projections as described in the Seaport Plan. In the absence of adequate Port of Oakland throughput, Bay Area goods could arrive via truck from the Los Angeles/Long Beach cargo gateway, with attendant increases in traffic, noise, and air pollution.

- **Fundamental inconsistency with the LUTE.** This alternative would fail to meet numerous LUTE policies, including provision of adequate infrastructure, reduction of truck effects on neighborhoods, encouragement of waterfront access, promotion of the Port, and construction of housing.
- **Increased seismic risk.** The alternative would reuse existing buildings on their current sites, and while some seismic upgrades would occur, correction of underlying strata would not occur.

7.5.3 High Intensity Alternative

Although the High Intensity alternative could, in theory, achieve all benefits of the proposed redevelopment program, resulting traffic levels and other associated impacts could preclude achievement of many of these benefits. The alternative would generate approximately 2½ times the number of direct jobs generated by the proposed program, all of the direct housing, and substantially more housing from tax-increment financing. The High Intensity Alternative would generate about 330 percent of the daily trips that would be generated by the proposed development program.

Avoidance or Substantial Reduction of Significant Redevelopment Impacts

Traffic. Compared to the proposed redevelopment program, this alternative would result in very large increases in economic activity, resulting in 36,635 net direct jobs, as well as commensurate high increases in traffic. Based on its substantially higher level of economic activity relative to the proposed program, the alternative is expected to significantly degrade area freeway segments that would operate at a degraded LOS without redevelopment. Due to its scope, the alternative would have a greater negative effect on freeway segment LOS relative to the effect of the proposed program. In addition, the alternative is likely to negatively affect a greater number of freeway segments than the proposed program. The alternative would not avoid or substantially reduce the contribution of proposed redevelopment to the residually significant impact of proposed redevelopment on area freeways, and may substantially worsen the impact.

This alternative would result in substantially degraded LOS at the Maritime Street/West Grand Avenue intersection under the cumulative condition, and the alternative would not avoid or substantially reduce the residually significant impact of the proposed program regarding degraded LOS at that intersection and would substantially worsen that input. In addition, the alternative is expected to negatively affect a greater number of intersections than the proposed program.

Truck Parking. Compared to the proposed program, this alternative would result in substantial absolute and relative increases in economic activity, including economic activity of the Port of Oakland that could result in truck-related demand for parking. For this reason, the alternative is not expected to substantially reduce the impact of the redevelopment program regarding a cumulative deficit in truck parking facilities**.**

Air Quality. Compared to the proposed program, this alternative would result in remediation activities of similar type and magnitude, and in construction activities of similar type, but of greater magnitude. Construction/remediation would result in generation of substantial quantities of both criteria pollutants and diesel emissions. The alternative is expected to worsen the significant impact of redevelopment regarding such emissions.

Compared to the proposed redevelopment program and in absolute terms, this alternative would result in a very large increase in economic activity, as well as a commensurate very high increase in activity of mobile pollutant sources. Based on its relatively much higher level of economic activity, this alternative is expected to generate pollutant emissions in quantities substantially greater than those of the proposed program and well in excess of significance thresholds. The alternative is expected to worsen the impact of the redevelopment regarding long-term direct and cumulative term increases in criteria pollutants and diesel emissions.

Cultural Resources. Under this alternative, most historic structures—with the exception of Wharf 7 and the majority of Wharf 6½—would be demolished or de-constructed. This alternative would not avoid or substantially reduce the residually significant direct and cumulative impacts of the proposed program regarding loss of historic resources.

Aesthetics. Under this alternative, all OARB historic buildings would be removed, and with them, most visual evidence of the military history of West Oakland. This alternative does not avoid or substantially reduce the residually significant impact of the proposed program regarding the loss of such visual evidence.

Invasive Species. Compared to the proposed redevelopment program, this alternative would result in levels of Port development and shipping activities similar to the proposed redevelopment program, including activities resulting in ballast water discharges to the Bay. The alternative is not expected to substantially reduce the significant direct and cumulative impact of the redevelopment program regarding risk from establishment of invasive species in the Bay.

Significant Impacts of the Alternative not Associated with the Proposed Program

The High Intensity alternative would result in the following potential residually significant impacts not associated with the proposed program:

- **Degraded LOS at area intersections.** Due to the very high amounts of traffic this alternative would generate, the LOS of numerous area intersections is likely to be substantially degraded, and the local roadway system overwhelmed. The Army's Environmental Impact Statement (EIS) analyzes a reuse alternative (Reuse Alternative No. 6—Maximum Density) similar in scale to this alternative, with approximately 12 million square feet of office, plus maritime and rail uses. The EIS finds that Reuse Alternative No. 6 would result in "significant, long-term, direct adverse effects to onsite and regional traffic. Reuse Alternative No. 6 would generate 183,000 daily trips (U.S. Army 2001) compared to 148,000 daily trips for the High Intensity Alternative. The impacts of Reuse Alternative No. 6

and the High Intensity Alternative would be similar.[8] Reuse Alternative No. 6 would generate traffic demand on the local roadway system at levels that could only be accommodated by a freeway system. In essence, both Reuse Alternative No. 6 and the High Intensity Alternative represent total breakdown of the current local roadway system, and would likely require redesign and re-construction of the local circulation system including elevated West Grand Avenue and all connectors to the freeway system.

- **Traffic hazards.** This alternative would result in both public access via trails, and substantially increased traffic of all types. The extremely high volume of traffic generated by this alternative could pose a substantial hazard to those using non-motorized forms of transportation.
- **Inadequate parking supply.** According to the Army's EIS, Reuse Alternative No. 6 would require approximately 34,000 parking spaces. Such demand would require numerous multi-story parking structures, or multi-story parking integrated into office buildings. It is not certain this demand can be balanced on-site. In addition, this alternative would generate so much demand for transit service, it could substantially increase parking demand at area BART stations.
- **Transit demand.** Because this alternative would result in very high amounts of direct employment, it is expected to result in substantial increases in transit use that would be considered significant impacts. While the impact to bus service could be mitigated to less than significant with addition of buses, it is unlikely that cumulative impacts to operations at the West Oakland BART station could be mitigated to a level that is less than significant. Peak commute hour delays to BART riders at exit gates in the cumulative condition would be greater than acceptable under significance criteria.
- **Inadequate sewage transport and treatment capacity.** This alternative would substantially increase sewage flows over the proposed redevelopment program. Based on the analysis of sewage demand and available transport/treatment capacity for the proposed program (Appendix 4.9), it can be stated that sufficient capacity does not exist in the sewage transport and treatment system to serve the level of demand that would be generated by this alternative.
- **View blockage.** This alternative would require a fairly compact mass of multiple, multi-story buildings and parking structures. These buildings would substantially block short-term views from the Bay Bridge toward downtown Oakland and the Oakland Hills.

7.5.4 Reduced Intensity Alternative

The Reduced Intensity alternative would achieve all of the benefits of the proposed program, but would not achieve all objectives to the same extent as the proposed program. The alternative

[8] The number of trips generated by Reuse Alternative No. 6 would be about 400 percent of the number of trips generated by the proposed redevelopment program. The number of trips generated by the High Intensity Alternative would be 330 percent of the number of trips generated by the proposed program. The impacts of Reuse Alternative No. 6 and the High Intensity Alternative would be of similar orders of magnitude.

would generate approximately two-thirds of the number of direct jobs generated by the proposed program, three-quarters of the direct housing, and somewhat less housing from tax-increment financing. The Reduced Intensity alternative would generate about 85 percent of the daily trips that would be generated by the proposed redevelopment program.

Avoidance or Substantial Reduction of Significant Redevelopment Impacts

Traffic. Compared to the proposed redevelopment program, this alternative would result in a modest decrease in economic activity, resulting in about 12,545 net direct jobs, as well as a commensurate decrease in traffic. In absolute terms, the alternative would result in a high increase in such activity. Based on its somewhat lower level of economic activity and employment relative to the proposed program, the alternative is expected to modestly reduce the effect of proposed redevelopment on MTS facilities, including area freeways. It should be noted, however, that the impact to freeways relates to facilities that would operate art degraded levels of service without redevelopment.

This alternative is expected to result in substantially degraded LOS at the Maritime Street/West Grand Avenue intersection under the cumulative condition, as would the proposed program.

Truck Parking. Compared to the proposed program, this alternative would result in a relatively modest decrease in economic activity, including economic activity of the Port of Oakland that could result in truck-related demand for parking. For this reason, the alternative is not expected to substantially reduce the impact of the redevelopment program regarding a cumulative deficit in truck parking facilities**.**

Air Quality. Compared to the proposed program, this alternative would result in remediation and construction activities of similar type and magnitude. Construction/remediation would result in generation of substantial quantities of both criteria pollutants and diesel emissions. The alternative is not expected to substantially reduce the impact of redevelopment regarding such emissions.

Compared to the proposed redevelopment program, this alternative would result in a modest decrease in economic activity, as well as a commensurate modest decrease in activity of mobile pollutant sources. Based on its relatively lower level of economic activity, this alternative is expected to generate pollutant emissions in quantities somewhat less than those of the proposed program. Nevertheless, this alternative would generate amounts of criteria pollutants in excess of significance thresholds. The alternative would not avoid or substantially reduce the impact of the redevelopment program regarding long-term direct and cumulative term increases in criteria pollutants and diesel emissions.

Cultural Resources. Under this alternative, most historic structures—with the exception of Wharf 7 and the majority of Wharf 6½—would be demolished or de-constructed. This alternative would not avoid or substantially reduce the residually significant direct and cumulative impacts of the proposed program regarding loss of historic resources.

Aesthetics. Under this alternative, all OARB historic buildings would be removed, and with them, most visual evidence of the military history of West Oakland. This alternative does not avoid or substantially reduce the residually significant impact of the proposed program regarding the loss of such visual evidence.

Invasive Species. Under this alternative, the level of Port development and shipping activities would be similar to the redevelopment program. The alternative is not expected to reduce the significant direct and cumulative impact of the redevelopment program regarding risk from establishment of invasive species in the Bay.

Significant Impacts of the Alternative not Associated with the Proposed Program

The Reduced Intensity alternative would not result in residually significant impacts not associated with the proposed program.

7.5.5 Full Maritime

The Full Maritime alternative would achieve all of the benefits of the proposed program, but would not achieve all objectives to the same extent as the proposed program. Under this alternative, the OARB sub-district would be dedicated entirely to industrial maritime facilities, and the alternative would result in a less balanced land use mix or visual setting than the proposed program. The alternative would generate approximately two-thirds of the number of direct jobs generated by the proposed program, all of the direct housing, and approximately the same amount of housing from tax-increment financing. The Full Maritime alternative would generate about 180 percent of the daily trips that would be generated by the proposed program.

Avoidance or Substantial Reduction of Significant Redevelopment Impacts

Traffic. Compared to the proposed redevelopment program, this alternative would result in a moderate decrease in economic activity, resulting in about 11,560 net direct jobs, as well as a commensurate decrease in traffic. In absolute terms, the alternative would result in a high increase in such activity. Based on its somewhat lower level of economic activity and employment relative to the proposed program, the alternative is expected to modestly reduce the effect of proposed MTS facilities, including area freeways. It should be noted, however, that the impact to freeways relates to facilities that would operate art degraded levels of service without redevelopment.

This alternative would result in substantially degraded LOS at the Maritime Street/West Grand Avenue intersection under the cumulative condition, as would the proposed program.

Truck Parking. Compared to the proposed program, this alternative could result in absolute and relative increases in maritime-related economic activity, including activity of the Port of Oakland that could result in truck-related demand for parking. However, this alternative also includes substantially greater acreage in the Port area available to meet parking demand. For

this reason, the alternative is expected to substantially reduce the impact of the redevelopment program regarding a cumulative deficit in truck parking facilities**.**

Air Quality. Compared to the proposed program, this alternative would result in remediation and construction activities of similar type and magnitude. Construction/remediation would result in generation of substantial quantities of both criteria pollutants and diesel emissions. The alternative is not expected to substantially reduce the impact of redevelopment regarding such emissions.

Compared to the proposed redevelopment program, this alternative would result in a modest decrease in employment and non-Maritime economic activity, a modest potential increase in Maritime economic and modest decrease in activity of mobile pollutant sources. Based on its relatively lower level of economic activity, this alternative is expected to generate pollutant emissions in quantities somewhat less than those of the proposed program. Nevertheless, this alternative would generate amounts of criteria pollutants in excess of significance thresholds. The alternative would not avoid or substantially reduce the impact of the redevelopment program regarding long-term direct and cumulative term increases in criteria pollutants and diesel emissions.

Cultural Resources. Under this alternative, most historic structures—with the exception of Wharf 7 and the majority of Wharf 6½—would be demolished or de-constructed. This alternative would not avoid or substantially reduce the residually significant direct and cumulative impacts of the proposed program regarding loss of historic resources.

Aesthetics. Under this alternative, all OARB historic buildings would be removed, and with them, most visual evidence of the military history of West Oakland. This alternative does not avoid or substantially reduce the residually significant impact of the proposed program regarding the loss of such visual evidence.

Invasive Species. Compared to the proposed redevelopment program, this alternative could result in levels of Port development activities greater than that of the proposed redevelopment program, and shipping activities similar in magnitude or somewhat greater than under the proposed program, including activities resulting in ballast water discharges to the Bay. The alternative is not expected to avoid or reduce the significant direct and cumulative impact of the redevelopment program regarding risk from establishment of invasive species in the Bay.

Significant Impacts of the Alternative not Associated with the Proposed Program

The Full Maritime alternative would not result in residually significant impacts not associated with the proposed program.

7.5.6 Gateway Adaptive Reuse/Eco-Park

The Gateway Adaptive Reuse/Eco-Park alternative would achieve all but one of the benefits of the proposed program: because older buildings would be reused, the alternative would not

reduce seismic risk related to subsurface conditions. The alternative would generate approximately three–quarters of the number of direct jobs generated by the proposed program, all of the direct housing, and somewhat less housing from tax-increment financing. The Gateway Adaptive Reuse/Eco-Park alternative would generate approximately 90 percent of the daily trips that would be generated by the proposed program.

Avoidance or Substantial Reduction of Significant Redevelopment Impacts

Traffic. Compared to the proposed redevelopment program, this alternative would result in a moderate decrease in economic activity, resulting in about 11,115 net direct jobs, as well as a commensurate modest decrease in traffic. In absolute terms, the alternative would result in a high increase in such activity. Based on its somewhat lower level of economic activity and employment relative to the proposed program, the alternative is expected to modestly reduce the effect of proposed redevelopment on MTS facilities, including area freeways. It should be noted, however, that the impact to freeways relates to facilities that would operate art degraded levels of service without redevelopment.

Truck Parking. Compared to the proposed program, this alternative would result in a relatively modest decrease in economic activity, including economic activity of the Port of Oakland that could result in truck-related demand for parking. For this reason, the alternative is not expected to substantially reduce the impact of the redevelopment program regarding a cumulative deficit in truck parking facilities**.**

This alternative is expected to result in substantially degraded LOS at the Maritime Street/West Grand Avenue intersection under the cumulative condition, as would the proposed program.

Air Quality. Compared to the proposed program, this alternative would result in remediation and construction activities of similar type but lesser magnitude. Nevertheless, construction/remediation is expected to result in generation of substantial quantities of both criteria pollutants and diesel emissions. The alternative is not expected to substantially reduce the impact of redevelopment regarding such emissions.

Compared to the proposed redevelopment program, this alternative would result in a modest decrease in economic activity, as well as a slight decrease in activity of mobile pollutant sources. Based on its relatively lower level of economic activity, this alternative is expected to generate pollutant emissions in quantities somewhat less than those of the proposed program. Nevertheless, this alternative would generate amounts of criteria pollutants in excess of significance thresholds. The alternative would not avoid or substantially reduce the impact of the redevelopment program regarding long-term direct and cumulative term increases in criteria pollutants and diesel emissions.

Cultural Resources. Under this alternative, all historic structures within the Gateway development area—with the exception of a portion of Wharf 6½, which would be demolished in order to accommodate the Port's New Berth 21—would be retained and adaptively reused. All

historic structures within the Port development area, as well as a portion of Wharf 6½ would be demolished or de-constructed. This would alter the integrity of the OARB Historic District sufficiently to make it ineligible for the National Register. Therefore, while this alternative would lessen the impact to cultural resources, it would not avoid or substantially reduce the residually significant direct and cumulative impacts of the proposed program regarding loss of historic resources.

Aesthetics. Under this alternative, some, but not all, OARB buildings would remain (although they may be in a potentially altered state due to adaptive reuse), and this alternative would not eliminate most visual evidence of West Oakland's military history. This alternative substantially reduces the residually significant impact of the proposed program regarding the loss of such visual evidence.

Invasive Species. Under this alternative, the level of Port development and shipping activities would be similar to the redevelopment program. The alternative is not expected to reduce the significant direct and cumulative impact of the redevelopment program regarding risk from establishment of invasive species in the Bay.

Significant Impacts of the Alternative not Associated with the Proposed Program

The Gateway Adaptive Reuse/Eco-Park alternative would result in the following residually significant impact not associated with the proposed program:

- **Increased seismic risk:** The alternative would reuse existing buildings on their current sites, and while some seismic upgrades would occur, correction of underlying strata would not occur.

7.5.7 The Environmentally Superior Alternative

Based on this analysis, the No Project is the environmentally superior alternative, with the least environmental effect to the environment. The No Project alternative does not fundamentally achieve basic redevelopment objectives, and results in substantially less environmental and socioeconomic benefits than would the proposed redevelopment program (benefits of redevelopment are summarized in Chapter 1: Summary, and described in greater detail throughout Chapter 4: Setting and Baseline, Impacts, and Mitigation). Of the four "action" alternatives and the proposed program, the Full Maritime and Gateway Reuse/Eco-Park alternatives are both environmentally superior to the proposed project. The main advantage to the Full Maritime alternative is that it includes substantially more acreage available for Port-related trucking industries. Such industries currently located in West Oakland could move from the neighborhood closer to the Port area. However, beyond the 2020 build-out date for this EIR, the Full Maritime alternative provides the opportunity, if demand warrants, to increase Maritime activities, resulting in more ship, rail and truck trips; increasing these activities could result in commensurate worsening of impacts related to air quality, traffic, and of risk of establishment of invasive species in the Bay. The main advantage of the Gateway Reuse/Eco-Park is that it would preserve the historic district contributing structures in the Gateway development area and

would better promote the City's sustainable development polices. Therefore, the Gateway Reuse/Eco-Park alternative is considered the environmentally superior alternative.

❖ ❖ ❖

❖

8. CONSULTATION

Several public and agency consultation efforts preceded or coincide with establishment of the redevelopment project area and its analysis in this Environmental Impact Report (EIR). In addition, public participation has played a key role in identifying potential land uses in the Oakland Army Base (OARB) sub-district, establishing the redevelopment project area, and in determining the scope (content) of this EIR. Main public processes include the following, generally in chronological order:

- Evaluation of the disposal and reuse of the OARB by the U.S. Army.
- Planning for community reuse of the OARB by Oakland citizens and the Oakland Base Reuse Authority (OBRA).
- Establishment of the OARB area redevelopment project area by the City.
- Analysis of environmental effects of redevelopment as discussed in this EIR.

8.1 CONSULTATION IN ARMY EVALUATION OF BASE DISPOSAL AND REUSE

In evaluating the disposal (primarily) and reuse (secondarily) of the OARB, the Army undertook several processes that involved consultation with other agencies and the public. The Army:

- prepared an Environmental Impact Statement (EIS) pursuant to the National Environmental Policy Act (NEPA) disclosing the effects of Base closure and disposal on the environment;
- consulted with and requested and received concurrence with the Coastal Zone Consistency Determination from the Bay Conservation and Development Commission (BCDC) pursuant to the Coastal Zone Management Act (CZMA);
- consulted with the State Office of Historic Preservation regarding cultural resources pursuant to the National Historic Preservation Act (NHPA); and
- consulted with the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS) regarding biological resources pursuant to the Endangered Species Act (ESA).

8.1.1 Environmental Impact Statement Consultation

Most recently, the Army prepared a Supplemental Draft EIS (June 2001) and Final (December 2001) for Army disposal and community reuse of the OARB. The Army sought to obtain informed public input via number of forums. To that end, the Army:

- Provided a forum for the expression of concerns about the reuse planning process at public meetings with community and technical advisory groups, including on-going meetings with the community Remediation Advisory Board.
- Established and provided access to technical information in public repositories located at OARB and at the Oakland Public Library.
- Established and provided access to technical information in public repositories located at OARB and at the Oakland Public Library.
- Provided a forum for the expression of concerns about the reuse planning process at public meetings with community and technical advisory groups.
- Provided a scoping period for public comment on topics to be addressed in the EIS.
- Conducted a public and agency scoping meeting to receive comments.
- Provided the required public comment periods for the Draft EIS, Supplemental Draft EIS, and Final EIS.
- Published public notices of meetings.
- Mailed public announcements.
- Coordinated media coverage, press releases, and feature articles.
- Created and updated a mailing list to disseminate information to the public.

8.1.2 Coastal Zone Consistency Determination Consultation

Pursuant to the CZMA as amended (16 United States Code [USC] § 1451), the Army obtained concurrence on its consistency determination from the Bay Conservation and Development Commission in May 2001. Federal actions proposed for the coastal zone, including actions such as the Army's closure and transfer of the OARB, must be consistent to the maximum extent practicable with the CZMA and the California Coastal Management Program (CCMP).

The Army originally consulted with BCDC regarding consistency on a Base reuse scenario very different from that currently proposed at the OARB. BCDC did not concur that the original plan was consistent with the CZMA and CCMP, and recommended revisions to reuse as proposed. The Army consulted with both the OBRA and the Port of Oakland to revise the reuse scenario. The revised scenario required amendment of the Bay Plan (BCDC 1968, as amended) and the Seaport Plan (BCDC and Metropolitan Transportation Commission [MTC] 1996, as amended). These amendments were reviewed by BCDC and put out for public review and comment during a 38-day period. BCDC also consulted with the public by taking comments at a public hearing on December 7, 2000.

On January 29, 2001, BCDC amended the Bay and Seaport plans to reflect the revised OARB reuse scenario. In May of that year, BCDC concurred with the Army's consistency determination, signifying the conclusion of CZMA consultation.

8.1.3 National Historic Preservation Act Consultation

Pursuant to Section 106 of the NHPA (16 USC § 470 *et seq.*), the Army engaged in consultation with the State Office of Historic Preservation regarding historic resources on the Base from September 2000 to December 2001. In addition, in August 2000, the Army consulted with the Oakland cultural resources community regarding appropriate treatment of OARB historic resources. Through the Section 106 consultation process, the Army took into account the effect of its undertaking on historic resources that are listed, or are eligible for listing on the National Register of Historic Places (NRHP). On December 11, 2001, a Memorandum of Understanding (MOU) was executed between the State Historic Preservation Officer and the Army. That MOU describes the Section 106 consultation process and its conclusions, and its execution signifies completion of the NHPA Section 106 consultation process.

8.1.4 Endangered Species Act Section 7 Consultation

Pursuant to Section 7 of the ESA (16 USC § 1531 *et seq.*), the Army consulted with the USFWS and the NMFS regarding potential impact the disposal and reuse of the Base might have on listed species. In a letter dated October 11, 2000, the USFWS concurred with the Army's determination that the disposal and reuse of the OARB are not likely to adversely affect listed species, specially the California least tern. In a letter dated April 10, 2000, the NMFS determined the actions associated with the Army's proposed disposal and reuse of the OARB have either been previously addressed, or will be addressed in future Section 7 consultations. These two letters, included in Appendix 4.12, signify that Army consultation with resources agencies under Section 7 is complete. Any subsequent redevelopment activity that requires permits from the U.S. Army Corps of Engineers may require Section 7 consultation.

8.2 CONSULTATION IN PLANNING COMMUNITY REUSE OF THE OAKLAND ARMY BASE

8.2.1 Base Reuse Plan Consultation

As part of the reuse planning process, the OBRA established the West Oakland Community Advisory Group (WOCAG) to examine reuse opportunities and recommend community reuse options for OBRA's consideration. The WOCAG is a 45-member advisory board on which serve Oakland residents, business owners, and activists. The OBRA and WOCAG met over a five-year period to discuss and plan reuse of the Base, and produced the *OARB Draft Final Reuse Plan* (OBRA 1998). The proposed development scenario of this Reuse Plan was deemed inconsistent with the CCMP by BCDC during its consultation with the Army described above.

The OBRA and WOCAG engaged in further consultation, revised their vision for reuse of the Base, and prepared the *Amended OARB Draft Final Reuse Plan* (OBRA 2001). The OBRA continues to consult with the WOCAG regarding reuse of the OARB.

8.2.2 Redevelopment Plan Consultation

On July 11, 2000, the City adopted and approved the *Redevelopment Plan for the Oakland Base Redevelopment Project* (City of Oakland 2000), and established a redevelopment project area with the OARB at its core. Consultation with the public and potentially affected agencies regarding the boundaries of the project area, funding mechanisms, and fiscal impacts occurred as follows:

- The Oakland Planning Commission considered the Redevelopment Plan in May 2000 at a publicly noticed meeting.
- The City Council and Oakland Redevelopment Agency consulted with the public regarding deferral of the CEQA process at a publicly noticed joint hearing in June 2000.
- The City adopted Ordinance No. 12259 C.M.S. July 11, 2000, thereby approving and adopting Redevelopment Plan, including the OARB Reuse Plan, as may be amended from time to time.

8.3 CONSULTATION IN ENVIRONMENTAL IMPACT REPORT DEVELOPMENT

8.3.1 Consultation Requirements Under the California Environmental Quality Act

The following summarizes the consultation and notice requirements for EIRs in chronological order. This information is from *Circulation and Notice under the California Environmental Quality Act* (Governor's Office of Planning and Research 2001).

Notice of Preparation. CEQA at Public Resources Code (PRC) Section 21080.4 and Guidelines Section 15082 requires that the lead agency immediately send notice of its determination to prepare an EIR to all responsible agencies, trustee agencies, and the Governor's Office of Planning and Research (OPR). These agencies have 30 days to specify the scope and content of the environmental information germane to their area of statutory responsibility that must be included in the EIR. PRC Section 21080.4 further provides that the lead agency must convene a scoping meeting to discuss these issues upon the request of any responsible agency, trustee agency, or the project applicant. Upon request of a lead agency, OPR shall assist the scoping effort by identifying the various responsible and trustee agencies. The Notice of Preparation (NOP) must be sent by certified mail or equivalent procedure.

Early Public Consultation. Prior to completing the draft EIR, Guidelines Section 15083 provides that the lead agency may also consult with other persons or organizations that may be concerned with the environmental effects of the project. PRC Sections 21104 and 21153 require

the lead agency to consult with responsible and trustee agencies and with adjoining cities and counties. Early consultation, also called scoping, provides the opportunity to identify the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in depth in the EIR.

Consultation with Water Agencies. Projects affecting water agencies and meeting the criteria established under Guidelines Section 15083.5 are required to send the NOP to each public water system that serves or would serve the proposed project. These agencies have 30 days to submit a water supply assessment addressing the adequacy of the supply to support the demand created by the project. The lead agency shall include in the EIR the information provided by the water agency (up to 10 pages) and must determine whether projected water supplies will be sufficient to meet the demand of the project, in addition to existing and planned future uses.

Notice of Completion. PRC Section 21161 and Guidelines Section 15085 require the lead agency to file a Notice of Completion with OPR as soon as a draft EIR is completed. Where the draft EIR will be reviewed through the State Clearinghouse, the Notice of Completion requirement can be satisfied by submitting the cover form required by the State Clearinghouse.

Public Review of Draft EIR. Guidelines Section 15087 requires that the lead agency give public notice of the availability of a draft EIR by one of several methods at the same time that it submits the Notice of Completion to OPR. Notice must also be sent to affected responsible, trustee, and federal agencies. The method and contents of this notice are prescribed by Section 15087 and PRC Section 21092.

Posting of Notice. PRC Section 21092.3 and Guidelines Section 15087(c) require the notice of availability of a draft EIR to be posted for 30 days in the office of the county clerk of each county in which the project will be located.

Notice to Individuals. PRC Section 21092.2 requires notice of the availability of a draft EIR to be mailed to any person who has filed a written request for notification with the lead agency.

Agency Consultation. When a draft EIR is completed, Guidelines Section 15086 requires the lead agency to consult with the affected responsible and trustee agencies, as well as any city or county which borders the city or county within which the project is proposed. The lead agency must request comments from these agencies on the draft EIR.

Additional Agency Consultation. PRC Section 21092.4 further requires the lead agency for a project which would have statewide, regional, or area-wide significance to consult with the regional transportation planning agency and public agencies that have transportation facilities which would be affected.

California Department of Transportation Scoping Meeting. PRC Section 21083.9 specifies that when so requested by the California Department of Transportation (Caltrans), a lead

agency must call at least one scoping meeting to discuss any proposed project that may affect highways or other Caltrans facilities.

Department of Fish and Game. PRC Section 21104.2 requires state lead agencies to consult, and obtain written findings from, the California Department of Fish and Game (CDFG) regarding the potential impacts of a project on state-listed endangered or threatened species.

Review and Consultation Period. Pursuant to Guidelines Section 15105, the period for public and agency review of and consultation on a draft EIR shall not be less than 30 days, nor should it be longer than 60 days except under unusual circumstances. When a draft EIR is submitted to the State Clearinghouse, the review period shall not be less than 45 days, unless a shorter period of not less than 30 days is approved by the State Clearinghouse. Draft EIRs which must be submitted to the State Clearinghouse for review include:

- EIRs prepared by a state agency;
- those prepared by a public agency where a state agency is a responsible or trustee agency;
- those prepared for a project of statewide, regional, or area-wide environmental significance; and
- draft EISs and environmental assessments prepared pursuant to NEPA.

Projects of statewide, regional, or area-wide significance are defined in Guidelines Section 15206.

Comments on Draft Environmental Impact Report. PRC Section 21091 requires the lead agency to include in the final EIR responses to comments that describe the disposition of any significant effects identified by commenters. PRC Section 21092.5 further requires that written responses to the comments submitted by public agencies be provided to those agencies at least 10 days prior to certification of the final EIR (this requirement can be satisfied by providing a copy of the Final EIR).

Local Agency Notice of Determination. A local agency that approves or determines to carry out a project for which an EIR was certified must file a Notice of Determination with the county clerk within five working days of its action (PRC § 21152 and Guidelines § 15094). The notice must be posted by the clerk within 24 hours of receipt, remain posted for 30 days, and, when the posting period is over, be returned to the local agency with certification of its posting. If the project also requires discretionary approval from a state agency, the notice must also be filed with the OPR (Guidelines § 15094). Filing a Notice of Determination triggers a 30-day statute of limitations for CEQA litigation. If the notice is not filed with the County Clerk or OPR, the statute of limitations becomes 180 days from the date the decision is made to carry out or approve a project, or where no formal decision is required, 180 days from the date the project is commenced (PRC § 21167 and Guidelines § 15112).

Copy of Final Environmental Impact Report. Guidelines Section 15095 requires the lead agency to file a copy of the final EIR with the planning agency of any city or county where significant environmental effects may occur. In addition, the applicant must be required to provide a copy of the certified final EIR to each responsible agency (PRC § 21092.5(a)).

8.3.2 Consultation for this Environmental Impact Report

The City of Oakland is the lead agency for environmental review pursuant to the CEQA. On August 10, 2001, the City initiated public consultation on the environmental review process via an NOP, included in this document as Appendix 1A). The OPR, which notifies relevant state agencies of available NOPs, received the NOP on August 15, 2001, initiating a 36-day NOP review period, which ended September 19, 2001. The NOP was also mailed to Alameda County, trustee, and responsible agencies, regional regulatory and service agencies, environmental and business groups, and interested individuals. The NOP described the City's intent to prepare an EIR, briefly presented background and descriptive information, and listed the probable environmental effects of redevelopment. The NOP also described how the public should provide written or verbal input and comments on the scope (content) of the EIR, and provided notice of two public meetings.

Citizens provided input at the September 1, 2001 scoping meeting; citizens, community board members, and decision-makers provided input at the September 19, 2001, meeting. The NOP also served as a notice of the City's intention to use an "alternative baseline" for certain impact analyses, and of a September 19, 2001 public hearing in front of the Oakland Planning Commission regarding the alternative baseline. All comments received during the scoping period are summarized in Section 1: Summary; those comments that address the scope of this EIR are addressed in this document.

As part of its continuing public consultation on this effort, the City makes this EIR available to responsible and trustee agencies, interested groups, interested individuals, and those who have requested a copy in writing.

In addition, pursuant to CEQA, the City consulted with the water supplier, the East Bay Municipal Utility District, regarding water demand and supply for the redevelopment project. The City also consulted with sewage transport and treatment providers regarding sewer system capacity. As required, the City will consult with CDFG and with Caltrans.

The EIR will be available for public review and comment for 45 days. Any person wishing to comment on the contents of this EIR may do so in writing, as indicated on the inside front cover of the document. Verbal comments may be provided at a public hearing; the hearing process is also described on the inside front cover.

Once the draft EIR review period concludes, the City will respond to substantive comments on the contents of the EIR, and prepare a final EIR, including responses to comments. The Oakland Planning Commission will certify this EIR at a publicly noticed meeting.

❖ ❖ ❖
❖

9. EIR PREPARERS

Name, Title	EIR Role, Sections	Experience	Years of Experience
g. borchard & associates			
Gayle Borchard, AICP, Principal	EIR Manager Consistency Land Use Aesthetics Population, Housing, Employment Public Services, Utilities Recreation, Public Access Alternatives	CEQA/NEPA Regulatory Compliance Infrastructure Planning Project Management	18
Dowling Associates, Inc.			
Mark Bowman, PE, TE, PTOE	Transportation	Traffic Engineer	24
GAIA Consulting			
June Dougherty, Principal	Senior Reviewer	CEQA/NEPA Biology	17
Susa Gates, Senior Scientist	Hazardous Materials (Maritime and 16th/Wood Sub-districts)	CEQA/NEPA Biology Land Use Geology Hazardous Waste	21
Melba Policicchio, Staff Scientist	Groundwater	CEQA/NEPA Water Quality	4
Susanne von Rosenberg, Principal	Task Manager, Senior Reviewer	Project Management CEQA/NEPA Hazardous Waste	18
Luster National, Inc.			
Tim Karpin, PG, CEM, MCHMM	Geology, Seismicity, Soils	Remedial Investigations Geophysical Surveys Environmental Site Assessments Hazardous Waste Management	12 Years
Laura Luster, Ph.D.	Task Manager Community Involvement	Community Outreach and Education Public Relations	20 Years

Name, Title	EIR Role, Sections	Experience	Years of Experience
Andrew Muha Project Geologist/Scientist	Geology, Seismicity, Soils	Geology Environmental Site Assessments	10 Years
Suzanne Pershing	Graphic Artist	Graphics Media Publications	20 Years
John Stebila	Editor	Media Productions Public Relations Report Production and Management	20 Years
URS Corporation			
Suzanne Eastridge	Task Manager	CEQA Permitting	3 years
Sean Dexter Archaeologist	Cultural Resources	CEQA NHPA Archaeology Historic Resources	10 years
Sally Morgan	Cultural Resources, Senior Reviewer	CEQA NHPA Archaeology Historic Resources	26 years
Cheri Velzy	Air Quality	Air Quality	12 years
John Koehler	Air Quality, Senior Reviewer	Air Quality	18 years
Michelle Wood	Surface Water	Water Quality	7 years
Sergio Feld	Surface Water, Senior Reviewer	Natural Resources	17 years
Joseph Czech	Noise	Acoustics Consulting	13 years
Rob Greene	Noise, Senior Reviewer	Acoustics Consulting	25 years
Corinna Lu	Biological Resources	Biological Impact Analysis Habitat Assessment	5 years
Steve Leach	Biological Resources	Biological Resources Wetlands	10 years
Jean Lewis Editorial Services			
Jean Lewis	Technical Editor	Technical Editing Document Production	16

❖❖❖
❖

10. BIBLIOGRAPHY

This chapter contains the bibliographic information for works cited in the EIR and other works used in its preparation.

CHAPTER 1: SUMMARY

Oakland, City of, 2000. *Redevelopment Plan for the Oakland Army Base Redevelopment Project.* June.

OBRA (Oakland Base Reuse Authority), 1998 (as amended in July 2001). *Draft Final Reuse Plan for the Oakland Army Base (OARB)*.

CHAPTER 2: INTRODUCTION

Corps (U.S. Army Corps of Engineers), 1999 and 2001. *Environmental Impact Statement for the Disposal and Reuse of Oakland Army Base, Oakland, California.* Public Draft EIS: September 1999. Supplemented public draft EIS: June 2001, Final EIS: December 2001.

CHAPTER 3: DESCRIPTION

BCDC (San Francisco Bay Conservation and Development Commission), 1968 (as amended through 2001). *San Francisco Bay Plan.*

_____, 2001. Letter of Agreement for Consistency Determination No. CM 12-99. Letter from Mr. W. Travis, Executive Director, BCDC, to Mr. R. Caswell, BRAC Environmental Coordinator, Department of the Army. May.

BCDC and MTC (Metropolitan Transportation Commission), 1996 (as amended through 2001). *San Francisco Bay Seaport Plan.*

Corps (U.S. Army Corps of Engineers) and Port of Oakland, 1998. *Oakland Harbor Navigation Improvement (-50-Foot) Project Environmental Impact Statement/Environmental Impact Report.* SCH No. 97072051. Final (includes Draft): May.

Corps, 1999 and 2001*. Environmental Impact Statement for the Disposal and Reuse of Oakland Army Base, Oakland, California.* Public draft EIS: September 1999. Supplemental public draft EIS: June 2001. Final EIS: December 2001.

EarthTech, 2000. *Oakland Army Base Utility Study: Utilities Systems Review*. December.

EBMUD (East Bay Municipal Utility District), 2001. *East Bayshore Recycled Water Project Draft Environmental Impact Report*. SCH No. 20000052128. January.

HEG (Hausrath Economics Group), 2000. *Report to City Council: Oakland Army Base Redevelopment Project.* May.

Minor, Woodruff, 2000. *Pacific Gateway: An Illustrated History of the Port of Oakland*.

Oakland, City of, and Port of Oakland, 2000. *Proposal to Amend the San Francisco Bay Area Seaport Plan.* December 7.

Oakland, City of, 1998a

_____, 1998b. *Initial Study/Mitigated Negative Declaration*, 1998. Oakland Army Base Interim Leasing Program, August. . *City of Oakland General Plan: Land Use and Transportation Element.* March.

_____, 1999. *Oakland Army Base Preliminary Redevelopment Plan*. September.

_____, 2000. *Redevelopment Plan for the Oakland Army Base Redevelopment Project.* June 27.

OBRA (Oakland Base Reuse Authority), 1998 (as amended 2001). *Amended Draft Final Reuse Plan for the Oakland Army Base.*

Port of Oakland, 1998–1999. *Berths 55-58 Project Environmental Impact Report.* SCH No. 97102076. Draft: December 1998. Final: April 1999.

_____, 2002. Personal communication from T. Markowshi, P.E., to G. Borchard, AICP, g. borchard & associates.

_____, 1999. *Joint Intermodal Terminal Project Environmental Impact Report.* SCH No. 98012078. Draft: March 1999. Final: May 1999**.**

U.S. Army Reserves, 2001*. Military Construction Project Data, Form 1391.* February.

CHAPTER 4: SETTING AND BASELINE, IMPACTS, AND MITIGATION

Port of Oakland, 1998–1999. *Berths 55-58 Project Environmental Impact Report.* SCH No. 97102076. Draft: December 1998; Final: April 1999.

_____, 1999. *Joint Intermodal Terminal Project Environmental Impact Report.* SCH No. 98012078. Draft: March 1999. Final: May 1999**.**

4.1 Consistency with Plans and Policies

ABAG (Association of Bay Area Governments), 1989. *Bay Trail Plan*.

Alameda County Community Development Agency, Planning Department, 2001. Personal communication between C. Horvath, Associate Transportation Planner and G. Borchard, AICP, g. borchard & associates. April.

ALUC (Airport Land Use Commission of Alameda County), 1986 (as amended 1999). *Alameda County Airport Land Use Policy Plan*. July 16.

_____, 1999. *Resolution Amending the Alameda County Airport Land Use Policy to Remove Reference to the Naval Air Station Alameda.* With staff report attached. December.

BCDC (Bay Conservation and Development Commission), 1968 (as amended through 2001). *San Francisco Bay Plan*.

_____, 2001. *Resolution No 00-10: Adoption of Bay Plan Amendment No. 4-00, Deletion and Addition of Port Priority Use Area Designation at the Oakland Army Base and Port of Oakland in the Seaport and Bay Plan*. April.

BCDC and Metropolitan Transportation Commission (MTC), 1996 (as amended through 2001). *San Francisco Bay Area Seaport Plan.*

California Code of Regulations, 1945 (as amended through 1999). *Leasing and Permits Regulations*. Title 2: Administration, Division 3: State Property Operations, Chapter 1: state Lands Commission, Article 2: Leasing or Other Use of Public Lands, Article 9: lease Involving Granted Tide and Submerged Lands.

California Government Code, 1965 (as amended through 1999). *The McAteer-Petris Act*. Sections 66600-66682.

EBPRD (East Bay Regional Park District), 1996. *Master Plan 1997*. Adopted December 17; Resolution No. 1996-12-349.

Oakland, City of, 1974. *Environmental Hazards: An Element of the Oakland Comprehensive Plan.* September.

_____, 1992. *Housing: An Element of the Oakland General Plan.* June.

_____, 1993. *City of Oakland Historic Preservation: An Element of the Oakland General Plan.* Adopted March 1994, as amended through 1998.

_____, 1996. *City of Oakland Open Space, Conservation, and Recreation, an Element of the Oakland General Plan*. June.

_____, 1998a. *Envision Oakland: City of Oakland General Plan Land Use and Transportation Element*. Adopted March 24.

_____, 1998b. *Guidelines for Determining Project Conformity with the General Plan and Zoning Regulations*. Adopted May 6; as amended through 1999.

_____, 1999. *Estuary Policy Plan: Oakland, California.* June.

_____, 2000. *Redevelopment Plan for the Oakland Army Base Redevelopment Project.* June 27.

OBRA (Oakland Base Reuse Authority), 2001. *Amended Draft Final Reuse Plan for the Oakland Army Base*.

Port of Oakland, 1998. *Berths 55-58 Draft Environmental Impact Report.* State Clearinghouse No. 97102076. December 11.

SFEP (San Francisco Estuary Project), 1993. *Comprehensive Conservation and Management Plan.* November 17.

SLC (California State Lands Commission), 1996. personal communication from R. Hight, Executive Officer, to D. Drennen, Director of Real Estate, Engineering Field Activity-West, Naval Facilities Engineering Command. July 9.

_____, 1997a. Personal communication from D. Plummer, Public Land Manager, to R. Taylor, U.S. Army Corps of Engineers. May 1.

_____, 1997b. Personal communication from R. Hight, Executive Director to C. Foster, Executive Director, Port of Oakland. December 12.

_____, 2000. Internet site: *Sovereign Lands, Granted Lands, Environmental Management*.

4.2 Land Use

ALUC (Airport Land Use Commission of Alameda County), 1999. *Resolution Amending the Alameda County Airport Land Use Policy Plan to Remove Reference to the Naval Air Station Alameda.* With staff report. December.

Alameda County, 2001. Personal communication between C. Horvath, Associate Transportation Planner, Alameda County Community Development Agency, Planning Department, and G. Borchard, AICP, g. borchard & associates. April.

BCDC (Bay Conservation and Development Commission), 1968 (as amended through 2001). *San Francisco Bay Plan*.

BCDC and MTC (Metropolitan Transportation Commission), 1996 (as amended through 2001). *San Francisco Bay Seaport Plan*.

EBRPD (East Bay Regional Park District), 1997. *Master Plan, 1997.* Adopted December 17, 1996; Resolution No. 1996-12-349.

HEG (Hausrath Economics Group), 2000. *Report to City Council, Oakland Army Base Redevelopment Project.* May.

Oakland, City of, 1998a. *Envision Oakland: City of Oakland General Plan Land Use and Transportation Element.* Adopted March 24.

_____, 1998b. *West Oakland, 2000: Transportation and Economic Development Study*. August.

_____, 2000. *Planning Code: Title 17 of the Oakland Municipal Code*.

_____, 2000. *West Oakland Land Use Study Adopted Land Use Changes*. Zoning map. October 31.

4.3 Transportation and Circulation

Alameda County Congestion Management Agency, 1995. *Alameda County Congestion Management Program – 1999*.

_____, 2000. *2000 Level of Service Monitoring On the Alameda County Congestion Management Network*. September 28.

BART (Bay Area Rapid Transit District), 2002a. Passenger data from the BART Data Acquisition System. Filename: DAS.PROD.OS.T37ALLT.G2309V00. February 5.

_____, 2002b. Personal communication from Marian Lee-Skowronek, AICP, to Mark Bowman P.E., Dowling Associates, Inc. March 21.

Blue and Gold Fleet, 2001. Personal communication from Carolyn Horgan to Mark Bowman P.E., Dowling Associates, Inc. April 10.

Caltrans District 4 Highway Operations Branch, 1993. *1992 Traffic Performance of Bay Area Freeway System*.

Caltrans, 1999. *1999 Traffic Volumes on California State Highways.*

ITE (Institute of Transportation Engineers), 1997. Trip Generation, 6th Edition.

Marine Exchange, 2001. Tabulated data: Ship Activity.

Nelson Nygaard Consulting Associates, 2001. *Port of Oakland Middle Harbor Shoreline Park Transportation Access Plan Technical Memorandum #3: Service Options & Financial Plan.* February.

Oakland-Alameda Ferry information: http://www.transitinfo.org/AlaOakFerry/.

OBRA (Oakland Base Reuse Authority), 2001. Personal communication from Pat Peterson to Mark Bowman, P.E., Dowling Associates, Inc. April 3.

Port of Oakland, 1993. *Truck Survey - Marine Terminals and Railroad Intermodal Yards.* March/April.

_____, 1998. *Berths 55-58 Draft Environmental Impact Report*. State Clearinghouse No. 97102076. December 11.

_____, 1999. *Joint Intermodal Terminal Project Final Environmental Impact Report*. May.

SLC (State Lands Commission). Tabulated data: Vessel Activity 8/1/00-7/31/01.

Transportation Research Board, 1985*. Highway Capacity Manual.*

_____, 1998. *Highway Capacity Manual.*

Wiltec, 2000-2001. Traffic turning movement data and 24-hour vehicle classification counts.

Corps (U.S. Army Corps of Engineers) and Port of Oakland, 1998. *Oakland Harbor Navigation Improvement (-50 Foot) Project EIS/EIR*. May.

Corps, 1999. *Environmental Impact Statement for the Disposal and Reuse of Oakland Army Base.* September.

U.S. Navy and Port of Oakland, 1997. *Disposal and Reuse of Fleet and Industrial Supply Center, Oakland/Vision 2000 Maritime Development Final Environmental Impact Statement/Environmental Impact Report*. July.

4.4 Air Quality

BAAQMD (Bay Area Air Quality Management District), 1996. *BAAQMD CEQA Guidelines: Assessing the Air Quality Impacts of Projects and Plans*. April.

_____, 1997. *Toxic Air Contaminant Control Program: Annual Report 1996*. December.

_____, 2000. Toxic Air Contaminant Control Program Annual Report 1999. Volume One.

CARB (California Air Resources Board), 1984. *Surface Wind Climatology.*

_____, 1998. *Initial Statement of Reasons for Rulemaking, Staff Report, Proposed Identification of Diesel Exhaust as a Toxic Air Contaminant*. June.

Corps (U.S. Army Corps of Engineers), 1999 and 2001. *Environmental Impact Statement for the Disposal and Reuse of Oakland Army Base, Oakland, California.* Public Draft EIS: September 1999. Supplemented public draft EIS: June 2001.

EPA (U.S. Environmental Protection Agency), 1997a. *Summary of EPA's Strategy for Implementing New Ozone and Particulate Matter Air Quality Standards.* Fact Sheet. July 17.

_____, 1997b. *Revised Particulate Matter Standards.* Fact Sheet. July 17.

_____, 1997c. *Revised Ozone Standard.* Fact Sheet. July 17.

_____, 1997d. *Health and Environmental Effects of Particulate Matter.* Fact Sheet. July 17.

_____, 1997e. *Water Quality Standards, Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Proposed Rule*. *Federal Register* 62(150). August 5.

Port of Oakland, 1998. *Berths 55-58 Draft Environmental Impact Report.* SCH No. 97102076. December 11.

U.S. Navy and Port of Oakland, 1997. *Disposal and Reuse of Fleet and Industrial Supply Center, Oakland, Vision 2000 Maritime Development. Final Environmental Impact Statement/Environmental Impact Report, Volume I.* SCH No. 96062010.

4.5 Noise

ALUC (Airport Land Use Commission of Alameda County), 1986 (as amended 1999). *Alameda County Airport Land Use Policy Plan*. July 16.

Bolt, Beranek, and Newman, Inc., 1973. *Fundamentals and Abatement of Highway Traffic Noise.* U.S. Department of Transportation Contract Number DOT-FH-11-7976, Office of Environmental Policy, Federal Highway Administration.

Carver, B., 1978. *Planning in the Noise Environment*. U.S. Department of Defense, Environmental Protection, Air Force Contract F49642-74-90035, Philadelphia, PA. June.

Corps (U.S. Army Corps of Engineers), 1999 and 2001*. Environmental Impact Statement for the Disposal and Reuse of Oakland Army Base, Oakland, California.* Public draft EIS: September 1999. Supplemental public draft EIS: June 2001. Final EIS: December 2001.

EPA (U.S. Environmental Protection Agency), 1971. *Noise from Construction Equipment and Operations, Building Equipment and Home Appliances*.

Harris, Cyril M., ed., 1991. *Handbook of Acoustical Measurements and Noise Control*. Third Edition.

Hassall, J. R. and K. Zaveri, 1988. *Acoustic Noise Measurements*. Fifth Edition.

HUD (U.S. Department of Housing and Urban Development), 1985. Office of Environment and Energy. Environmental Planning Division. *The Noise Guidebook*.

Oakland, City of, 1974. *Oakland Comprehensive Plan, Noise Element.* September.

Peterson, A. P. G. and E. Gross, Jr., 1972. *Handbook of Noise Measurement*. Seventh Edition.

Port of Oakland, 1997. *Final Environmental Impact Report. Proposed Airport Development Program Metropolitan Oakland International Airport*. December.

_____, 1998. *Berths 55-58 Draft Environmental Impact Report.* SCH No. 97102076. December 11.

_____, 1999. *Joint Intermodal Terminal Project Final Environmental Impact Report*. SCH No. 98012078. May.

Southern Pacific Transportation Company, Union Pacific Railroad, the Atchison Topeka and Santa Fe Railway Company, and the Association of American Railroads, 1973. *Assessment of Noise Environments Around Railroad Operations.* Report WCR 73-5. July.

State of California, Governor's Office of Planning and Research, 1998. *General Plan Guidelines.*

_____, 1988. *California Noise Insulation Standards*, State Building Code, Part 2, Title 24, CCR, Appendix Chapter 35 Sound Transmission Control.

U.S. Navy and Port of Oakland, 1997. *Disposal and Reuse of Fleet and Industrial Supply Center, Oakland, Vision 2000 Maritime Development. Final Environmental Impact Statement/Environmental Impact Report, Volume I.* SCH No. 96062010.

4.6 Cultural Resources

Bagwell, Beth, 1982. *Oakland, the Story of a City*.

Brady and Associates, 1994. *Charles P. Howard Terminal Extension, Environmental Impact Report Draft Environmental Impact Report*.

Caltrans (California Department of Transportation), 1990. *Historic Property Survey Report for the Proposed I-880 Reconstruction Study in the Cities of Oakland and Emeryville, Alameda County, ALA-880 32.12/34.31; ALA-580 45.99/46.95; ALA-80 1.99/3.39.* 04195-190271 MEQ85001. Four Volumes.

Caltrans District 4 Environmental Planning South, 2001. Personal communication between E. Craze, Architectural Historian and Sean D. Dexter, Archaeologist, URS Corporation. April.

California Office of Historic Preservation, 2001. Personal communication between C. Caesar and S.D. Dexter, Archaeologist, URS Corporation. April.

Cook, Sherburne F., 1955. "The Epidemic of 1830-1833 in California and Oregon." In *University of California Publications in American Archaeology and Ethnology* 43(3):303-326.

Corps (U.S. Army Corps of Engineers), 1999. *Draft Environmental Impact Statement for the Disposal and Reuse of Oakland Army Base*. September.

_____, 2001a. *Supplemental Environmental Impact Statement for the Disposal and Reuse of Oakland Army Base*. June.

_____, 2001b. *Final Environmental Impact Statement for the Disposal and Reuse of Oakland Army Base*. December.

EDAW, Inc., 1997. Oakland Army Base: Conditions and Trends Summary Report. September 10.

Hart, J. D., 1978. *A Companion to California*.

JRP Historical Consulting Services, Inc., 1996. Untitled Historic Property Investigation of the Nine-Acre Port of Oakland Property Leased to Don Gary investments, Ltd. and the Five-Acre Port of Oakland Property leased to Various Tenants. Manuscript.

_____, 2000a. *Letter Report on the Impacts of the Cypress Structure Project on the Oakland Army Base Historic District.* Letter report prepared for the U.S. Army Corps of Engineers, Sacramento District, Contract No. DACA05-97-D-0013. Manuscript on file at JRP, Inc., Davis, CA.

_____, 2000b. *Report on the Original Status of Contributing Buildings within the Oakland Army Base Historic District.* Manuscript prepared for the U.S. Army Corps of Engineers.

_____, 2001. *Oakland Army Base Area Redevelopment Plan EIR Supplemental Cultural/Historic Resources Analysis*. December.

King, Gregory. 1990. "California Department of Transportation Architectural History Form for Resource #D-1". In California Department of Transportation (Caltrans), 1990. *Historic Property Survey Report for the Proposed I-880 Reconstruction Study in the Cities of Oakland and Emeryville, Alameda County, ALA-880 32.12/34.31; ALA-580 45.99/46.95; ALA-80 1.99/3.39. 04195-190271 MEQ85001*. Volume 6, Appendix D.

Levy, Richard, 1978. "Costanoan." In *Handbook of the Indians of North America*, Vol. 8: 485-495. Ed. R. F. Heizer.

McCarthy, C. and R. Lerner, 1997. *Oakland Harbor Training Walls/Jetties and Federal Channel.* National Register of Historic Places, Registration Form (provisional).

Minor, W., 2000. *Pacific Gateway – An Illustrated History of the Port of Oakland*.

Nancy Elizabeth Stoltz Design and Planning, 2001. *Oakland Army Base Wharf 6, 6½, and 7 Condition Study.*

_____, 2002. *Oakland Army Base Historic Building Reuse Alternatives Report*. Draft. April.

NPS (National Park Service), 1983. Secretary of Interior's Standards and Guidelines for Archaeology and Historic Preservation. Federal Register 9/29, 48 FR 44716-39 (includes Standards and Guidelines for Identification, Evaluation, Documentation, Professional Qualifications, etc.).

_____, 1991a. "How to Apply the National Register Criteria for Evaluation", National Register Bulletin, No. 15, Washington, U.S. Government Printing Office.

_____, 1991b. "How to Complete the National Register Registration Form", National Register Bulletin, No. 16A, Washington, U.S. Government Printing Office.

_____, 1991c. "How to Complete the Multiple Property Documentation Form", National Register Bulletin, No. 16B, Washington, U.S. Government Printing Office.

Oakland, City of, 2001. Personal communications between B. Marvin, Historic Preservation Planner, Community and Economic Development Agency, and S.D. Dexter, URS Archaeologist. April-November 2001.

Oakland, Port of, 1998. Berths 55-58 Study Draft Environmental Impact Report, Volume 1: Main Text. Volume 2: Appendices. SCH No. 97102076.

_____, 2001. Personal communications between C. McCarthy, Historic Preservation Planner, and S.D. Dexter, Archaeologist, URS Corporation. December.

Ripley Architects. 2000. *Oakland Army Base Historic Preservation Feasibility Study; Preliminary Building Condition Survey.* October 9.

U.S. Navy and Port of Oakland, 1997. *Disposal and Reuse of Fleet and Industrial Supply Center, Oakland, Vision 2000 Maritime Development. Final Environmental Impact Statement/Environmental Impact Report, Volume I.* SCH No. 96062010.

4.7 Hazardous Materials

Corps (U.S. Army Corps of Engineers), 1996. *Basewide Environmental Baseline Survey for the Oakland Army Base, Oakland, California*. Prepared by Foster Wheeler Environmental Corporation.

_____, 1997. *Lead-Based Paint, Oakland Army Base, Oakland, California*. October.

_____, 1999. *Annual Asbestos Report, Oakland Army Base, Oakland, California*. October.

_____ and Port of Oakland, 1998. *Final Environmental Impact Statement/Report for the Oakland Harbor (-50-Foot) Dredging Project*. May.

EarthTech and Geomatrix Consultants, Inc., 2000. *Oakland Army Base Utility Study Environmental Review.* December.

ERM-West, Inc., 1992. *Site Investigation – Berths 8 and 9*, Port of Oakland.

EVS Environment Consultants, 1997. *Reconnaissance Survey Report – Port of Oakland 50-foot Harbor Deepening Project*. August.

Foster-Wheeler Environmental Corporation, 2000, *Draft Finding of Suitability to Transfer BRAC Parcels 17, 22, 23, 25, and 26*. June.

Geomatrix Consultants, Inc., 1992a. *Removal of Underground Storage Tanks – Kaiser Yard, 2801 Seventh Street*. June.

_____, 1992b. *Underground Storage Tank Closure Report – Port of Oakland Kaiser Yard, 2801 Seventh Street*. October.

ICF Kaiser, 1997. *Final Construction Worker Risk Assessment Port of Oakland Berth 24*. March.

IT Corporation, 2000, *Site Investigation Report – Soil and Groundwater Investigation, former Phoenix Iron Works Facility, 800 Cedar Street, Oakland*, *California.* March.

_____, 2001a. *Draft Corrective Action Implementation Report for Petroleum Tank Sites, Addendum 1 of Removal Report for Petroleum Tanks*. January.

_____, 2001b. *Final Removal Report for Petroleum Tanks*. January.

Kleinfelder, 1999. *Draft Remediation and Risk Management Plan, Former Union Pacific Roundhouse Site*. March. (Approved September 1999)

_____, 2000. *Third Quarter 2000 Groundwater Monitoring Report, Former Union Pacific Roundhouse Site, 1407 Middle Harbor Road*. November.

Oakland, City of, 2000. *Oakland Urban Land Redevelopment Program: Guidance Document.* Public Works Agency January.

Port of Oakland, 1999. *Joint Intermodal Terminal Project Final Environmental Impact Report*. SCH No. 98012078. May.

_____, 2001a. Personal communication between J. Prall and S. von Rosenberg, GAIA Consulting, Inc. April 11.

_____, 2001b. Personal communication between D. Heinze and S. von Rosenberg, GAIA Consulting, Inc. April 18.

_____, 2001c. Personal communication between J. Arndes and S. von Rosenberg, GAIA Consulting, Inc. April 18.

RGA Environmental Inc., 2001. Personal communication from K. Schroeter. December 7, 2001.

Riedel Environmental Services, Inc., 1995. *Limited Subsurface Soil Investigation Beneath Phoenix Iron Works Building Slab, 800 Cedar Street, Oakland, CA*. July.

RWQCB (Regional Water Quality Control Board), 1999. *Cleanup and Abatement Order 99-063 for Former Mobil Oil Terminal*.

_____, 2000. *Risk-Based Screening Levels for Impacted Soil and Groundwater*. Interim Final. September 20.

U.S. Navy, 1990. *Final Environmental Impact Statement for Proposed New Dredging. U.S. Naval Military construction projects: P-082 Naval Supply Center, Oakland, San Francisco Bay, California*.

WEST (World Environmental Services & Technology), 2000. Remedial Site Evaluation West Grand Station, 1399-1407 Wood Street, Oakland, California. October.

4.8 Population, Housing, and Employment

ABAG (Association of Bay Area Governments), 2001a. *Bay Area Census, City of Oakland, Alameda County*. From U.S. Census, PL94-171 (March); DP-1 (May), and SF1.

_____, 2001b. *Projections 2002*. December.

_____, 2001c. Association of Bay Area Governments (ABAG), 2001a. *Bay Area Census, Alameda County*. From U.S. Census, PL94-171 (March); DP-1 (May), and SF1.

_____, 2001d. *Regional Housing Needs Determination for the San Francisco Bay Area: 2001-2001 Housing Element Cycle.* June.

Corps (U.S. Army Corps of Engineers), 2001. *Supplemental Draft Environmental Impact Statement for the Disposal and Reuse Oakland Army Base, Oakland, California.* June. Final EIS: December.

East Bay Almanac, 2001. *East Bay Almanac 2001: A Guide to Where We Live.*

EDD (California Employment Development Department), 2001a. *Labor Force Data for Sub-county Areas.* December.

_____, 2001b. *County Snapshot: Alameda 2001.*

HEG (Hausrath Economics Group), 2001. 2000 Revised: Cumulative Oakland Land Use Data for the Harbor and West Oakland—OARB Redevelopment EIR. Tabulated data. December.

HUD (U.S. Department of Housing and Urban Development), 1998. *The HOME Program.* October.

_____, 2001a. *Community Development Block Grant (CDBG) Entitlement Communities Program.* Internet site.

_____, 2001b. *HOME Investment Partnerships Program*. Internet site.

_____, 2001c. *HOME Quickfacts*. Internet site.

_____, 2001d. *Housing Opportunities for Persons with AIDS*. September.

_____, 2001e. *Homeless Assistance*. Internet site.

_____, 2001f. *Fiscal Year 2000 Community Planning Development (CPD) Formula Program Allocations.*

Oakland, City of, 1992. *Housing: An Element of the Oakland General Plan*. June.

4.9 Public Services and Utilities

California Energy Commission, 2001. *California Energy Consumption by Sector (1990-2000).* Internet site.

East Bay Infiltration/Inflow Correction Program, 1987. *Final Cost Effectiveness Analysis Update: Infiltration/Inflow Correction Program.*

Corps (U.S. Army Corps of Engineers), 1999. *Environmental Impact Statement for the Disposal and Reuse of Oakland Army Base, Oakland, California. Draft EIS for Public Comment.* September. Supplemental Draft EIS, June 2001. Final EIS, December 2001

CPUC (California Public Utilities Commission), 2001. *About the California Public Utilities Commission.* Internet site.

EarthTech, 2000. *Oakland Army Base Utility Study Utilities System Review. Final Report*. December.

EBMUD (East Bay Municipal Utility District), 1999a. *EBMUD Reports: Improving Your Water Supply*. August.

_____, 1999b. *Water Quality & Supply*. Spring.

_____, 1999c. Personal communication, W.R. Kirkpatrick, Manager of Water Distribution Planning to R.L. Koenigs, U.S. Army Corps of Engineers.

_____, 2000. *Urban Water Management Plan 2000*. Adopted February 2001, Resolution No. 33242-01.

_____ 2001a. *Water Treatment Plants, Water Supply, Wastewater Treatment.* Internet site.

_____, 2001b. *EBMUD Board Agrees to Look to Sacramento River for Water*. Press release. January 23.

_____, 2001c. *East Bayshore Recycled Water Project Final Environmental Impact Report.* SCH 2000052128. February.

_____, 2001d. *Customer Report, Water Consumption Information.* Metered water data for OARB 1995 to 2001.

_____, 2002. Personal communication from W.R. Kirkpatrick, Manager of Water Distribution Planning to A. Gallo, Executive Director, Oakland Base Reuse Authority.

Herman Zillgens Associates, 1995. *Master Plan Report: Oakland Army Base, CA*. March.

IWMB (California Integrated Waste Management Board0, 2001. *California Waste Facilities, Sites, & Operations Database.* Internet site.

Oakland, City of, 1998. *Envision Oakland: City of Oakland General Plan Land Use and Transportation Element.* Adopted March 24.

_____, 2001. *City of Oakland Agenda Report Re: An Ordinance, to be Known as the Water Reuse Ordinance, to Amend Title 16, Subdivisions of the Oakland Municipal Code, as Follows: Add new Section 16.08.030(I)*

_____, 2002. *Oakland Subdivision Regulations Bulletin: Water Reuse Ordinance Adopted by Oakland City Council on January 29,2002*.

Oakland, City of, Department of Public Works, 2002. Personal communication from A. Law, P.E., to G. Borchard, AICP, g. borchard & associates.

OFD (Oakland Fire Department), 2001a. *Core Values, Five Year Goals, Paramedic Program Update.* Internet site.

_____, 2001b. Personal communication from Captain M. Kelley, Information/Communication Services Officer to G. Borchard, AICP, g. borchard & associates.

_____, 2001c. Personal communication between J. English, RN, EMS Division Chief and G. Borchard, AICP, g. borchard & associates.

_____, 2002a. Personal communication between K. Shunk, Assistant Manager of the Office of Emergency Services, and G. Borchard, AICP, g. borchard & associates.

_____, 2002b. Personal communication between E.J. Gebelin, Fire Marshal, Fire Prevention Bureau, and G. Borchard, AICP, g. borchard & associates.

OPD (Oakland Police Department), 2001a. *General Information*. Internet site.

_____, 2001b. Personal communication between Captain R.M. Lacer, Commander Area 1 and G. Borchard, AICP, g. borchard & associates.

_____, 2001c. Personal communication between P. Bruning, Police Communications Supervisor/Technical Coordinator and G. Borchard, AICP, g. borchard & associates.

Port of Oakland, 2002. Personal communication between R. Schoenholz, Manager of Environmental Health and Safety Compliance and G. Borchard , AICP, g. borchard & associates. April.

Oakland Public Library, 2000. *Oakland Public Library Life Enrichment Agency 1999-2000 Annual Report.*

_____, 2001. *About the City of Oakland Public Library System, Locations and Hours of the Oakland Public Libraries and Services, West Oakland Branch Library*. Internet site.

Oakland Public Works Agency, 2001. *OaklandRecycles.com: Percent of Waste Diverted from Landfills.* Internet site.

OUSD (Oakland Unified School District), 2001. *Printable Maps, Elementary School Portal, High School Portal.* Internet site.

Prescott Elementary School, 2002. Personal communication between school administrative staff and G. Borchard, AICP, g. borchard & associates.

U.S. Department of Commerce, Bureau of the Census, 2000. *P12.: Sex by Age—Universe: Total Population, Oakland City, California.* Census 2000 Summary File 1 (SF1) 100-Percent Data.

4.10 Recreation and Public Access

ABAG (Association of Bay Area Governments), 2001. *Projections 2002.* December.

Bay Trail Project, 1999. Personal communication from N. Letunic, Bay Trail Planner, to R. Koenigs, U.S. Army Corps of Engineers. December 21.

BCDC (San Francisco Bay Conservation and Development Commission), 1968 (as amended through 2001). *San Francisco Bay Plan.*

_____, 1993. Permit No. 11-93, as amended through July 31, 1998 (Amendment No. 4).

_____, 2001. Permit No. 801. November. Caltrans District 4, office of Environmental Planning North, 1998. *The Maritime to Shellmound Bikeway Initial Study and Mitigated Negative Declaration*. December.

Corps (U.S. Army Corps of Engineers), 1999. *Environmental Impact Statement for the Disposal and Reuse of Oakland Army Base, Oakland, California.* Draft EIS for public comment. September. Supplemental Draft EIS, June 2001. Final EIS, December 2001.

EBRPD (East Bay Regional Park District), 1997*. Master Plan 1997.* Adopted December 17, 1996; Resolution No. 1996-12-349.

_____, 1999. Personal communication from B. Weise, Advance Planning, to R. Koenigs, U.S. Army Corps of Engineers. December 28.

Oakland, City of, 1996. *City of Oakland Open Space, Conservation and Recreation,* an Element of the Oakland General Plan. June.

_____ and Port of Oakland, 1999. *Estuary Policy Plan.* September.

Port of Oakland, 1999. *Berths 55-58 Project Final Environmental Impact Report* (Volume 3: Response to Comments). April 8.

_____, 2001. Personal communication from M. Gaffney, Port Assistant Environmental Planner, to G. Borchard, AICP, g. borchard & associates.

4.11 Aesthetics

Alameda, City of, 2001. Personal communication from K. Bryant, Planner II, Planning and Building Department, to G. Borchard, AICP, g. borchard & associates.

BCDC (San Francisco Bay Conservation and Development Commission), 1968. *San Francisco Bay Plan*. As amended through 2001.

HEG (Hausrath Economics Group), 2000. *Preliminary Report to City Council: Oakland Army Base Redevelopment Project.* May.

Oakland, City of, 1974*. Scenic Highways: An Element of the Oakland Comprehensive Plan.* September

_____, 1996. *Open Space Conservation and Recreation (OSCAR): An Element of the Oakland General Plan.* Adopted in June.

OBRA (Oakland Base Reuse Authority), 2001. *Amended Draft Final Reuse Plan for the Oakland Army Base (OARB)*. July.

State of California, undated. California Scenic Highways System. Street and Highways Code, Sections 260-283.

State of California, 1965. *McAteer-Petris Act*. California Government Code, Sections 66600-66682. As amended through 1999.

4.12 Biological Resources

Barnhart, R. A., 1988. *Species Profiles: Life Histories and Environmental Requirements of Coastal Fishes and Invertebrates (Pacific Southwest) –- Pacific Herring.* U.S. Fish and Wildlife Service Biological Report 82 (11.79).

Busby, P. J., T. C. Wainwright, and G. J. Bryant, 1996. *Status Review of West Coast Steelhead from Washington, Oregon and California.* NOAA Technical Memorandum NMFS-NWFSC-27.

Caltrans (California Department of Transportation), 1998. *Biological Assessment, San Francisco-Oakland Bay Bridge East Span Seismic Safety Project.*

CDFG (California Department of Fish and Game), 1987. Delta outflow effects on the abundance and distribution of San Francisco Bay fishes and invertebrates 1980-1985. Exhibit 60. CDFG for the State Water Resources Control Board 1987 Water Quality/Water Rights Proceedings on the San Francisco Bay/Sacramento-San Joaquin Delta.

_____, 1999. *Summary of Pacific Harbor Seal,* Phoca vitulina richardsi*, Surveys in California 1982 to 1995*. Marine Region Administrative Report 99-1.

Corps (U.S. Army Corps of Engineers), 1998. *Wetland Delineation Report for the Southern Pacific Desert Railyard Property Adjacent to Oakland Amy Base Building 991.* September.

_____, 1999. *Environmental Impact Statement for the Disposal and Reuse of the Oakland Army Base, California.* September. Supplemental Draft EIS, June 2001. Final EIS, December 2001.

Corps and Port of Oakland, 1994. *Final Supplemental Environmental Impact Report/Environmental Impact Statement—Oakland Harbor Deep-Draft Navigation Improvements.* SCH No. 91073031. Prepared by Science Applications International Corporation. June.

_____, 1998. *Environmental Impact Statement/Report for the Oakland Harbor Navigation Improvement (–50-Foot) Project.*

del Nevo, A. J. and Malamma, K. D. (Eds.), 1997. *Biological Assessment for Berths 55-58 and Oakland Harbor Navigation Improvement (–50-Foot) Projects.*

Eldridge, M. B. and W. M. Kaill, 1973. *San Francisco Bay's Herring Resource – A Colorful Past and a Controversial Future*. Cited in Wang 1986.

Entrix, 1997. *Habitat Evaluation for Oakland's Harbor Navigation Improvement (-50 Foot) Project*. Prepared for the Port of Oakland. December.

EVS Consultants, 1997. 1997b. *Release of Contaminants from Resuspended Particulate Matter* White Paper*.*

Goals Project, 1999. *Baylands Ecosystem Habitat Goals.*

Harding Lawson Associates. 2001. *Draft Remedial Investigation Report for Operable Unit 4, Oakland Army Base.* Oakland, California. March.

Harvey, J. T. and M. L. Torok, 1994*. Movements, Dive Behaviors, and Food Habits of Harbor Seals (*Phoca Vitulina Richardsi*) in San Francisco Bay, California.* March.

Healey, M. C., 1991. *Life History of Chinook Salmon (*Oncorhynchus tshawytscha*)* in Groot, C. and L. Margolis (eds.). *Pacific Salmon Life Histories*.

Herbold, B., A. D. Jassby, P. B. Moyle, 1992. *Status and Trends Report on Aquatic Resources in the San Francisco Estuary*.

Kopec, D. and Harvey, J., 1995. *Toxic Pollutants, Health Indices, and Population Dynamics of Harbor Seals in San Francisco Bay 1989-91: A Final Report*.

Moyle, P. B., R. M. Yoshiyama, J. E. Williams, and E. D. Wikramanayake, 1995. *Fish Species of Special Concern in California.* Second edition.

Myers, J. M., R. G. Kope, G. J. Bryant, D. Teel, L. J. Lierheimer, T. C. Wainwright, W. S. Grant, F. W. Waknitz, K. Neely, S. T. Lindley, and R. S. Waples, 1998. *Status Review of Chinook Salmon from Washington, Idaho, Oregon, and California*.

Netboy, A., 1958. *Salmon of the Pacific Northwest: Fish vs. Dams.*

Oakland, City of. No date. *Amendments to the Zoning Regulations since June 13, 1989.*

_____, 1996. *Open Space, Conservation and Recreation (OSCAR), an Element of the Oakland General Plan.*

Point Reyes Bird Observatory, 2002. Personal communication between Merideth Elliott, Biologist, and Corinna Lu, Biologist, URS Corporation.

Point Reyes Seashore, 1999. Personal communication between S. Allen and L. Cholodenko, Biologist, URS Corporation. October 25.

Port of Oakland, 2001. Personal communication between C. Herron, Environmental Planner and C. Lu, Biologist, URS Corporation, forwarding Desert railyard track alignment (260155) from Philip Shannin, U.S. Army Corps of Engineers. December 28.

Purcell, J. E., T. D. Siferd, and J. B. Marliave, 1987. *Vulnerability of Larval Herring (*Clupea harengus pallasi*) to Capture by the Jellyfish* Aequorea victoria*.*

SFEP (San Francisco Estuary Project), 1997. *State of the Estuary 1992-1997.* October.

Skinner, M. and B. Pavlik, 1994. *California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California*. Fifth Edition.

SLC (State Lands Commission), 2001. Tabulated data of ship calls in the Oakland Harbor 2000 to 2001.

Steinhart, P., 1990. *California's Wild Heritage: Threatened and Endangered Animals in the Golden State*.

Sumich, J. L., 1985. *Gray Whales Along the Oregon Coast in Summer 1977-1980.*

Thelander, C. G. (ed.), 1994. *Life on the Edge: a Guide to California's Endangered Natural Resources: Wildlife.*

URS Corporation, 2000. Personal observation by Lu, Corinna, Biologist.

URS Corporation, 2001. Personal observation by Lu, Corinna, Biologist.

USFWS (U.S. Fish and Wildlife Service), 1992. *Status and Trends Report on Wildlife of the San Francisco Estuary.*

U.S. Navy and Port of Oakland, 1997. *Final Environmental Impact Statement/Environmental Impact Report—Disposal and Reuse of Fleet and Industrial Supply Center, Oakland/Vision 2000 Maritime Development.* July.

USCS Predatory Bird Research Group, 2001. Personal communication between B. Walton and C. Lu, Biologist, URS Corporation. December 21.

Wang, J. C. S., 1986. *Fishes of the Sacramento-San Joaquin Estuary and Adjacent Waters, California: a Guide to the Early Life Histories*.

Wyllie-Echeverria, S. and P. J. Rutten, 1989. *Inventory of Eelgrass (*Zostera marina L.*) in San Francisco/San Pablo Bay.* October.

Wyllie-Echeverria, S., 1990. *Geographic Range and Distribution of Zostera marina, Eelgrass in San Francisco Bay.* In: K. Merkel and R. Hoffman (eds.), Proceedings of the California Eelgrass Symposium.

Zeiner, D. C., W. F. Laudenslayer, K. E. Mayer, and M. White, 1990. *California's Wildlife. Volume II: Birds and Volume III: Mammals.*

4.13 Geology, Seismicity, and Soils

ABAG (Association of Bay Area Governments), 1999. Internet geologic/seismic hazards information.

BCDC (San Francisco Bay Conservation and Development Commission), 1968 (as amended through 2001). *San Francisco Bay Plan.* Safety of Fills Section.

Canonie (Canonie Environmental Services, Inc.), 1989. *Hydrogeologic Assessment Report, West Oakland Yard, Oakland, California.*

Carlisle, H. and K. M. Rollins, 1994. Ground-response studies at NAS Alameda. In *The Loma Prieta Earthquake of October 17, 1989 — Strong Ground Motion*. R. D. Borcherdt (ed.).

Corps (U.S. Army Corps of Engineers), et al. 1997. *Environmental Assessment for Interim Leasing and Finding of No Significant Impact for Oakland Army Base*. October.

_____, 1999. *Environmental Impact Statement for the Disposal and Reuse of Oakland Army Base, Oakland, California*. September.

g. borchard & associates and Dowling Associates, Inc., 1999. *Port of Oakland Vision 2000 Program Local Planning Area Transportation & Circulation Study.* April.

Geomatrix Consultants, 1997. *Preliminary Geotechnical Study, Vision 2000 Maritime Development, Port of Oakland, Oakland, California.* Prepared with Harza Engineering Company for Port of Oakland.

Geomatrix Consultants, Inc., 2000. *Draft Report Preliminary Environmental Review, Oakland Army Base*. October.

Harding-Lawson Associates, 2000. *Final Remedial Investigation Work Plan, Sampling and Analysis Plan, Contractor Quality Control Plan, Safety and Health Plan Addendum.* Rev. O. June.

Oakland, City of, Redevelopment Agency, 2000. *Redevelopment Plan for the Oakland Army Base Redevelopment Project.* June 27.

Port of Oakland, 1998. *Berths 55-58 Project Draft Environmental Impact Report*. Three volumes: 1-Main Text, 2-Appendices; Supplemental Traffic Report. December 11.

_____, 1999a. *Berths 55-58 Project Final Environmental Impact Report*. Responses to comments volume. April 8.

_____, 1999b. *Joint Intermodal Terminal Project Draft Environmental Impact Report*. March.

Rogers, J. D. and S. H. Figuers, 1991. *Engineering Geologic Site Characterization of the Greater Oakland-Alameda Area, Alameda and San Francisco Counties, California.* Final Report to the National Science Foundation.

SCI (Subsurface Consultants, Inc.), 1998. *Hydrogeologic Investigations, Oakland Harbor Navigation Improvement (-50-Foot) Project, Port of Oakland and Alameda, California.*

USDA (United States Department of Agriculture), Soil Conservation Service, 1981. *Soil Survey of Alameda County, California, Western Part.*

Working Group on California Earthquake Probabilities, 1999. *San Francisco Bay Area Earthquake Probabilities.*

4.14 Groundwater

Corps (U.S. Army Corps of Engineers), 1996. *Basewide Environmental Baseline Survey for the Oakland Army Base, Oakland, California*.

_____, 1997. *Lead-Based Paint, Oakland Army Base, Oakland, California*. October.

_____, 1999. *Annual Asbestos Report, Oakland Army Base, Oakland California*. October.

Corps and Port of Oakland, 1998. *Final Environmental Impact Statement/Report for the Oakland Harbor (–50-Foot) Dredging Project*. May.

EarthTech and Geomatrix Consultants, Inc., 2000. *Oakland Army Base Utility Study Environmental Review.* December.

ERM-West, Inc., 1992. *Site Investigation – Berths 8 and 9*, Port of Oakland.

EVS Environment Consultants, 1997. *Reconnaissance Survey Report – Port of Oakland –50-Foot Harbor Deepening Project*. August.

Foster-Wheeler Environmental Corporation, 2000, *Draft Finding of Suitability to Transfer BRAC Parcels 17, 22, 23, 25, and 26*. June.

Geomatrix Consultants, Inc., 1992a. *Removal of Underground Storage Tanks – Kaiser Yard, 2801 Seventh Street*. June.

_____, 1992b. *Underground Storage Tank Closure Report – Port of Oakland Kaiser Yard, 2801 Seventh Street*. October.

ICF Kaiser, 1997. *Final Construction Worker Risk Assessment Port of Oakland Berth 24*. March.

IT Corporation, 2000, *Site Investigation Report – Soil and Groundwater Investigation, Former Phoenix Iron Works Facility, 800 Cedar Street, Oakland*, California. March.

_____, 2001a. *Draft Corrective Action Implementation Report for Petroleum Tank Sites, Addendum 1 of Removal Report for Petroleum Tanks*. January.

_____, 2001b. *Final Removal Report for Petroleum Tanks*. January.

Kleinfelder, 1999. *Draft Remediation and Risk Management Plan, Former Union Pacific Roundhouse Site*. March. (Approved September 1999.)

_____, 2000. *Third Quarter 2000 Groundwater Monitoring Report, Former Union Pacific Roundhouse Site, 1407 Middle Harbor Road*. November.

Oakland, City of, 2000. Oakland Urban Land Redevelopment Program: Guidance Document. Public Works Agency, January 1.

Port of Oakland, 1999. *Joint Intermodal Terminal Project Final Environmental Impact Report*. May.

_____, 2001a. Personal communication between J. Prall, Senior Biologist, and S. von Rosenberg, Principal, GAIA Consulting, Inc. April 11.

_____, 2001b. Personal communication between D. Heinze, Scientist, and S. von Rosenberg, Principal, GAIA Consulting, Inc. April 18.

_____, 2001c. Personal communication between J. Arndes and S. von Rosenberg, Principal, GAIA Consulting, Inc. April 18.

Riedel (Riedel Environmental Services, Inc.), 1995. *Limited Subsurface Soil Investigation Beneath Phoenix Iron Works Building Slab, 800 Cedar Street, Oakland, CA*. July.

RWQCB (Regional Water Quality Control Board), 1999. *Cleanup and Abatement Order 99-063 for Former Mobil Oil Terminal*.

_____, 1999. *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report, Alameda and Contra Costa Counties, CA..* June.

_____, 2000. *Risk-Based Screening Levels for Impacted Soil and Groundwater*. Interim Final. September 20.

U.S. Navy, 1990. *Final Environmental Impact Statement for Proposed New Dredging. U.S. Naval Military Construction Projects: P-082 Naval Supply Center, Oakland, San Francisco Bay, California.*

4.15 Surface Water

Conomos, T.J., 1979. “Properties and Circulation of San Francisco Bay Waters.” In *San Francisco Bay: The Urbanized Estuary.* T.J. Conomos, ed., pp. 47-84. San Francisco: Pacific Division, Amer. Assoc. Advance. Sci. San Francisco, California.

Conomos, T.J., R.E. Smith, D.H. Peterson, S.W. Hager, and L.E. Schemel, 1985. “Processes Affecting Seasonal Distributions of Water Properties in the San Francisco Bay Estuarine

System." In *San Francisco Bay: The Urbanized Estuary.* T.J. Conomos, ed., pp. 115-142. San Francisco: Pacific Division, Amer. Assoc. Advance. Sci., San Francisco, California.

Corps (U.S. Army Corps of Engineers), 1990. *San Francisco Central Bay Suspended Sediment Movement. Report 1. Summer Condition Data Collection Program and Numerical Model Verification.*

EDAW, Inc., 1997. *Oakland Army Base: Conditions and Trends Technical Report.*

EPA (U.S. Environmental Protection Agency), 2001. 303(d) listed waters internet page: SF Bay.

ESRI and FEMA, 2002. Project Impact Hazard Information and awareness web page dated June 1999. http://www.ESRI.com/hazards/makemap.html

g. borchard & associates. 2000. *Administrative Draft Report for the Oakland Army Base (OARB): Analysis of Opportunities and Constraints of Proposed Alternatives.*

Hartman (Hartman Consulting Group), 1997. *Final Report Hydrodynamic Evaluation for Oakland Inner Harbor*.

Houston, J.R., and A.W. Garcia, 1975. *Type 16 Flood Insurance Study: Tsunami Predictions for Monterey and San Francisco Bays and Puget Sound.* Technical Report H-75-17. November.

I.T. Corporation, 1999. *Pipeline Investigation for the Storm Drain and Sanitary Sewer Pipeline Systems*. Revision C.

Parsons, 2001. *East Bayshore Recycled Water Project Draft Environmental Impact Report*. SCH No. 2000052128. January.

SFEI (San Francisco Estuary Institute), 1997. *San Francisco Estuary Regional Monitoring Program for Trace Substances — 1996 Annual Report*.

_____, 1998. *San Francisco Estuary Regional Monitoring Program for Trace Substances - 1998 Annual Report*.

_____, 1999. *San Francisco Estuary Regional Monitoring Program for Trace Substances—1999 Annual Report*.

State Water Resources Control Board. Waste Discharge Requirements for Discharges of Storm Water Runoff Associated With Construction Activity. General Permit No. CAS000002.

U.S. Geological Survey (USGS), 1984. *Tides, Tidal and Residual Currents in San Francisco Bay California. Results of Measurements, 1979-1980*. Part 1. Description of Data.

CHAPTER 5: CUMULATIVE IMPACTS

ABAG (Association of Bay Area Governments), 2001. *Projections 2002.*

California State Library Research Bureau and Trade and Commerce Agency, 2000. California Economic Diversification and Revitalization (CEDAR) Program website.

EPA (U.S. Environmental Protection Agency), 2001. 303(d) listed waters internet page: San Francisco Bay.

Oakland, City of, 1996. *Open Space, Conservation, and Recreation, Element of the Oakland General Plan.* June.

RWQCB (Regional Water Quality Control Board), San Francisco Bay Region, 1999. *East Bay Plain Groundwater Basin Beneficial Use Evaluation Report: Alameda and Contra Costa Counties, CA.* June.

Save San Francisco Bay Association, 2000. *Protecting Local Wetlands: A Toolbox for Your Community.*

CHAPTER 7: ALTERNATIVES TO THE PROPOSED REDEVELOPMENT PROGRAM

BCDC (San Francisco Bay Conservation and Development Commission), 2000. Staff Report to Commissioners. November 3.

Corps (U.S. Army Corps of Engineers), 1999 and 2001. *Environmental Impact Statement for the Disposal and Reuse of Oakland Army Base, Oakland, California.* Public draft EIS: September 1999. Supplemental public draft EIS: June 2001. Final EIS: December 2001.

EKI (Erler & Kalinowski, Inc.), 2002. *Letter Report Regarding Building 1 Remediation*. April.

OBRA (Oakland Base Reuse Authority), 2002. *Oakland Army Base Historic Preservation Feasibility Report*. April

Oakland, Port of, 2002. Basis for Location of Proposed New Intermodal Rail Facility at Oakland Army Base.

The Tioga Group, 2001. Port of Oakland Port Services Location Study. June. U.S. Army, 2001. *Environmental Impact Statement for the Disposal and Reuse of Oakland Army* Base, Oakland, California.

CHAPTER 8: CONSULTATION

BCDC (San Francisco Bay Conservation and Development Commission), 1968 (as amended through 2001). *San Francisco Bay Plan.*

BCDC and MTC (Metropolitan Transportation Commission), 1996 (as amended through 2001). *San Francisco Bay Seaport Plan.*

OBRA (Oakland Base Reuse Authority), 1998 (as amended in July 2001). *Draft Final Reuse Plan for the Oakland Army Base (OARB)*.

Oakland, City of, Redevelopment Agency, 2000. Redevelopment Plan for the Oakland Army Base Redevelopment Project. June 27.

❖ ❖ ❖
❖

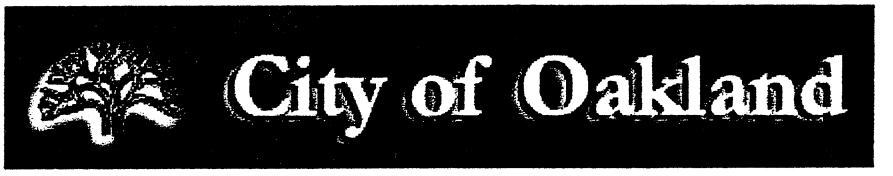
Volume No. 2: Appendices
Environmental Impact Report

for the

Oakland Army Base Area Redevelopment Plan

State Clearinghouse Number 2001082058

prepared by the



environmental consultant:

g. borchard & associates

April 2002

Volume No. 2: Appendices

Environmental Impact Report

for the

Oakland Army Base Redevelopment Area Plan

April 2002

prepared by

City of Oakland

with the assistance of

g. borchard & associates
6026 Colby Street
Oakland, California 94618
a small local WBE

in conjunction with

Dowling Associates, Inc., a small local firm
GAIA Consulting, Inc., a small local WBE
Luster National, Inc., a small local MBE
URS Corporation, a local firm

Appendices

4.9 Public Services and Utilities

4.12 Biology

Appendix 1
EIR Consultation

1A Notice of Scoping Meeting and Hearing to Adopt an Alternative Baseline

1B Scoping Comments

- Letter dated September 10, 2001 from the California Department of Transportation (Caltrans)
- Letter dated September 12, 2001 from the California Department of Toxic Substances Control (DTSC)
- Letter dated September 12, 2001 from the East Bay Regional Park District (EBRPD)
- Summary of scoping comments from September 13, 2001 Public Meeting
- Letter dated September 18, 2001 from West Oakland Commerce Association (WOCA)
- Summary of Scoping Comments from September 19, 2001 Planning Commission Hearing
- Letter dated September 20, 2001 from the San Francisco Bay Conservation and Development Commission (BCDC)
- Letter dated April 8, 2002 from the East Bay Municipal Utility District (EBMUD)

1C September 9, 2001 Staff Report to the Oakland City Planning Commission regarding the OARB Redevelopment Project Area

1D Notice of Determination Regarding Adoption of an Alternative Baseline

Appendix 1A
Notice of Scoping Meeting and Hearing to Adopt an Alternative Baseline

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA, SUITE 5313 · OAKLAND, CALIFORNIA 94612-2034

Community and Economic Development Agency
Redevelopment Division

(510)238-3015
FAX (510) 238-3691
TDD (510) 839-6451

August 10, 2001

COMBINED NOTICE OF PREPARATION, EIR SCOPING MEETING, AND NOTICE OF INTENT TO ADOPT AN ALTERNATIVE BASELINE

This is a notice of the following:

1. Preparation of a draft environmental impact report (EIR);
2. Intent to adopt a proposed alternative environmental baseline in accordance with §21083.8.1 of the Public Resources Code (PRC);
3. Public EIR scoping meeting; and
4. Public hearing for adoption of an alternative baseline

for the

OAKLAND ARMY BASE AREA REDEVELOPMENT PROJECT

The City of Oakland is preparing an EIR in compliance with the California Environmental Quality Act (CEQA) for the subject project.

Description. The Oakland Army Base (OARB) Area Redevelopment Project ("the project") is adoption of a 1,731-acre West Oakland redevelopment area and associated redevelopment plan, land assembly, infrastructure improvements, public access improvements, environmental improvements, land development, and required regulatory implementing actions including but not limited to a general plan amendment and rezoning. As illustrated by the enclosed figure, the OARB Redevelopment Project Area encompasses three redevelopment sub-areas: OARB (450 acres); Maritime (1,215 acres), and 16th and Wood Streets (66 acres). The redevelopment sub-areas are generally expected to be redeveloped as follows: 1) the OARB redevelopment sub-area would be developed as envisioned in the OARB Final Reuse Plan; 2) the Maritime redevelopment sub-area would be developed in accordance with the Port of Oakland's Vision 2000 Program; and 3) the 16th and Wood Street redevelopment sub-area would be developed consistent with reasonably foreseeable market demand (i.e., office and/or housing). Land use within the redevelopment area is currently industrial; anticipated land use under the project could be a combination of two or more of the following: industrial, office, retail, hotel, recreation, public access, and/or community service.

Location. As illustrated by the attached graphic, the redevelopment area is located in westernmost Oakland, and is generally bounded by the Interstate-80 approach to the Bay bridge to the north, the Oakland Inner Harbor to the south, the Oakland Outer Harbor and San Francisco Bay to the west, and Wood Street and the West Oakland community to the east.

Lead Agency. The City of Oakland.

Probable Environmental Effects. Changes in land use and visual setting; consistency with plans and policies; alteration or loss of cultural resources; exposure to seismic hazards and hazardous waste; and increased air pollution, noise, population, demand for public services and utilities, and traffic.

EIR Scoping. The City is sending this notice to members of the public, to agencies who may be responsible for approvals related to or funding of the project, and to agencies who have jurisdiction over natural resources held in trust for the people of the state that may be affected by the project. From the public, the City would like to know your views as to the scope and content of the environmental information to be considered in the EIR. From public agencies, the

City needs to know your views on the scope and content of the environmental information germane to your statutory responsibility in connection with the project. In addition, the City needs the name of a contact person at your agency.

Alternative Baseline. The physical context in which impacts of a proposed project are determined is called the "baseline." Normally, the baseline comprises those environmental conditions that exist at the time of issue of a Notice of Preparation. CEQA §21083.8.1 offers agencies preparing an EIR for reuse of a military base such as the Oakland Army Base the option to analyze impacts in the context of the physical conditions that were present at the time the federal decision became final for closure of the base. Use of such an alternative baseline can better represent the actual impact of OARB reuse when compared to the impacts of the base in full operation. The decision to close the OARB became federal law on September 28, 1995. In order to most accurately assess the type and intensity of OARB reuse impacts, the City proposes to use an alternative baseline of 1995 for the OARB portion of the project to determine impacts for the following environmental factors: traffic, air quality, water consumption, wastewater treatment, energy consumption, and schools. From the public, the City would like to know your views regarding the use of an alternative baseline. From public agencies, the City needs to know how you would address application of your regulatory policies and permitting standards to the proposed alternative baseline.

Providing Comments. You may provide written input and comment on either or both the EIR scope and the use of an alternative baseline at any time within 30 calendar days of receipt of this notice, but in any case **no later than September 19, 2001**. Please provide your written input to:

Mr. Scott Gregory, EIR Project Manager
c/o Ms. Aliza Gallo
250 Frank Ogawa Plaza, Suite 3315
Oakland, California 94612

Public Meeting. The City will conduct a joint scoping meeting on the EIR and hearing on the use of the alternative baseline at a regularly-scheduled meeting of the Oakland Planning Commission. You may learn more about the project and the issues, and may provide verbal comments at the meeting/hearing.

Combined Public Meeting
EIR Scoping Meeting/Hearing on Use of an Alternative Baseline
6:30 p.m., September 19, 2001
Oakland Planning Commission
Hearing Room 1 City Hall, One Frank H. Ogawa Plaza

How to Obtain the Draft EIR. When it publishes the Draft EIR, the City will provide the document to relevant responsible and trustee agencies, as well as to those who respond to this notice by commenting on the scope of the EIR or the use of an alternative baseline. Alternatively, you may send a written request to Mr. Scott Gregory, EIR Manager, as indicated above.

Enclosure: Map of Oakland Redevelopment Project Area and Notice of Additional Public EIR Work Session/EIR Scoping Meeting (all recipients). OARB Daft Final Reuse Plan (public agencies).

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA, SUITE 5313 · OAKLAND, CALIFORNIA 94612-2034

Community and Economic Development Agency
Redevelopment Division

(510)238-3015
FAX (510) 238-3691
TDD (510) 839-6451

August 10, 2001

THE OAKLAND ARMY BASE (OARB) AREA REDEVELOPMENT PROJECT EIR PUBLIC SCOPING WORKSHOP

WHEN AND WHERE:

The City of Oakland will hold a public scoping workshop on the OARB Area Redevelopment Project EIR on Thursday, September 13, 2001 from 6:00 to 8:00 p.m. at the West Oakland Senior Center, 1724 Adeline Street, Oakland, California.

WHAT:

The Oakland Army Base (OARB) Area Redevelopment Project is adoption of a 1,731-acre West Oakland redevelopment area and associated redevelopment plan, land assembly, infrastructure improvements, public access improvements, environmental improvements, land development, and required regulatory implementing actions including but not limited to a general plan amendment and rezoning. The OARB Redevelopment Project Area encompasses three redevelopment sub-areas: OARB (450 acres), Maritime (1,215 acres), and 16th and Wood Street (66 acres). The redevelopment sub-areas are generally expected to be redeveloped as follows:

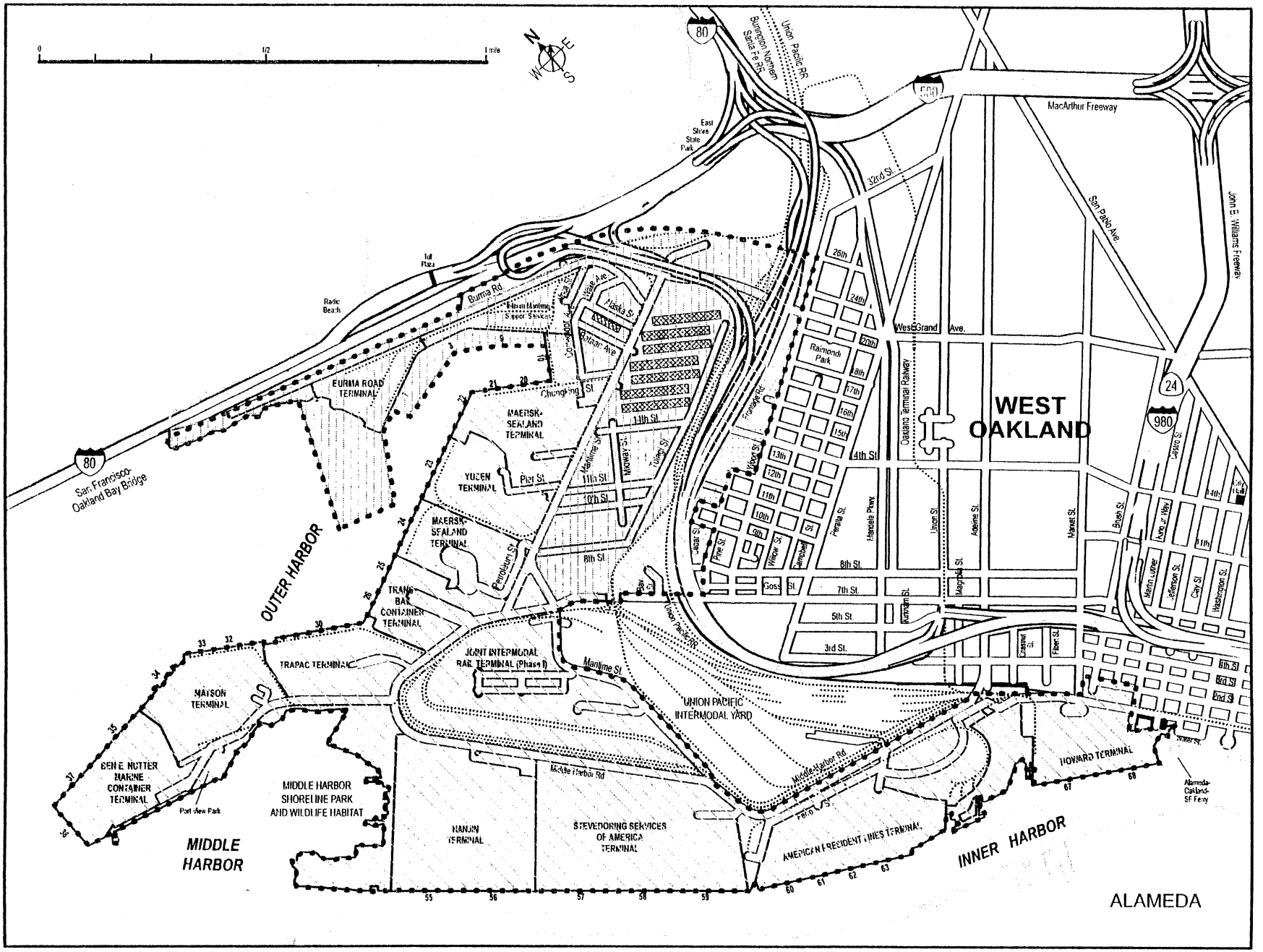
1) the OARB redevelopment sub-area would be developed as envisioned in the OARB Final Reuse Plan;
2) the Maritime redevelopment sub-area would be developed in accordance with the Port of Oakland's Vision 2000 Program; and
3) the 16th and Wood Street redevelopment sub-area would be developed consistent with reasonably foreseeable market demand (i.e., office and/or housing).

Land use within the redevelopment area is currently primarily industrial. Anticipated land use under the project could be a combination of two or more of the following: industrial, office, retail, hotel, recreation, public access, and/or community service.

WHY:

The City of Oakland has determined that an Environmental Impact Report (EIR) shall be required for this project. The EIR's purpose, generally, will be to inform governmental decision-makers and the public about the potential significant environmental effects of proposed activities, and to identify ways that environmental effects can be avoided or significantly reduced. The purpose of the scoping workshop will be to provide the public with an opportunity to describe topics or issues that it believes should be addressed in the EIR. Input from the scoping workshop will help identify the range of actions, alternatives, mitigation measures, and significant effects to be analyzed in the EIR. All interested persons are invited to attend this workshop.

If you are unable to attend, an additional opportunity for public input will be provided at a formal scoping hearing to be held before the Oakland Planning Commission on September 19th at 6:30 p.m., Hearing Room 1 - City Hall at One Frank Ogawa Plaza (see attached notice). Alternatively, you may send your written comments on the EIR's scope to Scott Gregory, EIR Project Manager, c/o Ms. Aliza Gallo - 250 Frank Ogawa Plaza, Suite 3315, Oakland, California, 94612.



LEGEND

OARB Redevelopment Project Area

Maritime Redevelopment Sub-area

OARB Redevelopment Sub-area

16th and Wood Redevelopment Sub-area

OARB Redevelopment Project Area and Su **Bas**

Combined Notice of Preparation, EIR Scoping Meeting, and Notice of Intent to adopt an Alternative Baseline for the Oakland Army Base (OARB) Redevelopment Area Project EIR.

This is a notice that the City of Oakland will conduct a joint scoping meeting on the EIR and hearing on the use of the alternative baseline at a regularly scheduled meeting of the Oakland Planning Commission on September 19, 2001 beginning at 6;30 p.m. at Hearing Room 1 City Hall, One Frank H. Ogawa Plaza.

You may learn more about the project and the issues, and may provide verbal comments at the meeting/hearing. Alternatively, you may provide written comments on either or both of these issues. Written comments may be sent to Mr. Scott Gregory, EIR Project Manager, c/o Ms. Aliza Gallo, 250 Frank Ogawa Plaza, Suite 3315, Oakland, California 94612. Written comments must be received no later than September 19, 2001.

The Oakland Army Base (OARB) Area Redevelopment Project EIR Public Scoping Workshop

This is a notice that the City of Oakland will hold a public scoping workshop on the OARB Area Redevelopment Project EIR on Thursday, September 13, 2001 from 6:00 to 8:00 p.m. at the West Oakland Senior Center, 1724 Adeline Street, Oakland, California.

The purpose of this workshop will be to provide the public with an opportunity to describe topics or issues that it believes should be addressed in the EIR. All interested persons are invited to attend.

Appendix 1B
Scoping Comments

Letter dated September 10, 2001 from the California Department of Transportation (Caltrans)

Letter dated September 12, 2001 from the California Department of Toxic Substances Control (DTSC)

Letter dated September 12, 2001 from the East Bay Regional Park District (EBRPD)

Summary of scoping comments from September 13, 2001 Public Meeting

Letter dated September 18, 2001 from West Oakland Commerce Association (WOCA)

Summary of Scoping Comments from September 19, 2001 Planning Commission Hearing

Letter dated September 20, 2001 from the San Francisco Bay Conservation and Development Commission (BCDC)

Letter dated April 8, 2002 from the East Bay Municipal Utility District (EBMUD)

GRAY DAVIS, Governor

STATE OF CALIFORNIA - BUSINESS, TRANSPORTATION AND HOUSING AGENCY

DEPARTMENT OF TRANSPORTATION
P O BOX 23660
OAKLAND, CA 94623-0660
Tel: (510) 286-4444
Fax: (510) 286-5513
TDD (510) 286-4454

September 10, 2001

ALA-880-34.11
File #ALA880490
SCH #2001082058

Mr. Scott Gregory
EIR Project Manager
c/o Ms. Aliza Gallo
250 Frank Ogawa Plaza
Suite 3315
Oakland, CA 94612

Dear Mr. Gregory:

Oakland Army Base Redevelopment Plan – Combined Notice of Preparation (NOP), EIR-Scoping Meeting, and Notice of Intent to Adopt an Alternative Baseline

Thank you for including the California Department of Transportation (Department) in the early stages of the environmental review process for the above-referenced project. We have examined the combined Notice of Preparation and have the following comments to offer:

The redevelopment of the former Oakland Army Base (OARB), as outlined for the Reconfigured Reuse Plan, will put heightened demands on the existing, already congested transportation infrastructure that will have to serve the new developments. Upon approval of any development program, developers and government agencies should address transportation issues and secure funding for transportation improvements. The Department, which is responsible for State highway facilities, should be involved early in the planning process. We will be looking for detailed transportation data in the Draft Environmental Impact Report (DEIR) for our review.

Specific planning elements, identified under Traffic/Infrastructure in the Supplemental Environmental Impact Statement, require coordination with the Department. These planning details relate primarily to transportation developments along Maritime Street and include the following:

- The Department has a Class II Bikeway project along Burma Road, beginning at Maritime Street. This bike path needs to tie in to a bikeway to the designated public park at the western end of the OARB. Both developments should be integrated into the San Francisco Bay Trail system.

- Maritime Street is part of the Base property and the main access road. This major roadway also serves as the main access to adjacent container terminals of the Port of Oakland. However, the basic layout for redevelopment designates a realignment of Maritime Street toward the center of the proposed development area. New access channels to the former

Base, including connections to Department transportation facilities, are envisioned as part of the redevelopment. These concepts will require close coordination of planning efforts.

Along with impacts to Caltrans facilities, the Department urges close examination of public access and linkages, specifically public access to the future Gateway Park and the San Francisco Oakland Bay Bridge, as part of the scoping for the DEIR.

The plans for redevelopment of the former Oakland Army Base will have a significant impact on the existing transportation infrastructure. Due to long lead times for infrastructure projects, planning for adequate transportation facilities must begin at an early stage of program development. We look forward to receiving the DEIR for further comment, and to working with the Oakland Base Reuse Authority and the City of Oakland on this important project.

Should you require further information or have any questions regarding this letter, please call Paul Svedersky of my staff at (510) 622-1639.

Sincerely,

HARRY Y. YAHATA
District Director

By Jean C R Finney

JEAN C. R. FINNEY
District Branch Chief
IGR/CEQA

c: State Clearinghouse

Department of Toxic Substances Control

Edwin F. Lowry, Director
700 Heinz Avenue, Suite 200
Berkeley, California 94710-2721

Winston H. Hickox
Agency Secretary
California Environmental
Protection Agency

Gray Davis
Governor

September 12, 2001

Ms. Elois A. Thornton
City of Oakland
250 Frank Ogawa Plaza, Suite 3315
Oakland, California 94612

Mr. Scott Gregory
EIR Project Manager
City of Oakland
250 Frank Ogawa Plaza, Suite 3315
Oakland, California 94612

NOTICE OF PREPARATION, OAKLAND ARMY BASE, SCH# 2001082058

Dear Ms. Thornton and Mr. Gregory,

The Department of Toxic Substances Control (DTSC) has received the Notice of Preparation (NOP) dated August 10, 2001. The Amended Draft Final Reuse Plan for the Oakland Army Based dated July 23, 2001 is attached with the NOP. The City of Oakland is preparing an environmental impact report (EIR) in compliance with the California Environmental Quality Act for the project entitled "The Oakland Army Base Area Redevelopment Project." The NOP is a combined notice for the preparation of a draft EIR, the intent to adopt a proposed alternative environmental baseline, a public EIR scoping meeting, and a public hearing for adoption of an alternative baseline. DTSC is the lead regulatory agency overseeing environmental cleanup at the Oakland Army Base (OARB). DTSC has reviewed the NOP and the Reuse Plan and provides the following comments:

1. NOP, Contact Person: Please forward all future documents (e.g., draft EIR) to Mr. Henry Wong, Remedial Project Manager, DTSC, Office of Military Facilities, 700 Heinz Avenue, Suite 200, Berkeley, California 94710-2721.

2. NOP, Alternative Baseline: The City of Oakland uses the California Public Resources Code (PRC), Section 21083.8.1 to establish a baseline for which environmental impacts would be analyzed. PRC, Section 21083.8.1(b)(1) allows a baseline be set at the time when the federal decision became final for the closure or realignment of a base. The decision to close the Oakland Army Base became federal law on September 28, 1995.

   Pursuant to PRC, Section 21083.8.1(d)(2), the baseline provisions do not apply to OARB. DTSC is undertaking environmental investigation and remediation at OARB in accordance with Chapter 6.8 of, Division 20 of the California Health and Safety Code (H&SC). Please reevaluate the use of the proposed alternative baseline.

   Notwithstanding the questionable applicability of PRC, Section 21083.8.1 for OARB, the environmental impact report should analyze the no project alternative for the existing conditions on the base, as it exists at the time that the environmental impact report is prepared, as well as what could be reasonably expected to occur in the foreseeable future if the reuse plan were not approved, based on current plans and consistent with available infrastructure and services.

3. NOP, Project Description: The NOP states that OARB encompasses 450 acres. Based on the Basewide Environmental Baseline Survey for OARB dated September 1996, the total area of OARB is 421.9 acres. Please reconcile the discrepancy.

4. NOP, Probable Environmental Effects: The NOP includes exposure to hazardous waste as one of the probable environmental effects which the draft EIR would be analyzed. DTSC requests the draft EIR to include the following potential impacts due to releases of hazardous substances:

   a. The Army has not evaluated potential lead contamination in soil adjacent to structures painted with lead-based paint. DTSC collected samples from soils adjacent to a few buildings and found up to 2,100 mg/kg of lead. There is limited knowledge on the potential lead contamination in the soils adjacent to structures at OARB. However, impacts to the environment from exposure to lead resulting from transfer and reuse must be evaluated.

   b. Building 1 is located adjacent to a site where a waste oil reclaiming plant had been before the Army's occupation. The building is sitting on top of or immediately adjacent to a hazardous substance release site with ongoing site

investigation. However, impacts to the environment from exposure to hazardous substances resulting from transfer and reuse must be evaluated.

c. The shallow groundwater at OARB generally contains elevated concentrations of metals and other hazardous constituents. Operable Unit 7 is found to be contaminated with volatile organic compounds in groundwater. DTSC would require institutional controls among other remedial alternatives to be evaluated in a feasibility study. Such controls would restrict well construction and usage of the shallow groundwater. The draft EIR should address the management of potential contaminated groundwater during project construction and redevelopment, as well as potential impacts due to exposure resulting from reuse.

5. Notice of Completion and Environmental Document Transmittal: The Notice of Completion identifies the project title as the "Oakland Army Base Redevelopment Plan." Please verify whether the project title should be the "Oakland Army Base Area Redevelopment Project."

6. Notice of Completion and Environmental Document Transmittal: The Notice of Completion includes educational development for the proposed EIR; however, the check boxes for the project issues do not include schools/universities. Please clarify and revise accordingly.

   Pursuant to the California Education Code, Section 17210, any school receiving State funding must conduct environmental assessment and any necessary remediation. The EIR should discuss school siting and applicability of the California Education Code, Section 17210, and potential impacts due to exposure resulting from schools development.

7. Reuse Plan: Operable Units 1, 2, 3, 4, and 7 of OARB are currently in the remedial investigation phase of the environmental cleanup program. These operation units comprise most of the base areas. Existing data show that these operable units contain hazardous substances regulable pursuant to H&SC, Chapter 6.8, and the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA). As such, any removal or disposition of materials in or on the OARB property must be consistent with cleanup goals and standards which are identified in the remedial investigation and feasibility study phases of H&SC, Chapter 6.8 and CERCLA response actions.

   Environmental investigations have not been completed at OARB, the suite of necessary and feasible remedial alternatives has not been identified and

evaluated, and a Remedial Action Plan that documents the preferred remedies has not been approved. It cannot, therefore, be assumed that those remedies that are ultimately determined to be necessary to protect public health and the environment from hazardous substance releases are consistent with the proposed redevelopment in the Reuse Plan.

8. Reuse Plan, Page 12: The Reuse Plan indicates that Jacobs Hall or other property might be used as transitional housing for a Workforce and Business Development Campus operated by the Homeless Collaborative. Pending the final approval of the Remedial Action Plan for the base, portion of the base might be restricted for residential reuse due to residue contamination. Siting of residential areas must be at locations with unrestricted reuse.

If you have any questions, please feel free to contact me at (510) 540-3770.

Sincerely,

Henry Wong
Remedial Project Manager
Office of Military Facilities

cc: Mr. Roger Caswell
BRAC Environmental Coordinator
Department of the Army
— Military Traffic Management Command
Oakland Army Base Transition Office
2475-D West 12th Street
Oakland, California 94607

Mr. Lester Schmittner
CESPK-ED-EB
U.S. Army Corps of Engineers
Sacramento District
1325 J Street
Sacramento, California 95814

cc: Ms. Xuan-Mai Tran
Remedial Project Manager
U.S. Environmental Protection Agency
Region IX
Federal Facilities Cleanup Branch
75 Hawthorne Street, (SFD-8-2)
San Francisco, California 94105

Ms. Adriana Constantinescu
Project Manager
California Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, California 94612

Ms. Aliza Gallo
Executive Director
Oakland Base Reuse Authority
700 Murmansk Street, Suite 3
Oakland, California 94607

Ms. Diane Heinze
Associate Environmental Scientist
Port of Oakland
P.O. Box 2064
Oakland, California 94604-2064

Ms. Katie Shulte Joung
Project Analyst
Office of Planning and Research
State Clearinghouse
P.O. Box 3044
Sacramento, California 95812-3044

Mr. Guenther W. Moskat, Chief
Planning and Environmental Analysis Section
Department of Toxic Substances Control
P.O. Box 806
Sacramento, California 95812-0806

EAST BAY REGIONAL PARK DISTRICT

September 12, 2001

Mr. Scott Gregory
EIR Project Manager
c/o Ms. Aliza Galo
250 Frank Ogawa Plaza, Suite 3315
Oakland, CA 94612

RE: Oakland Army Base Area Redevelopment Project, NOP

Dear Mr. Gregory:

The East Bay Regional Park District has received the NOP for the Oakland Army Base Area Redevelopment Project and would like to provide the following preliminary comments:

The District has applied to the Department of the Army through the Oakland Base Reuse Authority (OBRA) for a 15 acre public benefit conveyance of Army Base property located on the sand spit to the south of the Bay Bridge, for purposes of a regional shoreline park, tentatively named Gateway Park. A map of the requested PBC is attached. The park will also be the location where the San Francisco Bay Trail converges, coming from Emeryville and other cities north of the Bay Bridge and from Downtown Oakland and Jack London Square, to run across the planned east span replacement of the Bay Bridge to San Francisco. This trail alignment is reflected in ABAG's Bay Trail Plan and the City of Oakland's General Plan, and is shown on the attached map.

The Park District supported the creation of the OARB Redevelopment Zone. The District requests that the EIR address the following topics:

- **Transportation and Circulation:**
  What traffic impacts, particularly heavy truck traffic, are anticipated by reuse and redevelopment?
  How will safe vehicular, bicycle and pedestrian access to the park be provided for the Bay Trail route indicated along Burma Road? Along Maritime Street?
  What provisions will be made for public transit? How will the project area be connected to West Oakland, east of I-880 and to Downtown via transit? Is connection via the existing rail line feasible? What about a ferry or water taxi connection?

D:\GATEWAY\NOP.wpd

2950 Peralta Oaks Court P.O. Box 5381 Oakland, CA 94605-0381
Tel. 510 636-0135 Fax 510 569-4319 TDD 510 633-0460 www.ebparks.org

- **Parks and Recreation:** What degree of recreational / parkland need will be generated by the redevelopment project, and how will the project contribute to meeting that need ? How will anticipated commercial development provide public access along the shoreline?

- **Utilities / Public Services:** How will the redevelopment plan provide utility infrastructure including streets, water and sewer to serve anticipated new development, including the park? How will redevelopment contribute to ongoing costs of public services including police, fire park operations and maintenance?

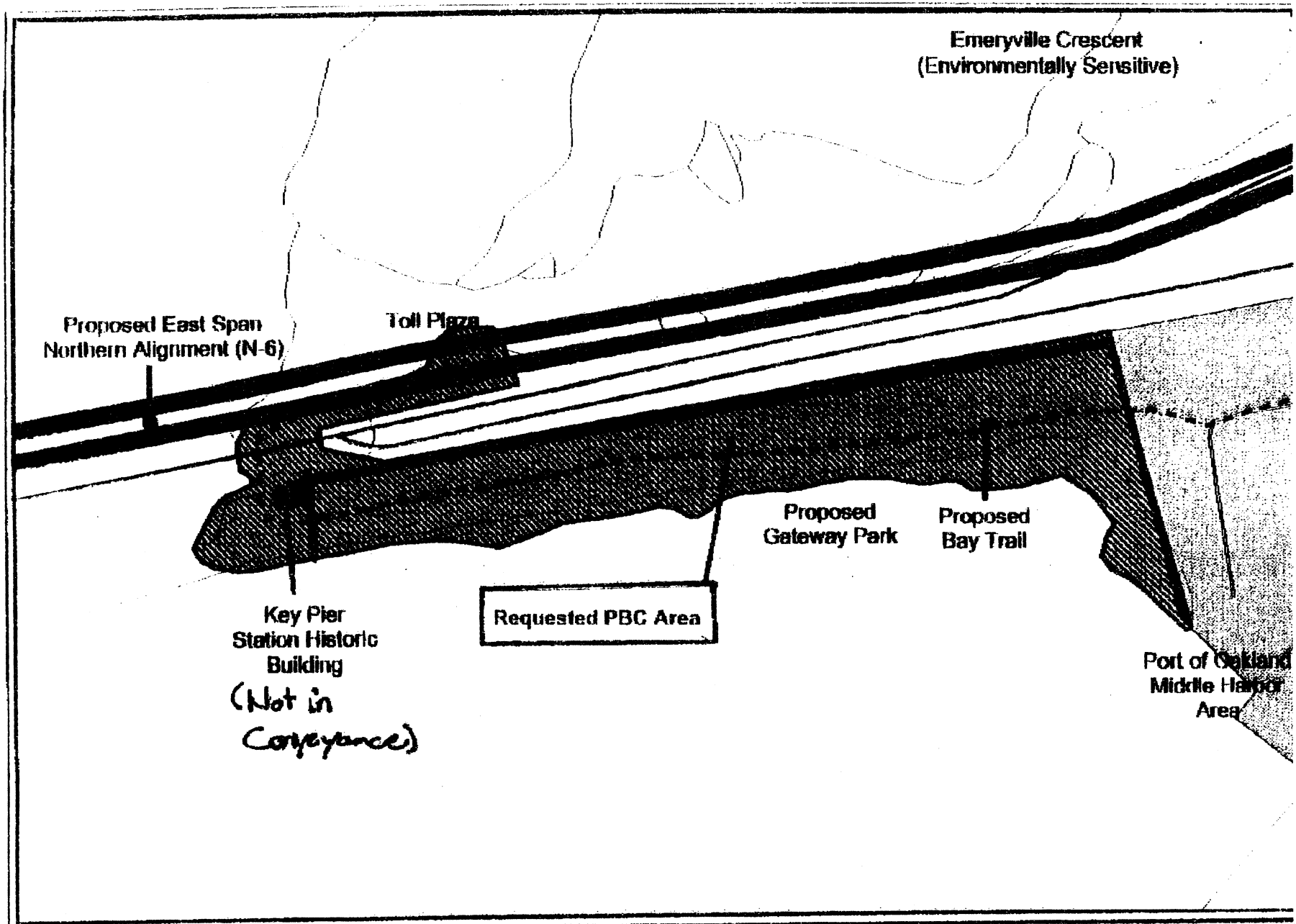
For your reference, I have also attached copies of the District's comments on the Army's EIS for disposal and reuse of the Army Base. The Park District appreciates the opportunity to make these preliminary comments on the scope of the EIR. Please feel free to contact me at (510) 544-2623 with questions or for further discussion.

Sincerely,

Brian Wiese

Brian Wiese
Interagency Planning

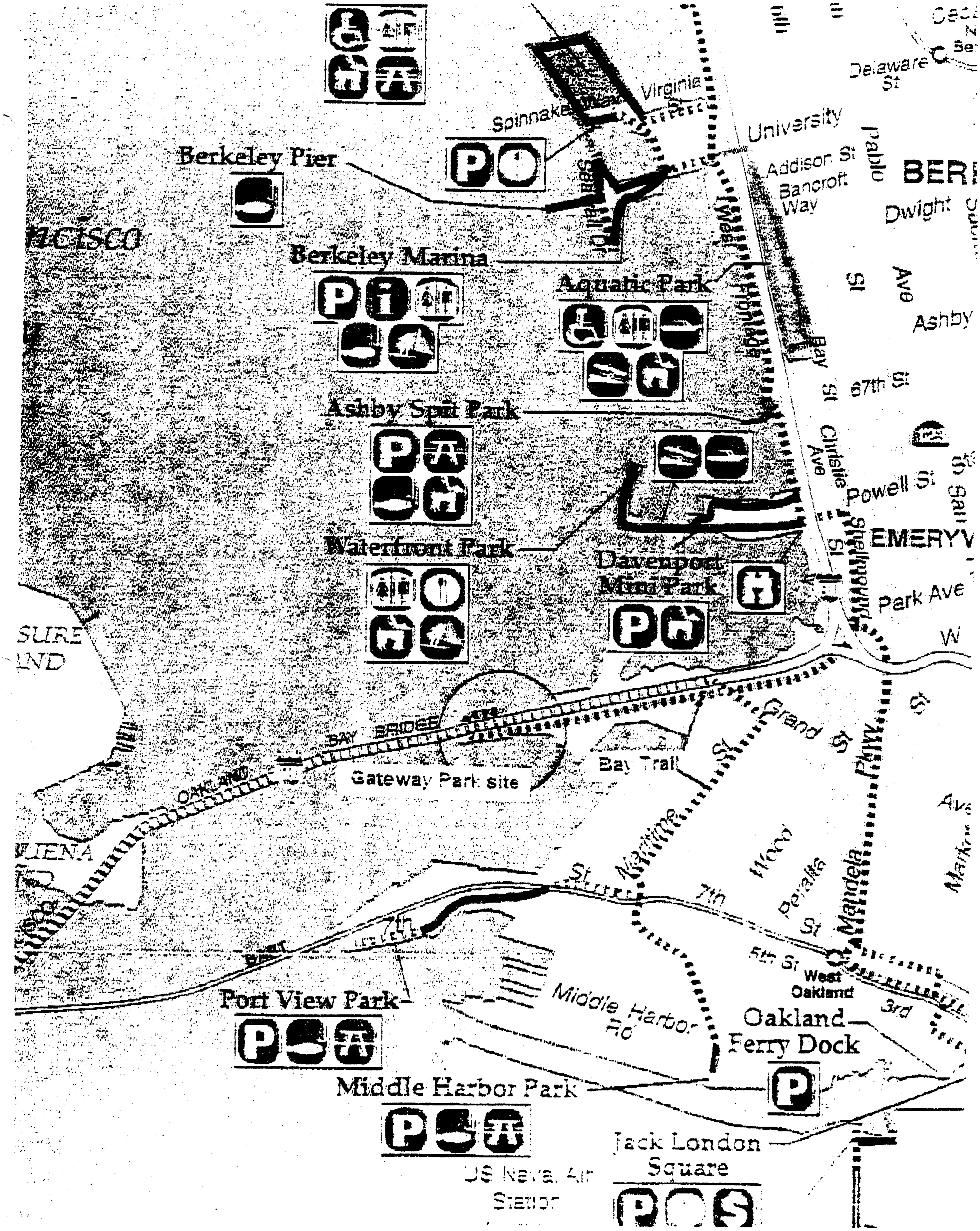
cc: Elois Thornton, CEDA
Gary Munsterman, NPS
Janet McBride, ABAG / Bay Trail



EASTBAY GATEWAY PARK PROJECT
SAN FRANCISCO / OAKLAND BAY BRIDGE
EAST SPAN NORTHERN ALIGNMENT (N-6)

0 500 Feet

EBRPD
Advanced Planning
February 24, 1999



Berkeley Pier
Spinnaker Way
Virginia St
University
Addison St
Bancroft Way
Pablo
BERI
Dwight
NCISCO
Berkeley Marina
Aquatic Park
West Frontage
Bay St
Ashby
Ave
67th St
Ashby Spit Park
Christie Ave
Powell St
Waterfront Park
Davenport Mini Park
EMERYV
Park Ave
SURE
IND
BAY BRIDGE
OAKLAND
Gateway Park site
Bay Trail
Grand
Maritime
St
Wood
Peralta
Mandela
Pkwy
7th
7th
St
5th St
West Oakland
3rd
Port View Park
Middle Harbor Rd
Oakland Ferry Dock
Middle Harbor Park
Jack London Square
US Naval Air Station
Delaware St

OARB Area Redevelopment EIR

Summary of Scoping Comments from September 13, 2001 Public Meeting

ALTERNATIVES

1. Move West Grand Port support businesses/light industrial uses to the OARB property to open up the West Grand area for other higher scale uses (i.e., gateway type development).
2. Put forth the Adaptive Reuse alternative for detailed analysis.
3. Develop an alternative that reduces truck traffic in West Oakland.

IMPACT ANALYSIS

1. Assume connection from Mandela to 3rd in the Traffic Analysis.
2. Consider development of a tramway system as a way to reduce traffic congestion and air emissions.
3. As mitigation for demolition of historic structures in the OARB, use the Youth Employment Program to deconstruct the buildings and recycle the material.
4. Analyze the visual impacts of high stack containers from the Bay Bridge.
5. Reduce air emissions from trucks traveling through neighborhoods.

ALTERNATIVE BASELINE

1. Comparison of 1995 and 2000 employment conditions is really irrelevant, because the people that lost their jobs in 1995 will not be the ones employed through redevelopment.

OTHER (MOSTLY PROJECT DESCRIPTION)

1. Housing should be for all levels of income (high, medium, and low).
2. The 16th and Wood sub area should include recreational amenities, including swimming pool, tennis courts, and a putting green.
3. Why does EBMUD have to pay for the land they receive due to the reconfiguration? Originally EBMUD was supposed receive the land for free.
4. Maximize public access to and along the waterfront. Include trails and connectors between the park and the community along 7th Street and West Grand Avenue.
5. No big box retail.
6. In the 16th and Wood sub area, include land uses allowing smaller scale retail.
7. New jobs created by the project should have a first right of refusal to West Oakland residents.

WOCA
West Oakland Commerce Association
P.O. Box 23612 Oakland, California 94623
(510) 272-Woca (9622) Fax (925) 943-7259
Visit www.wocajournal.com or www.westoaklandca.com

September 18, 2001

Kenneth Katzoff, *Chair*
Oakland Planning Commission
Oakland City Hall
1 Frank Ogawa Plaza
Oakland CA 94612

Re: Army Base Reuse & Redevelopment Scoping Process

Dear Commissioners:

Judging from the lack of other submissions from anywhere else in Oakland, we have reason to believe that WOCA is the only organization in this City to have presented a comprehensive vision (in the form of our "Synergy Map") for the Uptown/Grand & Mandela/Transit Village/Jack London nexus.

It was our purpose in advancing such a vision to help others understand how the corridors between those nodes could improve to regain the commercial vitality that was their historical birthright. The Map is by no means meant to be anything other than a blueprint-in-progress to help bring focus to an area which we believe Oakland's unintentional practice of patchwork planning has left untended.

In considering the Army Base's Reuse, therefore, we believe it's important not to think in terms of just the Base itself, but to understand its fundamental relationship to that West Oakland/Downtown nexus (as per the Synergy Map), particularly as it relates to the overall economy of West Oakland. The Army has reasonably deemed, for instance, that an Economic Development Conveyance should not be made unless a maximum number of jobs is created on the Base. However, we would contend that the maximum number of jobs should more properly accrue to West Oakland as a whole, as opposed to just a certain segment of it, lest such development at the Base, no matter how well-intended, might actually contribute to the perpetuation of West Oakland's stagnancy.

The Map is evolving, and with the announcement of the Aerial Tramway to Alameda from the West Oakland BART station, suddenly the Transit Village has begun to come more into focus, not as a mere neighborhood stopover, but in a higher and better configuration — the major transportation hub and retail node it was destined to become. Accordingly, implications for the Army base are propitious. We now can anticipate that the Aerial Tramway can be extended all the way out to Middle Harbor Shoreline Park and that it will also be brought back from Alameda to Jack London Square, another of our synergy points on the Map.

WEST OAKLAND COMMERCE ASSOCIATION
P.O. Box 23612 Oakland, California 94623
(510) 272-Woca (9622) Fax (925) 943-7259
Visit www.wocajournal.com or www.westoaklandca.com

With the addition of such important improvements to West Oakland's otherwise ho-hum transportation grid, increases in tourism are sure to follow. People will want to fly over our Port and the Oakland Estuary to travel from the Square out to the Park and back, making the entire excursion an exciting and pleasurable experience. The hotels we all want to see built at the Square can have a economic reason for being, and the possibility of a Grand Central Station somewhere along the line between the Base and West Oakland BART as a long-sought Capitol Corridor connection with Amtrak becomes more palpable.

We trust, therefore, that the Redevelopment Scoping process will allow for a more synergistic approach and properly include all of West Oakland in its mix.

Cordially,
Steve Lowe, VP, Economic Development

encl: Reconfigured Reuse Plan Letter (9/11/01)

OARB Area Redevelopment EIR

Summary of Scoping Comments from September 19, 2001 Planning Commission Hearing

PUBLIC COMMENTS

George Lithcott (Landmarks Board)

1. EIR should identify historical assets, recommend opportunities for reuse of historical buildings, and suggest creative mitigation measures.
2. Preserve and reuse at least 2 of the Army's temporary buildings.
3. Preserve at least 2 permanent buildings (the Diesel Shop and Building #1).
4. Develop a curator exhibit within one of the preserved buildings.
5. Preserve the parade grounds as an opportunity for an urban park.
6. When taking down other buildings, save and salvage raw materials (esp. redwood timbers).
7. The Stoltz report should be made available for review by the Landmarks Preservation Board.

George Burtt (WOCA)

1. OARB should be considered almost entirely for ancillary maritime support (AMS) uses.
2. It is difficult for existing maritime support uses to remain where they are located now, and impossible for them to expand their operations to meet the needs of future Port activities.
3. The Port's own trucking study indicates that the need for ancillary maritime support will far exceed the supply of available lands.
4. If lands are not dedicated to AMS, the EIR should identify the impacts associated with trucking business having to relocate a far away as Tracy, Fairfield and/or Sacramento to find available land.
5. EIR should analyze the traffic and air quality effects of relocated businesses needed to serve the Port's operations having to make long-haul trips to and from the Port from remote locations.

Steve Lowe (WOCA)

1. AMS uses are needed at the OARB.
2. Although the Army feels the need to maximize the number of job opportunities at the OARB, the City should look at the types of jobs that are needed.

3. Suggests moving existing trucking operations and related businesses to the OARB, thereby freeing opportunities for redevelopment with higher and better uses at other in-town locations (i.e., along Grand Ave. and Mandela Parkway).
4. An alternative that includes a transit village with a tram linking to Alameda needs to be considered.

PLANNING COMMISSION COMMENTS

Commissioner Jarvis:

1. Agrees that truck parking and other AMS uses should be moved to the OARB from the Prescott neighborhood.
2. More efficient for the Port.
3. Creates new opportunities for redevelopment in West Oakland.
4. Public access to the waterfront is important and must be considered as part of the Plan.
5. One alternative should be to consider conveyance of the entire OARB to the Port for their use, with the Port serving as lead agency.

Commissioner Lighty

1. Question: How will the City be able to require conditions/mitigation measures from the EIR on Port activities? One mechanism may be through subsequent land conveyance conditions from OBRA to the Port and ORA.
2. Need to study a full range of alternatives to the Reuse Plan.
3. OARB as a full-maritime use area.
4. Preservation of historic buildings.
5. Maximum development alternative should consider benefits/effects of R&D uses as compared to light industrial uses.
6. Consider an alternative that includes an expansion of AMS uses greater than indicated in current Reuse Plan.
7. Will the visual effects of containers stacked up along the side of the Bay Bridge be analyzed? Will they be gone under the proposed plan?

Commissioner Killian

1. EIR should study more alternatives than indicated in staff report.
2. Market demands may not call for high-end uses as suggested in Reuse Plan.
3. Should consider more light industrial uses or other uses not as susceptible to fluctuating market conditions.
4. EIR should consider the impact of Port development activities on the entire surrounding area.

5. Reuse Plan looks as if it were designed by committee—trying to accomplish too many competing objectives. Need a more wholistic review of the plan.
6. West Grand, Mandela and other areas outside of the defined redevelopment area need to be studied.

STATE OF CALIFORNIA GRAY DAVIS, Governor

SAN FRANCISCO BAY CONSERVATION AND DEVELOPMENT COMMISSION
50 CALIFORNIA STREET, SUITE 2600
SAN FRANCISCO, CALIFORNIA 94111
PHONE: (415) 352-3600
http://www.bcdc.ca.gov

September 20, 2001

Elois A. Thornton
City of Oakland
250 Frank Ogawa Plaza, Suite 3315
Oakland, CA 94612

SUBJECT: Notice of Preparation for the Oakland Army Base Redevelopment Plan, SCH# 2001082058 (BCDC File Nos. CN 12-99 and AL.NO.6917.1)

Dear Ms. Thornton:

On August 17, 2001, San Francisco Bay Conservation and Development Commission (Commission) staff received the Notice of Preparation (NOP) for the Oakland Army Base (OARB) Redevelopment Plan Draft Environmental Impact Report (DEIR). The redevelopment project involves a 1,713-acre West Oakland redevelopment area, currently organized into three redevelopment sub-areas: (1) a 450-acre site that would be redeveloped according to the OARB Final Reuse Plan in a mixture of commercial, office, and light industrial uses, as well as a public park; (2) a 1,215-acre site that would be developed in accordance with the Port of Oakland's Vision 2000 Program, including the Joint Intermodal Terminal; and (3) a 66-acre site, the 16th and Wood Street redevelopment site, that would be developed for office or residential uses.

The Commission staff has reviewed the Notice of Preparation and is submitting its comments to assist in the preparation of the DEIR. Although the Commission itself has not reviewed the Notice of Preparation, the staff comments are based on the McAteer-Petris Act and the Commission's *San Francisco Bay Plan* (Bay Plan) and *San Francisco Bay Area Seaport Plan* (Seaport Plan).

Jurisdiction

The Commission's area of jurisdiction includes all tidal areas of the Bay up to the mean high tide line except in marshlands where the Bay extends up to five feet above Mean Sea Level, all areas formerly subject to tidal action that have been filled since September 17, 1965, and the "shoreline band," which extends 100 feet inland from and parallel to the Bay jurisdiction. The Commission also has jurisdiction over sites reserved for priority uses, such as ports or water-related industry.

Commission permits are required for certain activities within its area of jurisdiction, including construction, dredging, and dredged material disposal. Permits are issued if the Commission finds the activities to be consistent with the McAteer-Petris Act and the policies and findings of the Bay and Seaport Plans. In addition to any needed permits under its state authority, federal actions, permits, and grants that affect the Commission's jurisdiction are subject to consistency review by the Commission, pursuant to the federal Coastal Zone Management Act (CZMA), for their consistency with the Commission's federally-approved management program for the Bay.

The DEIR should identify BCDC's jurisdiction on project plans, as well as fully describing the portions of the redevelopment project that will require BCDC permits for implementation.

Bay Fill

The Commission may only authorize fill for any use when that fill is consistent with the McAteer-Petris Act and the Bay Plan. The placement of fill in the Bay may be authorized when it meets the fill requirements identified in Section 66605 of the McAteer-Petris Act, which states, in part, that: (1) the public benefits of fill must exceed the public detriment from the loss of water areas; (2) no alternative upland location is available; (3) the proposed fill is the minimum necessary to achieve the purpose of the fill; (4) the nature, location, and extent of any fill must minimize harmful effects to the Bay Area; (5) the fill be constructed in accordance with sound safety standards; and (6) fill should establish a permanent shoreline. The Bay Plan states that, among other things, fill may be approved for port, water-related recreation, and public access. The DEIR should identify aspects of the proposed project that would involve Bay fill and describe the amount, location, and possible environmental impacts of the fill, as well as the measures taken to minimize these potential impacts.

Public Access

The Bay Plan Policies on Public Access, in part, state: "[i]n 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....Whenever public access to the Bay is provided as a condition of development, on fill or on the shoreline, the access should be permanently guaranteed....Public access improvements provided as a condition of any approval should be consistent with the project and the physical environment, including protection of natural resources, and provide for the public's safety and convenience.... In some areas, a small amount of fill may be allowed if the fill is necessary--and is the minimum absolutely required--to develop the project in accordance with the Commission's public access requirements...."

The DEIR should discuss the type and amount of public access that would be associated with all components of the redevelopment project. The DEIR should also describe how the public access proposed for the redevelopment project would connect to surrounding public access provided at the Port of Oakland's Middle Harbor Shoreline Park and north of the Bay Bridge in Emeryville.

Seaport Plan

On January 4, 2001, the Commission amended the Bay Plan and Seaport Plan at the request of the Oakland Base Reuse Authority and the Port of Oakland. The amendment deleted the port priority use designation for approximately 189 acres of the OBRA. The remainder of the Army Base was retained in port priority use for port ancillary support uses. The DEIR should discuss the proposed redevelopment project in the context of the Seaport Plan, as amended, and describe the uses that would occur within the portion of the site retained for port ancillary support uses.

Thank you for the opportunity to comment on the Notice of Preparation. We have focused on the key information that should be provided within the DEIR. Please note, however, that staff will also review the DEIR for its consistency with other Bay Plan policies, including water quality, dredging, and fish and wildlife. Should you have any questions, please feel free to contact me at (415) 352-3618.

Sincerely,

ANDREA M. GAUT
Coastal Program Analyst

AMG/mm

cc: State Clearinghouse, Office of Planning and Research; Attn: Katie Shulte Joung

EAST BAY
MUNICIPAL UTILITY DISTRICT

April 8, 2002

Ms. Aliza Gallo, Executive Director, OBRA
City of Oakland
250 Frank Ogawa Plaza, Suite 3315
Oakland, CA 94612

Dear Ms. Gallo:

Re: Notice of Preparation (NOP) of a Draft Environmental Impact Report – Oakland Army Base Redevelopment Project, Oakland, California

East Bay Municipal Utility District (District) appreciates this opportunity to comment on the Notice of Preparation (NOP) for a Draft Environmental Impact Report (EIR) for the Oakland Army Base Redevelopment Project. The District understands that the comments may be submitted at this time since the appropriate District Division did not receive a copy of the NOP when it was circulated in August 2001. In the future, environmental documents should be sent to the Senior Civil Engineer, EBMUD - Water System Planning M/S 701, P.O. Box 24055, Oakland, CA 94623.

The District has the following comments regarding water, water recycling, and wastewater services.

WATER SERVICE

The proposed project is located within the District's Central Pressure Zone (PZ). The Central PZ provides water service to customers within an elevation range of 0 to 100 feet. Based on the proposed land use and build-out potential of the Oakland Army Base, water main extensions may be required to provide water service to the proposed project. Engineering and installation of water mains often require substantial lead-time, which should be provided for in the project sponsor's development schedule. The project sponsor should contact the District's New Business Office at (510) 287-1008 and request a water service estimate to determine costs and conditions for providing water service to the proposed development.

In August 2001, the District was contacted by the Oakland Base Reuse Authority (OBRA) regarding the (OARB) Redevelopment Project. The District informed OBRA that they must request a Water Supply Assessment from the District, pursuant to Sections 10910-10915 of the California Water Code. On December 21, 2001, the District received a formal request for a Water Supply Assessment. The District completed and approved the Water Supply Assessment (enclosed) on February 13, 2002 and provided it to OBRA on February 19, 2002.

The District will not install pipelines in soil with contamination levels which would expose workers to dermal or respiratory impacts that cannot be mitigated by Level D personal protective equipment or which would generate soil or groundwater that requires disposal as a hazardous waste. The developer should make available any analytical data on the site. When the applicant applies for water service, any environmental assessment information and analytical data, if available, should also be submitted. The District will review the information and may require additional sampling and testing at the applicant's expense prior to installation near potential sources of soil contamination.

To help mitigate the impacts of additional water demands on the District's finite water supply, the District recommends that water conservation measures for both internal and external use be incorporated in the design and construction of the proposed project. The District encourages the use of equipment, devices, and methodology that furthers water conservation and provides for long-term efficient water use. The District also recommends the use of drought resistant plants, use of inert materials, and minimal use of turf areas. Due to the District's limited water supply, all customers should plan for shortages in times of drought. The project sponsor should contact the District's Manager of Water Conservation at (510) 287-0591 for more information.

WASTEWATER PLANNING

The District's Main Wastewater Treatment Plant is anticipated to have adequate dry weather capacity to treat the proposed wastewater flow from this project, provided this wastewater meets the standards of the District's Source Control Division. However, the City of Oakland's Infiltration/Inflow (I/I) Correction Program set a maximum allowable peak wastewater flow from each subbasin within the City of Oakland, and the District agreed to design and construct wet weather conveyance and treatment facilities to accommodate these flows. The District prohibits discharge of wastewater flows above the allocated peak flow for a subbasin, because conveyance and treatment capacity for wet weather flows may be adversely impacted by flows above this agreed limit. The developer for this project needs to confirm with the City of Oakland Public Works Department that there is available capacity within the subbasin flow allocation and that it has not been allocated to other developments. The projected peak wet weather wastewater flows from this project need to be determined to assess the available capacity within the subbasin and confirmation included in the EIR.

In general, the project should address the replacement or rehabilitation of the existing sanitary sewer collection system to prevent an increase in I/I. Please include a provision to control or reduce the amount of I/I in the environmental documentation for this project. The main concern is the increase in total wet weather flows, which could have an adverse impact if the flows are greater than the maximum allowable flows from this subbasin.

RECYCLED WATER

The District's Policy 73 mandates that customers use non-potable water for non-domestic purposes when it is available at reasonable cost, not detrimental to pubic health and not injurious to plant life, fish and wildlife. The subject project lies within the Oakland/Berkeley water reuse zone and thus could be served via the East Bayshore Recycled Water Project (EBRWP). As the City of Oakland is aware, the District has completed a facilities plan for the EBRWP. In addition, the District's Board of Directors certified the EIR for the EBRWP on June 12, 2001. The project will provide recycled water to developments in West and Downtown Oakland areas for non-potable uses. The District recommends that the city require dual plumbing for the Oakland Army Base Disposal and Reuse Project for landscaping, toilet water flushing, wash down water for warehouses, decorative fountains, and other California Department of Health Services Title 22 approved uses for tertiary treated recycled water. Use of recycled water for this project will reduce the project's demand for potable water.

In addition, to comply with California Senate Bill 2095, which went into effect on January 1, 2001, the City of Oakland's City Council approved a dual-plumbing ordinance at their January 29, 2002 meeting. The developer should confer with the City of Oakland's Planning Department to ensure compliance with this ordinance. The project sponsor should contact the District's Office of Water Recycling at (510) 287-2063 to further determine how to accommodate the use of recycled water in the design of the project.

If you have any additional questions, please direct them to Marie Valmores, Senior Civil Engineer, Water Service Planning Section, at (510) 287-1084.

Sincerely,

WILLIAM R. KIRKPATRICK
Manager of Water Distribution Planning

WRK:CDC:sb
sb02_079.doc

Enclosure

cc: Mr. Scott Gregory, EIR Project Manager
Ms. Gayle Borchard

EAST BAY
MUNICIPAL UTILITY DISTRICT

February 19, 2002

Ms. Aliza Gallo, Executive Director
Oakland Base Reuse Authority
700 Murmansk Street, Suite 300
Oakland, CA 94607-5009

Dear Ms. Gallo:

Re: Water Supply Assessment – Oakland Army Base Redevelopment Plan Environmental Impact Report

This letter replies to your request of December 19, 2001 for water agency consultation concerning the Oakland Army Base (OARB) Redevelopment Plan (see enclosed). The East Bay Municipal Utility District (EBMUD) appreciates the opportunity to provide this response.

Pursuant to Chapter 643, Section 10910 of the California Water Code and Section 15083.5, California Environmental Quality Act Guidelines, the project meets the threshold requirement for an assessment of water supply availability based on the potential size of the development and the following criteria: the project includes more than four million square feet of light industry, office, research and development, retail, and warehouse/distribution; as part of project approval, an amendment to the City of Oakland's (City) General Plan will be prepared by the City which would result in a net increase in the stated population density; and the City is preparing an environmental impact report for the project.

Project Area and Service History

This project area is bordered on the north by the San Francisco Bay, on the west by the Oakland Outer Harbor and Middle Harbor, on the south by the Oakland Inner Harbor. The western boundary runs along the Cypress Freeway. The project is within the City and the County of Alameda. The City's redevelopment district, which is now under the charge of the Oakland Base Reuse Authority (OBRA) encompasses approximately 1,731 acres consisting of three sub-districts:

1) OARB - approximately 385 acres.
2) The Port of Oakland maritime and rail facilities - approximately 1,300 acres.
3) A portion of West Oakland immediately east of Interstate 880 (16th/Wood) - approximately 46 acres.

EBMUD has provided water service to the project site since 1941 and continues to provide water service to the project area. Water service to the OARB is currently provided through two master meter accounts via a local distribution system owned and

operated by the Army. In August 2001, the Army's two water accounts were transferred to OBRA. Since this area has a long history of being provided water service by EBMUD, it does not constitute a potential new area to be served.

Because the project is located entirely within the EBMUD service area, EBMUD is the service provider to the proposed development in accordance with state law (the Municipal Utility District Act) and EBMUD's regulations.

District-wide Water Demand Projections

The water consumption of EBMUD customers has remained relatively level in recent years in spite of population and account growth. Between 1987 and the present, consumption has ranged from a high of approximately 220 million gallons per day (mgd) in 1987 to a low of 170 mgd in 1989. Based on extensive forecasting in EBMUD's Water Supply Management Plan (WSMP) and recent land use based demand forecasting, the WSMP forecast 2020 water demand of 277 mgd can be reduced to 229 mgd with successful water recycling and conservation programs that are in place. The OARB project is not expected to change the District-wide demand 2020 projection.

EBMUD Water Supply and Water Rights

EBMUD has water rights and facilities to divert up to a maximum of 325 mgd from the Mokelumne River, subject to the availability of Mokelumne River runoff and the prior water rights of other users. EBMUD's position in the hierarchy of Mokelumne water users is determined by a variety of agreements between Mokelumne water rights holders, the appropriative water rights permits and licenses which have been issued by the State, pre-1914 rights, and riparian rights. Conditions which restrict EBMUD's ability to use its 325 mgd entitlement include:

Upstream water use by prior right holders.
Downstream water use by riparian and senior appropriators and other downstream obligations, including protection of public trust resources.
Drought, or less than normal rainfall for more than a year.
Emergency outage.

During periods of drought, runoff from the Mokelumne River is insufficient to supply the 325 mgd entitlement. EBMUD studies indicate that with our current water supply and the water demands expected in 2020, deficiencies in supply of up to 67 percent could occur during droughts.

EBMUD Urban Water Management Plan

The enclosed EBMUD's 2000 Urban Water Management Plan (UWMP), adopted by the Board of Directors in Resolution No. 33242-01, includes planning level analyses at the

County and District-wide level for existing and projected water demand. A summary of EBMUD's demand and supply projections in five-year increments is provided in the table (Enclosure 3) from the UWMP. The data reflects the latest actual and forecast values.

EBMUD's evaluation of water supply availability accounts for the diversions of both upstream and downstream water right holders and fishery releases. Fishery releases are based on the requirements of a 1998 Joint Settlement Agreement (JSA) between EBMUD, US Fish and Wildlife Service, and the California Department of Fish and Game. The Federal Energy Regulatory Commission incorporated the JSA into the EBMUD hydropower license in 1989, and the California State Water Resources Control Board incorporated the flow provisions of the JSA into EBMUD's Mokelumne River water rights in 1999 through Decision 1641.

The available supply shown in the table (Enclosure 3) in years 1, 2 and 3 of a multiple year drought was determined by EBMUD's hydrologic model with the following assumptions:

EBMUD's Drought Planning Sequence is used for 1976, 1977, and 1978.
Total system storage is depleted by the end of the third year of the drought.
The diversions by Amador and Calaveras Counties upstream of Pardee Reservoir increase over time.
Releases are made to meet the requirements of senior downstream water right holders and fishery releases are made according to the JSA.

In the table, "Single Dry" year (or Year 1 of "Multiple Dry Years") is determined as a year that EBMUD would implement Drought Management Program elements at the "moderate" stage with the goal of achieving between 0 to 15 percent reduction in customer demand. Year 2 of Multiple Dry Years is determined as a year that EBMUD would implement Drought Management Program elements at the "severe" stage with the goal of achieving between 15 to 25 percent reduction in customer demand. In Year 3 of the multiple year drought, deficiencies from about 48 percent in year 2005 to about 67 percent in year 2020 are forecast to occur. Therefore, a supplemental supply is needed, which is defined by EBMUD as the additional amount of water necessary to limit customer deficiency to 25 percent in a multiple-year drought while continuing to meet the requirements of senior downstream water right holders and the provisions of the 1998 JSA.

Project Demand

Demand projections for the subject project area are included in the 2000 UWMP analysis (and were in the 1985, 1992, 1996 UWMP versions). The District projects the 2020 water demand to be approximately 1.8 mgd, which includes an estimated 0.15 mgd that can be satisfied by recycled water. The District's further refinement of OBRA's 1.5 mgd calculation includes the application of an infill development adjustment factor. The following paragraph outlines the plans that EBMUD has for acquiring additional water supply.

Supplemental Water Supply and Demand Management

In EBMUD's 1993 WSMP, three main options to meet projected water needs and to increase water reliability were identified: development of the conveyance facilities necessary to take delivery of the EBMUD-Central Valley Project contract for delivery of an American River supplemental supply, groundwater conjunctive use, and/or additional surface water storage. More recently, EBMUD signed a Memorandum of Agreement with the City of Sacramento, the County of Sacramento, and the U.S. Bureau of Reclamation to study a joint regional water project on the Sacramento River near Freeport replacing an American River diversion. A Freeport project would allow for a future groundwater conjunctive use component and, along with planned water recycling and conservation efforts, would ensure a reliable water supply to meet projected demands for current and future EBMUD customers within the current service area. Without a supplemental water supply source, deficiencies in supply are projected as noted above.

EBMUD requests that OBRA continue to discuss options with EBMUD to reduce new water demand impacts through both conservation practices and the use of recycled water. Please contact Marie A. Valmores, Senior Civil Engineer at (510) 287-1084 for further information.

Sincerely,

WILLIAM R. KIRKPATRICK
Manager of Water Distribution Planning Division

WRK:CDC:sb
sb02_035.doc

Enclosures: 1. Letter dated December 19, 2001
2. EBMUD 2000 Urban Water Management Plan
3. EBMUD Projected Demand and Available Supply Table

cc: Board of Directors w/o Enclosure 2

Appendix 1C
September 19, 2001 Staff Report to the Oakland City Planning Commission Regarding the OARB Redevelopment Project Area

ase File No. DET01-06, ER01-035

Location:	**Oakland Army Base Redevelopment Project Area**
Proposal:	Scoping Session for a Draft EIR to receive comments about proposed redevelopment activities within the Oakland Army Base Redevelopment Project Area; Determination of Alternative Baseline Year for EIR analysis.
Applicant:	City of Oakland / Oakland Redevelopment Agency
Owner:	
Case File Number:	DET01-06, ER01-035
General Plan:	Business Mix, General Industrial / Transportation
Zoning:	M-40 Heavy Industrial, M-30 General Industrial and M-20 Light Industrial, with S-16 Industrial/Residential/Transitional combining zones.
Historic Status:	A National Register-eligible Historic District has been identified within the Redevelopment Project Area.
Environmental Determination:	An EIR is being prepared by the City as the Lead Agency on the OARB Redevelopment Plan. The Army is preparing a separate EIS on disposal and reuse actions.
Service Delivery District:	I – West Oakland
City Council District:	3
Staff Recommendation:	Receive public and Commission comments about what information and analysis should be included in the Environmental Impact Report, and determination of the baseline year to be used in the EIR analysis
For further information:	Contact: **Elois A. Thornton,** CEDA Base Reuse Unit, at **510-238-6284**

INTRODUCTION

This staff report provides significant information regarding the Oakland Army Base (OARB) Redevelopment Project Area and the forthcoming Environmental Impact Report (EIR). To facilitate the Commission's review of this report, the following information is presented:

- Section I summarizes the background of the former OARB closure and creation of the OARB Redevelopment Project Area.
- Section II provides the Project Description for the Redevelopment Plan, including identification of the three sub-areas within the Redevelopment Project Area: 1) the former OARB sub-area, 2) the existing Port of Oakland Maritime sub-area, and 3) the 16th and Wood sub-area.
- Section III defines the purpose of the Scoping Session for the OARB Redevelopment Plan EIR.
- Section IV discusses selection of an Alternative Baseline Year for EIR analyses.
- Section V presents staff's recommendations and Findings for Commission action.

I. SUMMARY AND BACKGROUND

Summary

In September 1999 the Commission approved a *Preliminary Redevelopment Plan* for the Oakland Army Base (OARB) Redevelopment Project Area. The Final Redevelopment Plan was adopted in July 2000 pursuant to California Redevelopment Law, and the Redevelopment Project Area was created. Special provisions of the Redevelopment Law applying to redevelopment designations for military bases allow for certification of the required Environmental Impact Report (EIR) to be delayed 18 months after establishment of the Redevelopment Project Area. Accordingly, the EIR for the OARB Redevelopment Project Area – which is the subject of this staff report – is expected in early 2002. To support that effort, staff is requesting that the Commission conduct a public scoping meeting to receive comments on the prospective contents of the EIR, and to approve use of an alternative baseline year analysis for the EIR. Both of these topics are discussed in detail in this report.

Background

The OARB was developed during World War II and served as a major cargo port during the war. Thereafter, OARB continued its mission as a major shipping and rail terminal and provided key logistical support for the United States military during the Korean, Vietnam and Desert Storm operations. OARB was among the many military bases recommended for closure pursuant to the Defense Base Realignment and Closure (BRAC) Commission in 1995, and the Base officially closed in September 1999. A small caretaker unit remains on the OARB at this time, responsible for facilitating the transfer of the OARB. Also on-site is the U.S. Army Reserve enclave that was authorized by the Army to remain on the Base after closure.

Following the decision to close the OARB, the Oakland Base Reuse Authority (OBRA) was created as the Local Reuse Authority responsible for planning the reuse of closing military facilities in Oakland (the OARB and the Oak Knoll Naval Medical Center). To insure community involvement in the OARB reuse planning process, OBRA established the West Oakland Community Advisory Group (WOCAG). After collaboration with a number of other important stakeholders, OBRA produced the initial *'98 Draft Final Reuse Plan* to set forth the recommended future development scenario for the OARB in July 1998.

The San Francisco Bay Conservation and Development Commission (BCDC) *San Francisco Bay and Seaport Plan* initially designated the entire OARB as a Port Priority Use area. This designation in the *Bay and Seaport Plan* is intended to ensure that enough land is set aside in the region to support projected cargo movement activities within the Bay Area. However, this designation limited development of the Base to port and port-related activities when the site was no longer used by the military; it was not consistent with allowing for the broad range of reuse opportunities that were recommended in the *'98 Draft Final Reuse Plan*. In addition, the Port Priority Use Area designation and BCDC's related requirements allocated 100 acres of OARB property east of Maritime Street for cargo container terminal uses, which was inconsistent with a number of land use commitments that had been made during the initial preparation of the *'98 Draft Final Reuse Plan*.

Additionally, the inconsistencies between the BCDC documents and the *'98 Draft Final Reuse Plan* prevented the Army from proceeding with actions to convey the OARB to OBRA for reuse. In order to retain the opportunity for a viable economic development and job-generating project, the OARB reuse program needed to be reconfigured to a manner that assured BCDC that adequate acreage would be deveoted to meeting container through-put forecasts for year 2020, and reserved remaining OARB property for other economic development uses. Essentially, under the reconfiguration, the OBRA/ORA

and the Port of Oakland exchanged previously designated areas of the Base. The OBRA/ORA will obtain approximately 186 acres of the OARB property located primarily west of a realigned Maritime Street and additional property in the vicinity of the West Grand Avenue/Maritime Street intersection for creation of a major economic development project. The Port will obtain approximately 184 upland acres located southeast of Maritime Street and 56 submerged acres to expand its maritime facilities, including the development of a Joint Intermodal Terminal (JIT).

On September 2000, the OBRA and the Port submitted a joint application to amend *BCDC's Bay and Seaport Plans* by removing the Port Priority Use and maritime terminal designations from portions of the OARB. The application, which was approved by BCDC on January 4, 2001, resulted in amending BCDC's plans and removing the Port Priority Use and maritime terminal designations from areas that would be developed by the ORA. The *'98 Draft Final Reuse Plan* was then amended to reflect the reuse program specified in the BCDC application. The Army was then able to receive a Consistency Determination from BCDC to proceed with conveyance actions. The *Amended OARB Draft Final Reuse Plan* was approved by OBRA on April 9, 2001 and further amended on July 23, 2001 to clarify the recommended property conveyances.

Simultaneously with the Reuse Plan amendment and Redevelopment designation process, the Military Traffic Management Command of the U.S. Army conducted its environmental review for the disposal and reuse of the OARB. The Army issued a *Draft EIS for the Disposal and Reuse of the OARB* in September of 1999. However, the reuse plans presented in this *'99 Draft EIS* did not meet Coastal Zone Management Act requirements as administered by the BCDC (as discussed above). Once BCDC's plans and the *'98 Draft Final Reuse Plan* were amended, the Army prepared a *Supplemental Draft EIS* to provide opportunity for public review and comment on this new information. A new section was added to the previous Draft EIS to specifically address the new *2001 Amended Draft Final Reuse Plan*. This *Supplemental Draft EIS* was issued by the Army in July 2001 and is currently in the public review and comment period.

Concurrent with the planning actions for reuse of the OARB were actions to identify impediments to future development and to provide a mechanism for funding required improvements. In late 1998, as a complement to completing the *'98 Draft Final Reuse Plan*, the ORA began efforts to designate the OARB and many surrounding underutilized industrial and Port-related properties as a Redevelopment Project Area. The resulting OARB Redevelopment Project was established in July 2000. Staff is now pursuing preparation of the required EIR EIR to analyze the environmental effects of the proposals identified in the Redevelopment Plan. This EIR will rely, to a certain extent, upon information contained in the Army's EIS. The project description for this EIR will also be derived, in part, from the *2001 OARB Amended Draft Final Reuse Plan*.

Project Area / Property Description
The Redevelopment Project Area (Project Area) is located on the waterfront immediately south of the eastern terminus of the San Francisco/Oakland Bay Bridge, approximately 2 miles and 6.5 miles from Oakland and San Francisco central business districts, respectively. The Redevelopment Project Area consists of approximately 1,730 acres and is divided into three Sub-Areas, as shown on **Map 1** (Attachment "B").

1. **OARB Sub-Area**. The former Oakland Army Base (426 acres total; including approximately 370 acres of upland and approximately 56 acres of submerged land). According to the *2001 Amended Draft Final Reuse Plan for the OARB*, approximately 186 acres of the approximately 370 acres of

upland will become part of the City of Oakland's Gateway Development Area (see detailed description in following section). Approximately 184 acres will become part of the Port of Oakland's maritime area (see detailed description in following sections). All of the 56 acres of submerged lands would become part of the Port of Oakland's maritime area.

2. **Port Maritime Sub-Area.** The Port of Oakland's current maritime area generally lies west and south of the OARB (approximately 1,235 acres). This area includes the existing marine terminal facilities and related infrastructure along the Outer Harbor and Inner Harbor channels, as well as the former U.S. Navy Fleet Industrial Supply Center Oakland (FISCO).

3. **16th & Wood Sub-Area.** An area along the OARB's eastern boundary roughly between the I-880 freeway and Wood Street, including the former Oakland Amtrak Station and the Phoenix Iron Works site (approximately 66 acres).

Immediately accessible by the I-880 freeway, the Redevelopment Project Area designation for these areas allows the ORA and the Port to implement the City economic development strategies, including Port development plans, on an area of significant size and strategic location. Development of the OARB specifically through the Redevelopment Project represents an opportunity to take advantage of tax increment financing mechanisms to stimulate physical revitalization, as well as the creation of significant job opportunities for Oakland residents.

General Plan and Zoning Analysis

The General Plan land use designations for the redevelopment Project Area are currently "Business Mix" and "General Industrial / Transportation". The Business Mix classification is intended to create and enhance areas of the City that are appropriate for a wide variety of business and related commercial and industrial establishments. The General Industrial and Transportation classification is intended to recognize, preserve and enhance areas of the City for a wide variety of business and related establishments that may have the potential to create off-site impacts such as noise, light, glare, truck traffic and odor. The Redevelopment Project Area is zoned M-40: Heavy Industrial, M-30: General Industrial, M-20: Light Industrial and S-16: Industrial-Residential-Transitional Combining zones. These land use designations are consistent with the previous *'98 Draft Final Reuse Plan*. However, due to the reconfiguration of the OARB reuse plan (see discussion above), it is necessary that the General Plan and zoning be amended upon approval / adoption of the Final Reuse Plan to maintain consistency with the *2001 Amended Draft Final Reuse Plan*. In preparation for these amendments, OBRA began discussions with the City Planning Department in June 2001. Under the City Charter, City zoning classifications do not apply to the Port areas.

Environmental Determination

The City has determined that an Environmental Impact Report (EIR) is required for the Project. The EIR's purpose, generally, will be to inform governmental decision-makers and the public about the potential significant environmental effects of proposed activities and to identify ways that such effects can be reduced or avoided. The Notice of Preparation (NOP) was published on August 19, 2001 (attached Exhibit "A"). This Scoping Session is being held to solicit public, Commission and Responsible Agency comments on what information and analysis should be contained in the EIR. In addition to these comments, written comments will be accepted until September 19, 2001. Written comments are encouraged in order to provide an accurate record of public comments.

II. PROJECT DESCRIPTION

OARB Redevelopment Plan for the Oakland Army Base Redevelopment Project

The *Redevelopment Plan* provides the ORA with powers, duties and obligations to implement and further the program generally formulated in the *2001 Amended Draft Final Reuse Plan for the OARB* and other programs found in the *Redevelopment Plan.* The purpose of the Redevelopment Plan is the redevelopment, rehabilitation and revitalization of the area within the larger boundaries of the OARB Redevelopment Project Area.

Redevelopment Plan Objectives
The *Redevelopment Plan* does not provide a precise plan, nor does it establish specific projects for redevelopment, rehabilitation and revitalization of the area. Instead, the Redevelopment Plan establishes a process and framework within which such specific planning efforts and projects will be identified and implemented. The primary objective of the *Redevelopment Plan* is to eliminate and prevent the spread of blight and deterioration within the Redevelopment Project Area. The activities that may be used or facilitated by the ORA in furtherance of this objective include:

1. Acquisition and subdivision of real property to provide adequate sites for mixed-use development and construction of commercial, industrial, residential, recreational and public benefit facilities;

2. Demolition or removal of certain buildings and improvements;

3. Management of any property acquired by and under the control of the Redevelopment Agency;

4. Installation, construction or re-construction of streets, utilities, and other public improvements;

5. Disposition of property for uses in accordance with the *Redevelopment Plan*;

6. Redevelopment of land by private enterprises of public agencies for uses in accordance with the Redevelopment Plan; and

7. Rehabilitation by future owners, their successors and the Redevelopment Agency of structures and improvements previously owned by the federal government.

Redevelopment Plan Actions
As a means to the elimination and prevention of the spread of blight and deterioration within the Redevelopment Project Area, the Redevelopment Plan calls for new land use and development/redevelopment activities, implementation of certain public improvements, and the expansion and preservation of affordable housing opportunities.

Land Use and Development. All new development within the former OARB Sub-Area of the Redevelopment Project Area must conform to the *OARB Final Reuse Plan*, and to City design review standards where applicable. New development within the Port of Oakland's Maritime Sub-Area south and east of the OARB is intended to meet its regional share of cargo through-put pursuant to the *San Francisco Bay and Seaport Plan*, as amended by the joint OBRA/Port application. All new development within the 16th and Wood Street Sub-Area shall conform to the City of Oakland General Plan. The following sections of this staff report discuss the land use programs for these Sub-Areas in greater detail.

Public Improvements. The *Redevelopment Plan* includes a generalized list of public improvements for which the ORA may acquire property and/or pay for, install, develop, construct or rehabilitate. These public improvements may include streets, roadways, streetscape and transit/bicycle facilities; water, sewer, storm drainage, natural gas, telecommunications and electricity distribution systems; rail system facilities; maritime facilities; parking facilities; parks, plazas and other open spaces; public services (i.e., police, fire, schools, libraries, health and human services); and public housing and shelters.

Low- and Moderate-Income Housing Fund. A percentage of gross tax increment generated within the Redevelopment Project Area will be set aside in a fund for low- and moderate-income housing. The purpose of this fund is to expand and preserve the supply of affordable ownership and rental housing in Oakland. Because only a small portion of the OARB Redevelopment Project Area may become available for residential use (i.e., portions of the 16th and Wood Sub-Area), it is anticipated that the majority if not all of the Housing Fund expenditures will occur outside of the OARB Redevelopment Project Area. Since the location of such future Housing Fund expenditures cannot be identified at this time, the EIR will not include an analysis of the development of such locations for low- and moderate-income housing opportunities. At such time as the ORA authorizes expenditures of Housing Funds, environmental review would be conducted.

A. OARB Sub-Area

As part of the overall conveyance of property from the former OARB, the Army intends to convey a total of 370 acres of upland and an additional 56 acres of submerged land to several receiving entities including:

- OBRA (approximately 305 acres). Of this total, OBRA will then convey approximately 149 acres to the Oakland Redevelopment Agency, and the other 156 acres to the Port of Oakland,
- The Port of Oakland (approximately 22 acres),
- The East Bay Regional Park District (EBRPD) (approximately 15 acres),
- The Painting and Decorating Joint Apprenticeship Training Committee (JATC) (approximately 3 acres),
- An additional 25 acres of land are to be retained, at least temporarily, under the ownership of the US Army Reserve. With the eventual re-location of the Army Reserve Units, 6 acres of these lands will revert to the Port, and 19 acres would become part of the City Gateway Development Area.
- The Port of Oakland (all of the 56 acres of submerged lands).

The eventual reuse and development of these lands is to be guided by the *OARB Final Reuse Plan*. The *2001 Amended Draft Final Reuse Plan* provides for two major areas within the former OARB; the City of Oakland's Gateway Development Area, and the Port of Oakland's Port Maritime Support Area. These two major areas are more fully described below and shown on **Map 2** (Attachment "C").

A.1: OARB Gateway Development Area

A 186-acre portion of the former OARB is anticipated to be redeveloped for a mix of economic development activities for the City of Oakland and surrounding environs. This area is in immediate proximity to the East Bay terminus of Oakland/San Francisco Bay Bridge and the I-880 freeway, and has thus been termed the "Gateway Development Area". The development plan for the Gateway

Development Area is intended to provide an attractive entry to the City of Oakland, create significant new employment opportunities, and bring new industry and business to the area.

Gateway Development Area Goals and Objectives
The development program for the Gateway Development Area is intentionally broad and subject to further refinement, but is intended to further the primary goal of the Reuse Plan. This primary goal is: "*To define a clear but flexible land use direction for the reuse of the OARB properties which best capitalizes on the Base's location, assets, and economic development potential.*" Pursuant to this primary goal, the land use and development activities within the Gateway Development Area are also intended to accomplish the following major objectives:

1. To create a balanced land use pattern that best leverages the existing assets of the Oakland Army Base, supports sustainable land utilization, and enhances the quality of local development.

    a) Provide a "menu' of acceptable land use activities that will be further refined over time by market conditions and demand as the Gateway Area is developed.
    b) Maintain flexibility for future development by endorsing a broad envelope of probable market activities.

2. To provide sustainable, long-term job creation and economic development opportunities that provide employment and advancement opportunities for Oakland residents and businesses.

    a) Provide opportunities for job training and educational resources (including, but not limited to, the Joint Apprenticeship Training Program and the Workforce and Business Development Campus).
    b) Maintain and assist on-going ancillary maritime support activities (i.e., trucking operations) by designating a 15-acre site appropriately and conveniently located for such use.

3. To create high quality and vibrant land use districts which provide a safe, attractive and healthy urban environment.

    a) Increase opportunities for public use, including but not limited to the creation of a new public park to be operated by the East Bay Regional Park District.

4. To protect, preserve and enhance environmental resources.

5. To ensure that high quality public and community services are available to serve future employees within the area and the local community.

6. Provide increased opportunities for social benefits and programs including assistance to, and accommodation for recognized homeless assistance providers.

7. To develop and implement high-quality waste management practices that minimize waste generation and maximize reuse and recycling opportunities.

Gateway Development Area Land Use Program
The land use program for the Gateway Development Area is based on the "Flexible Alternative" land use plan developed during preparation of the *2001 Amended Draft Final Reuse Plan* for the OARB. As its name implies, this land use program is intended to provide the flexibility to balance economic and

community interests for the Gateway area over time. The focus of development within the Gateway Area will include light industrial, research & development, and flex-office space uses, with high-end retail space (or a hotel) as a potential future option. The Gateway Development Area also includes certain commitments for land that have been made for public benefit and port priority uses (i.e., ancillary maritime support, job training, a park and homeless assistance programs). No housing development is provided for within the Gateway Development Area.

The actual development activity that occurs within the Gateway Development Area may vary over time from the development program described herein (see Attachment "D" for more detail). However, this description is intended to provide the maximum or "worst-case" scenario of development intensities that may be anticipated or permitted under the environmental review contained in the EIR. Of the total 186 acres of the Gateway Development Area, approximately 36 acres have been dedicated for specific uses:

- 15 acres have been dedicated to ancillary maritime uses,
- 15 acres have been dedicated to public park,
- 3 acres have been dedicated for job training opportunities (JATC), and
- approximately 3 acres have been targeted for homeless assistance programs, although some or all of these programs may eventually be located off-site of the former OARB.

This leaves a remaining 153 acres within the Gateway Development Area for economic development and redevelopment opportunities. The maximum anticipated development potential for this area according to the Reuse Plan is approximately 2,297,000 square feet of new "Flex-" uses. Therefore, the overall development intensity for this area, based on gross land availability (including land that will be needed for future roadways, pedestrian circulation, utility easements, etc...) is an FAR of 0.35.

A.2: OARB Port Maritime Sub-Area

Approximately 230 acres of the OARB Sub-Area are proposed for expansion of maritime–related facilities. Included in the approximate 230 acres are 184 acres of upland and 56 acres submerged under the Bay.

Maritime Development Area Goals and Objectives
The Port's of Oakland's overall strategic and planning goals for reuse of its portion of OARB include the following:

1. Accommodate the Port's share of regional cargo throughput demand as reflected in the BCDC Seaport Plan;

2. Respond to continuing trends and requirements in maritime container shipping by constructing modernized expanded marine terminals;

3. Provide safe, efficient, and cost-effective movement of containerized intermodal cargo between the Port of Oakland berths and rail cars;

4. Increase productivity and improve efficiency of Port marine terminals;

5. Generate revenue for Port operations and fund future growth to ensure the continued viability of the Port;

6. Provide capacity of West Coast gateway intermodal ports in case one of those ports is shut down due to an emergency (e.g., earthquake); and

7. Keep the Port competitive with other West Coast ports and increase intermodal business.

Maritime Development Area Land Use Program
Incorporation of approximately 230 acres of designated portions of the OARB and the Army Reserve property into the existing Port Area allows for improvements in Port operations. These improvements would result in significant efficiencies in the movement of cargo and consolidation of ancillary maritime uses to maximize the near-dock property in the maritime area. The proposed components of Port development on the OARB are identified below.

Relocated Maritime Street and Intersections. Maritime Street is a 4-lane roadway that runs north/south from the existing I-880/West Grand Ave intersection to 7th Street. Maritime divides into a triangular formation at the south with two legs that meet at 7th Street: what was known as the Maritime Street Extension to the east and a one-way section of Maritime Street to the west. Maritime Street serves as the western boundary for portions of the OARB. To accommodate the proposed maritime uses of the OARB, the existing Maritime Street (north of 7th Street) needs to be vacated and shifted 400 to 600 feet to the east. Current design includes a loop on the north end in the vicinity of West Grand Avenue, to improve intersection capacity, separate truck from other traffic and to avoid bifurcation of the Gateway Development Area. To the south, relocation would require reconfiguration of the existing triangular formation and relocation/reconfiguration of the existing Maritime Street/7th Street intersection. The reconfigured intersection would be an at-grade four-directional intersection, with Maritime Street running north/south, and 7th Street running east/west. Design for Relocated Maritime Street would also include a Class I bicycle facility that would connect to EBRPD's park within the Gateway Development Area, and to the regional Bay Trail.

Reconstruction of Railroad Grade Separation at 7th Street. A grade separation for railroad tracks crossing over 7th Street between Maritime Street and I-880 would be widened to accommodate additional railroad tracks, vehicular traffic above on the grade separation, and vehicular traffic below grade. Expansion would accommodate new rail lines for movement of trains onto the Port's proposed relocated Joint Intermodal Terminal. The below-grade widening of the roadway would allow for safer truck, car, pedestrian and bicycle access.

Relocated Joint Intermodal Terminal (JIT). The railroad yard for existing JIT operations (transfer of cargo to trains) would be relocated from the current site to approximately 120 acres of the OARB. The relocated facility would consist of paved and unpaved ballasted surface areas, rails and support infrastructure and would incorporate the 21 acre Knight Rail Yard. Other related modifications to tail and support trackage would be required south of 7th Street for optimal operation of the JIT. Relocation of the JIT to OARB will require relocation of the existing U.S. Army Reserve Enclave to an offsite location.

Ancillary Maritime Uses. With relocation of the JIT to the OARB site, an approximate 41-acre strip of land on the OARB footprint would remain between the Relocated JIT and the existing Outer Harbor Terminals. This site would be used temporarily for ancillary maritime support operations such as container storage, truck parking, warehousing, office, etc. In accordance with commitments made by the Port and City to the BCDC, additional designated sites for truck parking and other ancillary uses will be provided.

New Berth 21. Development of New Berth 21would involve the construction of a containment dike across existing Berths 21, 20, 10, 9 and 8, creating one new berth where five berths exist today. Approximately 2.5 million cubic yards of material will be needed to create 29 acres of fill for Berth 21 upland. This new upland area would provide additional acreage to expand and reasonably reconfigure the existing Outer Harbor marine terminal area in conjunction with existing Port property to an ultimate 300 (approx.) acres. Development of this new Berth 21 would increase the capacity and efficiency for cargo throughput. A portion of the approximately 56 acres of submerged land from the OARB would be necessary to create Berth 21;the remainder of the 56 submerged acres will continue to be utilized for ship maneuvering, navigation and other water related and recreational uses.

B. Port of Oakland Maritime Sub-Area

The Port of Oakland Maritime Sub-Area identified in the OARB Redevelopment Plan includes approximately 1,235 acres of existing maritime facilities on Port of Oakland property. Approximately 230 acres of the OARB Sub-Area are proposed for incorporation into the Port of Oakland for expansion of maritime facilities. Incorporation of the OARB as part of the existing Port maritime facilities allows for improvements in operations that result in significant efficiencies in the movement of cargo and maximum use of near-dock property in the maritime area. Consolidation and improvements allow the Port to meet cargo throughput commitments to the Bay Conservation Development Commission in an Amended *San Francisco Seaport Plan*. Proposed components of Port development on the OARB and within the remainder of the Maritime Redevelopment Area are described below.

Maritime Support Center

At proposed buildout of the Port of Oakland Maritime Sub-Area, a Maritime Support Center (MSC) would be developed for centralized ancillary maritime support operations in a 75-acre area located in the vicinity of the existing JIT. The MSC would house activities that directly facilitate the Port's container operations, e.g., a Container Freight Station (CFS), truck parking, container/chassis repair, storage, transloading and related cargo handling and distribution operations. Other areas for maritime support services, including land for truck parking, are anticipated in addition to the designated MSC.

Terminal Expansion

With additional OARB property, the existing Seventh Street, Vision 2000 (Middle Harbor) and Outer Harbor terminal areas would be reconfigured and expanded as proposed for the BCDC *Bay and Seaport Plan* amendments. Expansion and reconfiguration of these terminals would result in larger but reduced number of container berths with greater upland area for cargo storage and transfer. The expansion would improve the efficiency of maritime operations and provide the capacity for cargo throughput expected in the BCDC *Bay and Seaport Plans*.

C. 16th and Wood Streets Sub-Area

The 16th and Wood Street Sub-Area comprises approximately 66 acres within the Redevelopment Project Area, generally located between I-880 and 32nd Street. This sub-area includes several sites that have the potential for redevelopment opportunities including the 28-acre Southern Pacific Railroad/Amtrak Central Station site and the 5-acre former Phoenix Ironworks site. Future development within this Sub-Area is anticipated to occur consistent with the current "Business Mix" General Plan designation for this area. However, the City has been made aware of a preliminary development concept plan for the Central Station site that will be incorporated into the project description for the EIR.

According to preliminary pre-application discussions with City staff, a developer (Holliday Development, LLC) has presented a preliminary development concept that would include approximately 300 to 400 housing units of live-work space and approximately 1.5 million square feet of commercial/office/R&D/retail space. This concept plan includes restoration and reuse of the Central Station to include a community event space, and a 1-acre park in front of the project.

This preliminary development concept will be included as part of the "project" to be reviewed in this EIR, although the concept plan may be altered or refined if subsequent, specific project applications for this site are received by the City. Other development and redevelopment opportunities within this Sub-Area are too speculative to be considered at this time, but the cumulative analysis will include a "full buildout" assumption consistent with the General Plan.

III. PURPOSE OF THIS SCOPING SESSION

The main purpose of the scoping session is to solicit comments from the Commission, Responsible Agencies, and the public on what types of information and analysis should be considered in the EIR. Comments about the issues that should be considered, the types of information that should be included, and the range of alternatives to the project that should be assessed are the subject of this scoping session. This scoping session is not a review or consideration of the merits of the project. There will be a full public process to consider the project itself during the EIR process. Review of the potential impacts of the project and measures to eliminate or off-set those impacts can be considered at the same time as project review, thus informing the decision-making process.

Public Comment Opportunities to Date
On September 13, 2001 City staff held an open public scoping workshop at the West Oakland Senior Center. During this workshop, public comments on the scope of the EIR were solicited, as were comments on the proposed alternative baseline for the EIR. A summary of the public comments received during this workshop will be distributed to the Planning Commission at or prior to this scoping session.

Environmental Issues to be Addressed
The Army *2001 Supplemental Draft EIS*, an Opportunities and Constraints Analysis prepared for the *'98 Draft Final Reuse Plan*, and other planning efforts pursuant to the Reuse Plan have identified the following general list of environmental issues that will be included in the EIR:

- Geology, Soils and Seismicity
- Surface Water Quality
- Groundwater
- Bay Fill
- Noise
- Biological Resources and Wetlands
- Land Use and Design
- Aesthetics
- Consistency with Plan and Policies
- Recreation and Public Access
- Traffic and Transportation, including roadways, intersection LOS, transit and non-vehicular traffic (i.e., trains and ships), and parking
- Air Quality, including construction related effect, stationary sources and mobile source emissions
- Public services and utilities, including water supply, wastewater collection, wastewater treatment and disposal, energy

- Hazardous Materials
- Population and Employment

treatment and disposal, energy

- Cultural Resources, including potential effects to the existing on-site National Register eligible Historic District

Alternatives to Be Considered
The *'98 OARB Reuse Plan* and the Army *2001 Supplemental Draft EIS* both contain a number of alternatives that will form the basis of the Alternatives chapter of the EIR. Specifically, the alternatives currently contemplated for this EIR include:

1. The No Project Alternative (required under CEQA guidelines),
2. A High Intensity Alternative (including the potential for casino use),
3. A Reduced Intensity Alternative,
4. A Full Maritime Use Alternative, whereby the entire OARB would be reused for maritime purposes,
5. A Full Non-Maritime Use alternative, whereby the entire OARB would be reused for non-maritime purposes (i.e., uses similar to the "Flex-Office" land uses contained in the Amended Draft Final Reuse Plan),
6. An Impact Avoidance Alternative, structured to avoid most or all significant and unavoidable impacts through such strategies as an adaptive reuse program for existing historic district structures, and
7. A No Bay Fill Alternative that would not include the proposed new Berth 21.

IV. ALTERNATIVE BASELINE

The physical context in which impacts of a proposed project are determined is called the "baseline." Normally, the baseline comprises those environmental conditions that exist at the time of issue of a Notice of Preparation. However, in 1995 the State Legislature created special rules for CEQA compliance for military base reuse plans.[1] These special rules allow, but do not require, local agencies to consider the baseline to be the conditions associated with the military facility as it existed at the time of final federal action to close or realign the facility. Thus, lead agencies may equate the environmental setting for an EIR with an active, operational facility, or the conditions that existed before the closure decision became final. The impacts associated with reuse would therefore be compared to those of an operating military facility, and impacts that do not exceed the baseline physical conditions would not be considered significant. These rules allow local agencies and redevelopment agencies the option to build on the environmental work already completed by federal agencies pursuant to base closure or realignment EIS documents, and to recognize that military operations may be scaled back dramatically or cease altogether before local reuse decisions are made.

The June 2001 *Supplemental Draft EIS for the Disposal and Reuse of Oakland Army Base* prepared for the Military Traffic Management Command (MTMC) identifies potential impacts associated with the disposal and reuse of the OARB, recommends mitigation measures, and explores various disposal and reuse alternatives. A summary of this information is included as Attachment "E". This Supplemental

[1] *CEQA Guidelines* Section 15229, or *Public Resources Code* Section 21083.8.1, which is the statutory authorization for Section 15229.

Draft EIS also describes the environmental and socioeconomic conditions at the OARB using the baseline year of 1995. This baseline year reflects conditions at the OARB at the time of the Base Realignment and Closure Commission's 1995 recommendation to close the Base and relocate its mission. This Draft EIS used 1995 as its baseline year for comparison against the effects of Base disposal because it represents the level of Base activity during its use as a military installation, pre-closure. Starting in September 1995 a reduction in staffing and facilities at the OARB began, with the eventual cessation or relocation of all of the MTMC's missions by 1999, when the base closed.

Staff proposes to use the 1995 baseline year as described in the Army's *2001 Supplemental EIS* as the baseline for the OARB Redevelopment Project Area EIR, pursuant to *CEQA Guidelines*. Use of this baseline year will expedite preparation of the EIR by relying upon existing information as contained in the federal EIS, and will better represent the actual impact of OARB reuse when compared to the impacts of the Base in full operation. Where 1995 data is not available, the most recent available data will be used as the baseline. Specifically, current environmental conditions for hazardous or toxic wastes, substances and materials must be used as the baseline pursuant to special consideration of these issues as established under *CEQA Guidelines*.[2]

Staff recommends use of the alternative baseline of 1995 for the OARB-only portion of the OARB Redevelopment Project Area EIR to determine impacts for environmental factors including, without limitation, the following:

- Traffic – defined as the probable traffic demand of trips generated by 1995 OARB uses on a circulation system that includes the reconstructed Cypress Freeway (the Cypress Freeway was not completed until 1998),
- Air Quality – derived from 1994 measurements for stationary source emissions and 1995 baseline traffic for mobile source emissions,
- Water Consumption – based on a 1995 non-resident equivalent population, or as may be discovered through review of EBMUD records,
- Energy Consumption – based on the OARB's peak measured demand of just under 3 megawatts in 1995,
- Noise – based on estimates of noise-generating uses and activities occurring at the OARB in 1995,
- Population and Employment - based a total military and civilian personnel employment in 1995, and
- Schools - estimated school children living at the OARB and attending public schools.

A brief list of the types of 1995 baseline conditions that would be used in the EIR are compared to existing (year 2001) conditions at the OARB in the following matrix.

---

[2] *CEQA Guidelines* Section 15229(d)(1).

Issue:	1995 Baseline	2001 "Existing Conditions"	Relative Change
Average daily employee trip generation	6,400 trips	4,990 trips	23% decrease since 1995
LOS at on-Base intersections	LOS "C" or better	LOS "C" or better	No change
Estimated emissions of NO_x, employee trips	131 lbs./day	71 lbs./day	46% decrease since 1995, based on reduced trips and improved emissions
Estimated emissions of PM_{10}, employee trips	96 lbs./day	72 lbs./day	26% decrease since 1995, based on reduced trips and improved emissions
Water demand	184,000 gpd (est.)	120,000 gpd (est.)	35% decrease since 1995
On-Base Employment	2,044	1,330	35% decrease since 1995
Schools	45 children attending public school	0 children at public schools	45 student decrease since 1995

FINDINGS

Pursuant to CEQA Guidelines Section 15229 (Baseline Analysis for Military Base Reuse Plan EIRs):

1) The City of Oakland, as the Lead Agency, is preparing an EIR for the Project in accordance with the requirements of the *California Environmental Quality Act* (Cal. Pub. Res. Code Section 21000 et seq., hereinafter "CEQA"), and the State *CEQA Guidelines* (Cal. Admin. Code Title 14, Section 15000 et. seq., (hereinafter "CEQA Guidelines").

a. The City has determined that an EIR is required, and provided public notice of that determination by publication in a newspaper of general circulation on August 19, 2001.

b. The City also distributed a combined Public Notice of Scoping/ Notice of Preparation regarding the EIR, including information about the Project, to interested parties and Responsible and Trustee agencies, on or about August 16, 2001.

c. The City Planning Commission held such a duly noticed hearing on September 19, 2001, at which opportunity for public comment was given, and public comment was received on scope of the EIR, and the alternative baseline conditions for the EIR. The period for

acceptance of written comments ended at the close of the public hearing, on September 19, 2001.

2) On September 19, 2001 the Commission reviewed and considered the Notice of Adoption of Baseline Conditions and the staff report regarding proposed baseline conditions, and found that the contents of said notice and staff report and the procedures through which the notice was publicized and reviewed comply with the provisions of CEQA and the *CEQA Guidelines*, specifically Section 15229 of the Guidelines.

3) On December 16, 1999 the Army held a public hearing on the *Draft EIS for the Oakland Army Base* at the West Oakland Branch Library, and in July 2001, the Army issued a Supplemental Draft EIS. The baseline conditions contained in the two Draft EIS documents are those same 1995 baseline conditions described herein.

a) In September 1995, OARB began experiencing a reduction in activity and personnel as a result of base closure; therefore, it was not at full activity levels throughout the year.

b) The OARB Reuse Plan may provide approximately 8,860 new direct jobs, over 15,000 indirect jobs, on-site opportunities job training programs, and economic continuity in the use of the OARB as a major employment center within the City of Oakland. Use of the 1995 alternative baseline will support the *Redevelopment Plan* goals of eliminating blight, creating new job opportunities and providing economic congruity at the OARB. The 1995 alternative baseline will also provide a relatively even-handed assessment of the future environmental impacts associated with these economic activities generated by the reuse of this area, neither minimizing future impacts by comparing them against previously more active levels, nor over-emphasizing future impacts unduly.

c) The City has already begun integrating the 1995 baseline into its planning efforts for the OARB, including reliance on this baseline for the *Negative Declaration of Environmental Impacts for the OARB Interim Leasing Program*, and the planning efforts for the *2001 Amended Draft Final Reuse Plan*.

4) As part of the usual process for an EIR, a Draft EIR will be published, and there will be a public review period and public hearing relating to the full content of the document. That review and comment process is separate from this action, which is confined to the adoption of baseline conditions.

ACCORDINGLY, The City Planning Commission does hereby ADOPT the baseline conditions as described herein and included in the Notice of Adoption of an Alternative Baseline, and finds that the baseline conditions have been prepared and noticed in compliance with CEQA and *the CEQA Guidelines*.

RECOMMENDATIONS:

1) Open the hearing, take public testimony on the scope of the EIR and the use of the Alternative Baseline.

2) Provide direction to staff and the EIR consultant as to the scope of the EIR.

3) Adopt the Alternative Baseline and findings in support thereof.

Prepared by:

SCOTT GREGORY
OARB Redevelopment Plan EIR Project Manager

ELOIS A. THORNTON,
Planner IV

Approved for forwarding to the
City Planning Commission:

LESLIE GOULD
Director of Planning and Zoning

Attachments:
A. Notice of Preparation of Draft Environmental Impact Report / Notice of Adoption of Alternative Baseline
B. Map 1: OARB Redevelopment Project Area and Sub-Areas
C. Map 2: OARB Sub-Areas
D. Detailed Description of the Gateway Development Area Land Use Program
E. Summary of Information contained in the U.S. Army Supplemental Draft EIS for the Disposal and Reuse of the OARB

ATTACHMENT A

CITY OF OAKLAND

250 FRANK H. OGAWA PLAZA, SUITE 5313 ▯ OAKLAND, CALIFORNIA 94612-2034

Community and Economic Development Agency
Redevelopment Division

(510)238-3015
FAX (510) 238-3691
TDD (510) 839-6451

August 10, 2001

COMBINED NOTICE OF PREPARATION, EIR SCOPING MEETING, AND NOTICE OF INTENT TO ADOPT AN ALTERNATIVE BASELINE

This is a notice of the following:

1. Preparation of a draft environmental impact report (EIR);
2. Intent to adopt a proposed alternative environmental baseline in accordance with §21083.8.1 of the Public Resources Code (PRC);
3. Public EIR scoping meeting; and
4. Public hearing for adoption of an alternative baseline

for the

OAKLAND ARMY BASE AREA REDEVELOPMENT PROJECT

The City of Oakland is preparing an EIR in compliance with the California Environmental Quality Act (CEQA) for the subject project.

Description. The Oakland Army Base (OARB) Area Redevelopment Project ("the project") is adoption of a 1,731-acre West Oakland redevelopment area and associated redevelopment plan, land assembly, infrastructure improvements, public access improvements, environmental improvements, land development, and required regulatory implementing actions including but not limited to a general plan amendment and rezoning. As illustrated by the enclosed figure, the OARB Redevelopment Project Area encompasses three redevelopment sub-areas: OARB (450 acres); Maritime (1,215 acres), and 16th and Wood Streets (66 acres). The redevelopment sub-areas are generally expected to be redeveloped as follows: 1) the OARB redevelopment sub-area would be developed as envisioned in the OARB Final Reuse Plan; 2) the Maritime redevelopment sub-area would be developed in accordance with the Port of Oakland's Vision 2000 Program; and 3) the 16th and Wood Street redevelopment sub-area would be developed consistent with reasonably foreseeable market demand (i.e., office and/or housing). Land use within the redevelopment area is currently industrial; anticipated land use under the project could be a combination of two or more of the following: industrial, office, retail, hotel, recreation, public access, and/or community service.

Location. As illustrated by the attached graphic, the redevelopment area is located in westernmost Oakland, and is generally bounded by the Interstate-80 approach to the Bay bridge to the north, the Oakland Inner Harbor to the south, the Oakland Outer Harbor and San Francisco Bay to the west, and Wood Street and the West Oakland community to the east.

Lead Agency. The City of Oakland.

Probable Environmental Effects. Changes in land use and visual setting; consistency with plans and policies; alteration or loss of cultural resources; exposure to seismic hazards and hazardous waste; and increased air pollution, noise, population, demand for public services and utilities, and traffic.

EIR Scoping. The City is sending this notice to members of the public, to agencies who may be responsible for approvals related to or funding of the project, and to agencies who have jurisdiction over natural resources held in trust for the people of the state that may be affected by the project. From the public, the City would like to know your views

as to the scope and content of the environmental information to be considered in the EIR. From public agencies, the City needs to know your views on the scope and content of the environmental information germane to your statutory responsibility in connection with the project. In addition, the City needs the name of a contact person at your agency.

Alternative Baseline. The physical context in which impacts of a proposed project are determined is called the "baseline." Normally, the baseline comprises those environmental conditions that exist at the time of issue of a Notice of Preparation. CEQA §21083.8.1 offers agencies preparing an EIR for reuse of a military base such as the Oakland Army Base the option to analyze impacts in the context of the physical conditions that were present at the time the federal decision became final for closure of the base. Use of such an alternative baseline can better represent the actual impact of OARB reuse when compared to the impacts of the base in full operation. The decision to close the OARB became federal law on September 28, 1995. In order to most accurately assess the type and intensity of OARB reuse impacts, the City proposes to use an alternative baseline of 1995 for the OARB portion of the project to determine impacts for the following environmental factors: traffic, air quality, water consumption, wastewater treatment, energy consumption, and schools. From the public, the City would like to know your views regarding the use of an alternative baseline. From public agencies, the City needs to know how you would address application of your regulatory policies and permitting standards to the proposed alternative baseline.

Providing Comments. You may provide written input and comment on either or both the EIR scope and the use of an alternative baseline at any time within 30 calendar days of receipt of this notice, but in any case **no later than September 19, 2001**. Please provide your written input to:

Mr. Scott Gregory, EIR Project Manager
c/o Ms. Aliza Gallo
250 Frank Ogawa Plaza, Suite 3315
Oakland, California 94612

Public Meeting. The City will conduct a joint scoping meeting on the EIR and hearing on the use of the alternative baseline at a regularly-scheduled meeting of the Oakland Planning Commission. You may learn more about the project and the issues, and may provide verbal comments at the meeting/hearing.

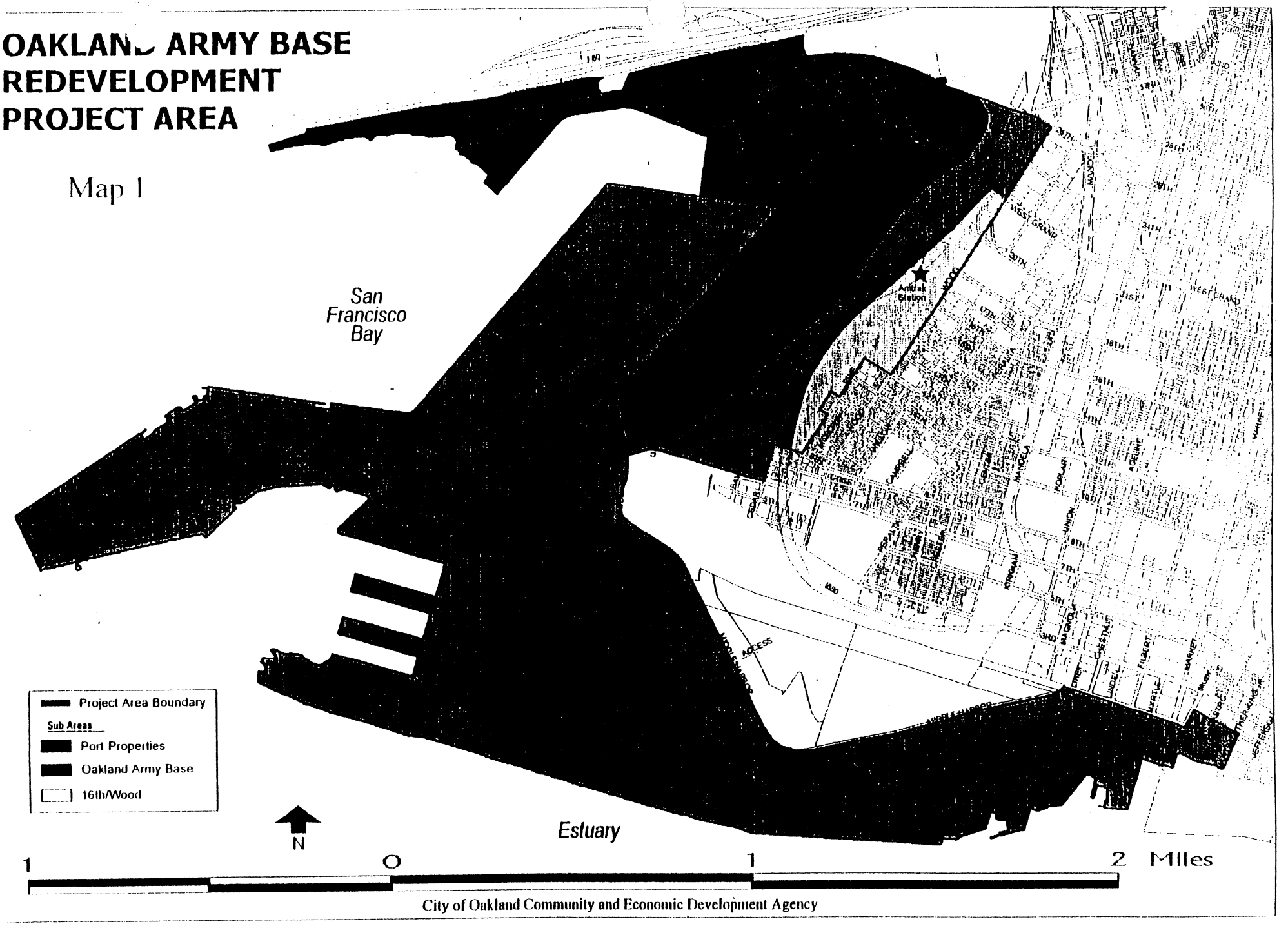
Combined Public Meeting
EIR Scoping Meeting/Hearing on Use of an Alternative Baseline
6:30 p.m., September 19, 2001
Oakland Planning Commission
Hearing Room 1 City Hall, One Frank H. Ogawa Plaza

How to Obtain the Draft EIR. When it publishes the Draft EIR, the City will provide the document to relevant responsible and trustee agencies, as well as to those who respond to this notice by commenting on the scope of the EIR or the use of an alternative baseline. Alternatively, you may send a written request to Mr. Scott Gregory, EIR Manager, as indicated above.

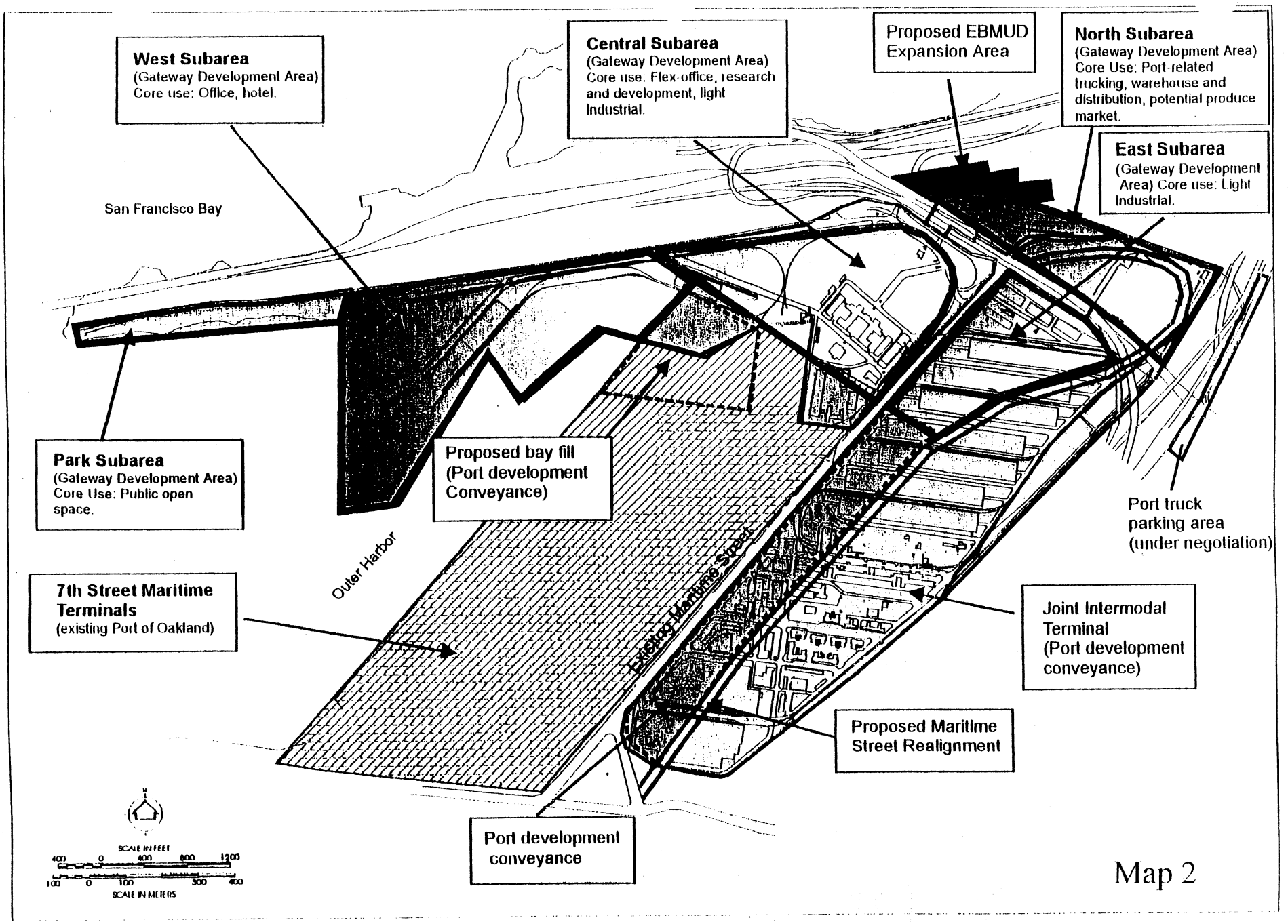
Enclosure: Map of Oakland Redevelopment Project Area and Notice of Additional Public EIR Work Session/EIR Scoping Meeting (all recipients). OARB Daft Final Reuse Plan (public agencies).

OAKLAND ARMY BASE REDEVELOPMENT PROJECT AREA

Map 1



City of Oakland Community and Economic Development Agency



Map 2

ATTACHMENT C

Alternative 7: Oakland Army Base Recommended Reuse Plan (Medium-High/High Intensity Reuse)

GATEWAY DEVELOPMENT AREA, PART OF THE *AMENDED DRAFT FINAL REUSE PLAN FOR THE OAKLAND ARMY BASE*

According to the *'01 Amended Draft Final Reuse Plan* for the OARB, a 186-acre portion of the former OARB is anticipated to be redeveloped for a mix of economic development activities for the City of Oakland and surrounding environs. This 186-acre portion of the former Base is in immediate proximity to the East Bay terminus of Oakland / San Francisco Bay Bridge and the I-880 freeway (see **Figure D-1**), and has thus been termed the "Gateway Development Area". The development plan for the Gateway Area is intended to provide an attractive entry to the City of Oakland, create significant new employment opportunities, and bring new industry and business to the area.

Gateway Development Area Goals and Objectives

The development program for the Gateway Development Area is intentionally broad and subject to further refinement, but is intended to further the primary goal of the *Reuse Plan*. This primary goal is:

> *"To define a clear but flexible land use direction for the reuse of the OARB properties which best capitalizes on the Base's location, assets, and economic development potential."*

Pursuant to this primary goal, the land use and development activities within the Gateway Development Area are also intended to accomplish the following major objectives:

1. To create a balanced land use pattern that best leverages the existing assets of the Oakland Army Base, supports sustainable land utilization, and enhances the quality of local development.
   a. Provide a "menu' of acceptable land use activities that will be further refined over time by market conditions and demand as the Gateway Area is developed.
   b. Maintain flexibility for future development by endorsing a broad envelope of probable market activities.
2. To provide sustainable, long-term job creation and economic development opportunities that provide employment and advancement opportunities for Oakland residents and businesses.
   a. Provide opportunities for job training and educational resources (including, but not limited to, the Joint Apprenticeship Training Program and the Workforce and Business Development Campus).
   b. Maintain and assist on-going ancillary maritime support activities (i.e., trucking operations) by designating a 15-acre site appropriately and conveniently located for such use.
3. To create high quality and vibrant land use districts which provide a safe, attractive and healthy urban environment.

   a. Increase opportunities for public use, including but not limited to the creation of a new public park to be operated by the East Bay Regional Park District.

4. To protect, preserve and enhance environmental resources.

5. To ensure that high quality public and community services are available to serve future employees within the area and the local community.

   a. Provide increased opportunities for social benefits and programs including assistance to, and accommodation for recognized homeless assistance providers.

6. To develop and implement high-quality waste management practices that minimize waste generation and maximize reuse and recycling opportunities.

Gateway Development Area Land Use Program

The land use program for the Gateway Development Area is based on the "Flexible Alternative" land use plan developed during preparation of the *'01 Amended Draft Final Reuse Plan* for the OARB. As its name implies, this land use program is intended to provide the flexibility to balance economic and community interests for the Gateway area over time. The focus of development within the Gateway Area will include light industrial, research & development, and flex-office space uses, with high-end retail space as a potential future option. The Gateway Development Area also include certain commitments for land that have been made for public benefit and port priority uses (i.e., ancillary maritime support, job training, a park and homeless assistance programs). No housing development is provided for within the Gateway Area.

For planning purposes, the Gateway Area is divided into five (5) separate sub-areas, each of which will provide for distinct land reuse opportunities. These sub-areas, as also shown on Figure D-1, include:

- **East Sub-Area.** This is an approximately 40-acre site located east of the existing Maritime Street and south of West Grand Avenue,
- **North Sub-Area**. This is an approximately 32-acre site located north of West Grand Avenue and south of the existing East Bay Municipal Utility District wastewater treatment plans site. This sub-area encompasses the properties currently known as the Baldwin Yard (13 acres) and the Subaru site (19 acres).
- **Central Sub-Area**. This sub-area is approximately 75 acres in size and is located south of West Grand Avenue and west of Maritime Street. This sub-area comprises the major development opportunity site within the Gateway Development Area.
- **West Sub-Area**. The approximately 25-acre triangular shaped site is bordered on two sides by the Oakland harbor, and by facilities related to the Bay Bridge on the third side.
- **Park Sub-Area**. The park sub-area is a 15-acre linear-shaped site designated for public park use, located at the eastern-most extension of the Gateway Development Area.

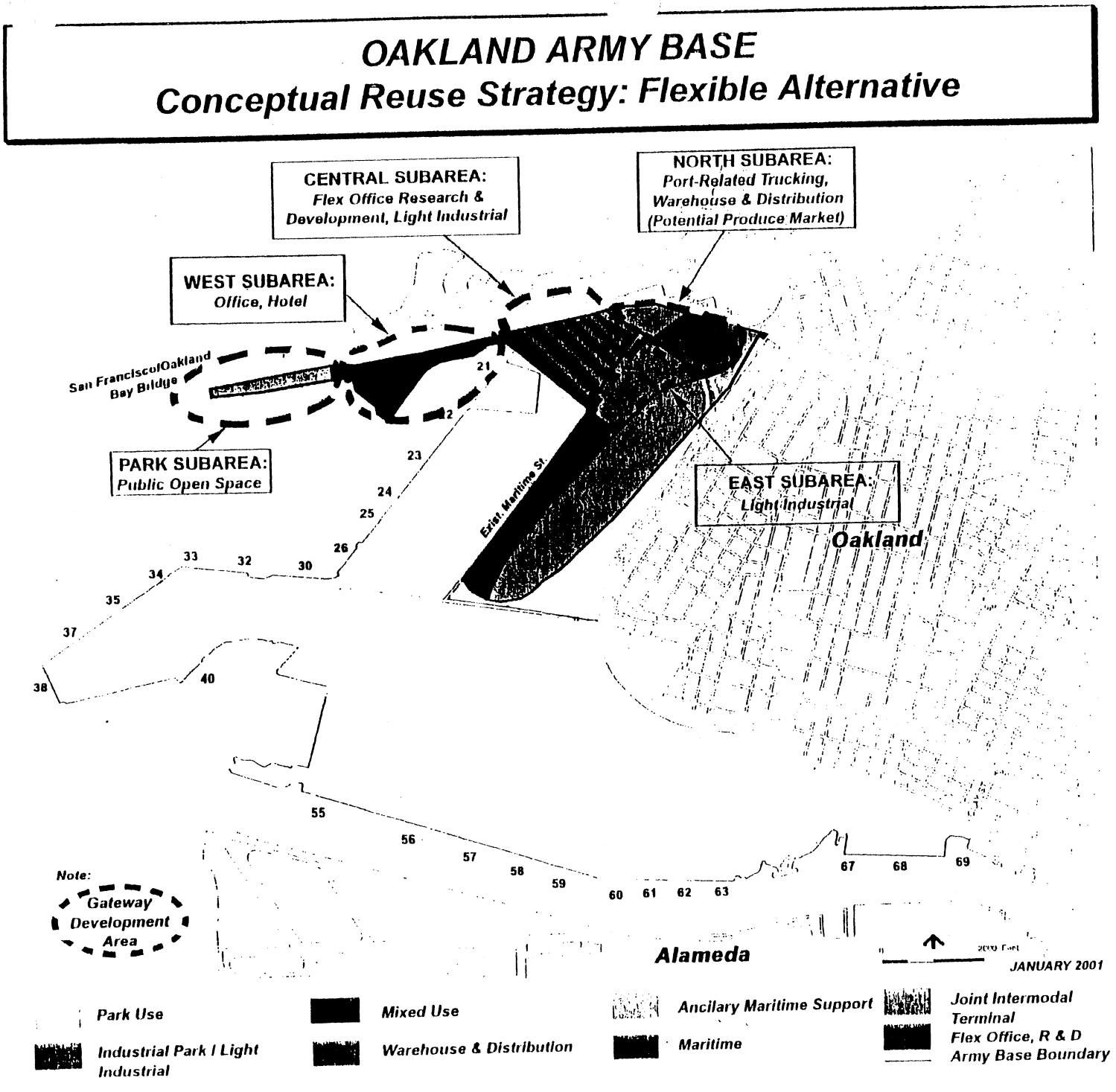

OAKLAND ARMY BASE
Conceptual Reuse Strategy: Flexible Alternative
CENTRAL SUBAREA:
Flex Office Research & Development, Light Industrial
NORTH SUBAREA:
Port-Related Trucking, Warehouse & Distribution (Potential Produce Market)
WEST SUBAREA:
Office, Hotel
San Francisco/Oakland Bay Bridge
PARK SUBAREA:
Public Open Space
EAST SUBAREA:
Light Industrial
Exist. Maritime St.
Oakland
Alameda
Note:
Gateway Development Area
JANUARY 2001
Park Use
Industrial Park / Light Industrial
Mixed Use
Warehouse & Distribution
Ancillary Maritime Support
Maritime
Joint Intermodal Terminal
Flex Office, R & D
Army Base Boundary

Figure D-1

Land Use Commitments

Ancillary Maritime Support

Ancillary maritime support uses include sites specifically designated for trucking, storage and distribution. These uses are intended to be in direct support of maritime activities at the Port of Oakland facilities. Port-related ancillary uses include container freight stations, transit sheds and other temporary container storage areas, freight forwarders, support transportation uses including trucking and rail yards, and customs and agricultural inspection facilities. Most of the port-related trucking businesses specialize in delivering marine containers and rail trailers. These businesses are known as local intermodal trucking companies. An average size local intermodal trucking company requires about 1 acre of yard space and about 1,000 square feet of office space. Because the marine terminals at the Port are only open during the day, many trucking firms take their containers from the Port terminal to a yard where the containers are stored to enable the trucking firms to haul the containers to their destination day and night.[1]

Pursuant to the joint OBRA/Port of Oakland application to BCDC for an amendment to the *Bay Plan*, the Oakland City Council, City Manager and the Port of Oakland reached an agreement with representative of the trucking industry currently located in West Oakland to dedicate an additional 30 acres of land for truck parking and maritime support uses. The staffs of the OBRA and the Port have worked together to identify the most appropriate locations for this additional acreage, and have concluded that 15 acres shall be designated within the Gateway Development Area, and an additional 15-acres shall be designated within the Port's other properties. The 15-acres within the Gateway Development area has been identified within the North Sub-Area, at the site known as the Baldwin Yard. This site has been designated as a Port Priority Use area, specifically designated for ancillary maritime support uses.

The City Council, ORA, OBRA, and the Board of Port Commissioners have each passed resolutions dedicating additional acreage for ancillary maritime support uses and truck parking beyond the acreage committed through the *Bay Plan* amendment.

Joint Apprenticeship Training Committee Facilities

A 3-acre site within the East Sub-Area is designated for use by the Painting and Decorating Joint Apprenticeship Training Committee (JATC). This site is located in the southern portion of the sub-area, east of Maritime Street. The JATC is a fully accredited job training and apprenticeship program with 444 currently enrolled apprentices, and a goal of increasing that enrollment to 1,000. Based on projected facility requirements, the JATC would use this site to accommodate administration uses and other buildings to be used as practice labs for apprentice training.[2]

---

[1] Information derived from BCDC Staff Report to Commissioners and Alternates, prepared by Will Travis, Executive Director and Jeff Blanchfield, Chief Planner. December 29, 2000.

[2] Painting and Decorator's Joint Apprenticeship Training Committee, presentation materials for Public Benefit Conveyance request. August 31, 2000.

Homeless Collaborative Workforce Development Campus

BRAC federal law requires that base closure reuse programs include an accommodation to recognized providers of homeless assistance programs. OBRA and the ORA have established a formal agreement with the Homeless Collaborative, a non-profit organization, to serve as the provider of homeless assistance programs pursuant to the OARB Reuse Plan. Through the provision of supportive training and employment services to homeless and low-income persons, the Homeless Collaborative intends to enhance their long-term employability and earnings.

Under the *'98 Draft Final Base Reuse Plan,* the Homeless Collaborative was intended to occupy existing buildings within the OARB for the development of a Workforce Development Campus and for transitional housing opportunities. However, under the *'01 Amended Draft Final Reuse Plan,* the majority of the Homeless Collaborative's programs (i.e., the Workforce Development Campus) will instead be located either within the East Sub-area of the OARB, or potentially off-site.

However, until such off-site locations are established, the current land use plan for the Gateway Development Area includes accommodation for the Homeless Collaborative programs including:

- the **Alameda County Community Food Bank** may be located within the North Sub-Area,
- the **Workforce Development Campus**, including childcare facilities, will most likely be located within the East Sub-Area,
- **A Safe Place**, which provides emergency services, case management, counseling and employment services to survivors of domestic violence, will most likely be accommodated in the East Sub-area (if not off-site), and
- Housing facilities are anticipated to be developed off-site but in proximity to the Campus, with the assistance of OBRA, the City and the ORA.

Public Park

The narrow peninsula of land consisting of approximately 15 acres (including a submerged portion of land) located directly south of the Oakland touchdown of the Bay Bridge is planned as a public park. This property is approximately 2,800 feet long and between 100 and 200 feet wide, including nearly 3,000 linear feet of rocky shoreline. This sub-area would be developed as the East Bay Gateway Park by the EBRPD.

The recreation program for this park would be devoted to environmental preservation and passive outdoor recreational uses such as walking, viewing, picnicking, fishing and wildlife observation. The beach area would be used for wading, possibly swimming, wind surfing and kayak launching. Because of its urban setting and history, the park would also provide a number of cultural interpretive opportunities. It is anticipated that interpretative panels would be developed describing various cultural and historical items of interest, including:

- current operation of maritime terminals with views of shipping and container-loading activities,

- the historic San Francisco Ferry system, and the East Bay's Key System of trolleys which provided trolley service to the entire East Bay,
- construction of the original Bay bridge and information about the new Bay Bridge spans, and
- historical interpretation of the role of the Oakland Army Base, from which personnel and materials were shipped overseas during World War II and the Korean and Viet Nam conflicts.

The Park Sub-Area includes three existing utility buildings that may be retrofitted for interpretive or operational uses. A conceptual plan for the development of the East Bay Gateway Park is shown in **Figure E-2**.

The park will also provide an alignment for a segment of the San Francisco Bay Trail, a planned 400-mle trail running through nine counties around the shoreline of the San Francisco Bay. The Bay Trail segment will connect West Oakland and downtown Oakland to existing/planned segments of the Bay Trail within the nearby Eastshore State Park, along the frontage of five cities to the north, and across the Bay Bridge to San Francisco.

The EBRPD is also looking to assemble additional lands adjacent to the Army Base property to enlarge this park. Construction of a new span of the Bay Bridge is anticipated to be built immediately to the north of the existing touchdown, followed by removal of the existing bridge span located between the new bridge and the park. EBRPD is currently discussing the possibility of acquiring this additional land that will become available once the current bridge span is removed. Additionally, Caltans plans to re-construct the bridge toll-plaza, administration and highway maintenance facilities that are currently located immediately north of the park Sub-Area. Once these facilities are reconstructed, additional lands may become available for parking and staging areas for the park. EBRPD is currently discussing the possibility of acquiring these additional lands as well.

US Army Reserves

The 63rd Division of the U.S. Army Reserves is located on approximately 42 acres of land (approximately 26 acres within the OARB and 16 acres off-site but immediately north of the OARB). The City, Port and EBMUD are currently negotiating with the Reserves to develop a re-location plan to assist in relocation of these Reserve Units to an off-site location (potentially to Camp Parks in Dublin). Once the Army Reserve units are relocated, the ORA would acquire approximately 20 acres as part of the Gateway Development Area, the Port would acquires approximately 9 acres, and EBMUD would acquire the remainder for expansion of their wastewater treatment plan facilities.

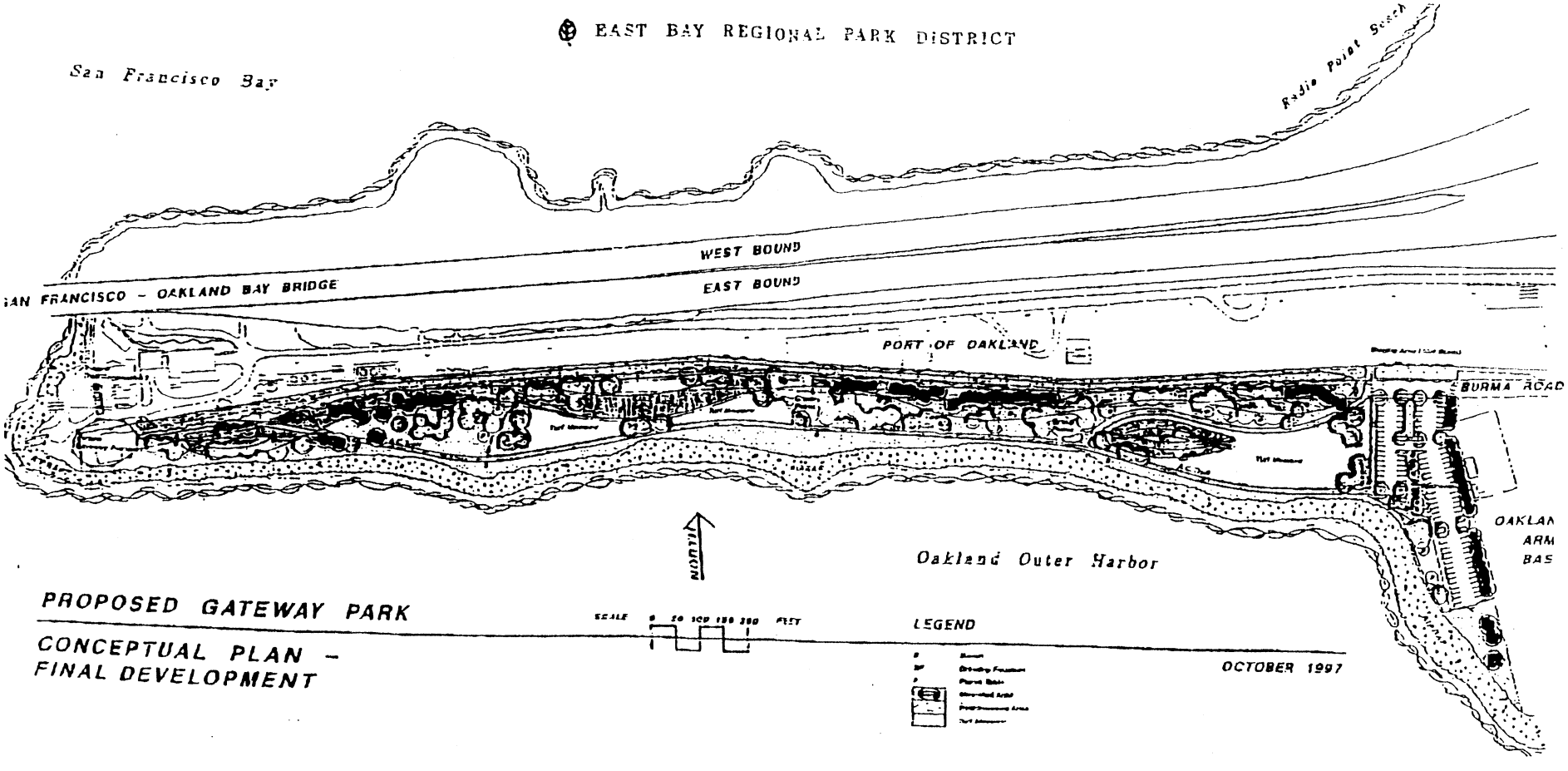

EAST BAY REGIONAL PARK DISTRICT
San Francisco Bay
WEST BOUND
EAST BOUND
PORT OF OAKLAND
BURMA ROAD
Oakland Outer Harbor
PROPOSED GATEWAY PARK
CONCEPTUAL PLAN -
FINAL DEVELOPMENT
LEGEND
OCTOBER 1997

Figure D-2

Economic Development and Redevelopment Opportunities

The economic development-related land uses within the Gateway Area is described below. Although each of these land use types is unique and distinct, the land use program provides the flexibility to mix-and-match these uses throughout the Gateway Development Area. This flexibility is intended to enable specific development activities to respond to market conditions as they develop over time.

Flex-Office Use

The intent of the Flex-Office land use designation is to provide sites that are appropriate for a variety of high-quality businesses and related commercial or industrial establishments. The focus of this land use type is on office or business-related uses, but with the flexibility to accommodate research and development, environmental technology, business and health services, technology and communications uses, and hotels, if these uses are incorporated within an office or business campus-type environment. Development intensities within this land use type may vary throughout the Gateway Development Area.

Research & Development

The intent of the Research & Development land use designation is to provide sites that are appropriate for fostering the growth of emerging and existing technologies. As such, the characteristics of such land uses may include components of office use, as well as industrial, warehouse and distribution facilities. Development intensities within this land use type may vary throughout the Gateway Development Area.

Office

The intent of the Office land use designation is to provide sites that are uniquely suited for exclusive use as offices for professional, business and health services. Corporate campus-like buildings characterize this land use type. Office support uses (such as a hotel) may also be suitable land uses within this designation. Development intensities within this land use type may vary throughout the Gateway Development Area.

Light Industrial

The intent of the Light Industrial land use designation is to provide sites that are appropriate for to containing manufacturing and related establishments, generally in an open and attractive setting. Specific uses may include commercial activities such as administrative, business, research and communication services, or light manufacturing activities. Development intensities within this land use type may vary throughout the Gateway Development Area.

Warehouse and Distribution

The intent of the Warehouse and Distribution land use designation is to provide sites that are uniquely suited for use as warehouse and distribution facilities (e.g., produce market)

Table ES-1c. Summary of benefits and adverse effects of the Reconfigured Reuse Plan.

Resource Area (Section References)	Differences between Reconfigured Reuse Plan and Original Reuse Plan	Reconfigured Reuse Plan
Land Use (6.3.1)	• Inconsistency with City of Oakland General Plan (requires General Plan amendment). • Potential produce market in North Subarea incompatible with odors from EBMUD facility expansion north of Base. • Consistent with the CZMP.	• Direct *significant* long-term adverse effects.
Air Quality (6.3.2)	• Additional rail emissions at sensitive receptor locations from Joint Intermodal Terminal (JIT) sited on east side of Base • Odor nuisance at offices in Central Subarea from odor-emitting industries sited in East Subarea	• Direct *significant* long-term adverse effects.
Noise (6.3.3)	• Additional noise at sensitive receptors from expanded JIT on east side of Base. • Vibrations from JIT could affect potential R&D and manufacturing facilities.	• Direct minor short- and long-term adverse effects.
Water Resources (6.3.4)	• Minor	• Direct minor long-term adverse effect to water supply.
Geology and Soils (6.3.5)	• Seismic and settlement hazards from constructing buildings on artificial fill at Bay margin (west side of Base).	• Indirect minor effects from geological hazards..
Infrastructure (6.3.6)	• Minor	• Direct minor long-term benefits and minor short-and long-term adverse effects.
Traffic and Transportation (6.3.7)	• Additional improvements to public transit and alternative transportation (e.g., multi-use waterfront access trail, new ferry terminal)	• Direct *significant* long-term adverse effects to on-site circulation and minor long-term benefits from public transit improvements.
Hazardous and Toxic Materials (6.3.8)	• Minor	• Direct minor long-term benefits and adverse effects. • Indirect minor short-term adverse effects.
Permits and Regulatory Authorizations (6.3.9)	• None	• Direct long-term benefits.
Biological Resources (6.3.10)	• None	• Direct and indirect minor long-term adverse effects.
Cultural Resources (6.3.11)	• None	• Direct *significant* long-term adverse effects (mitigated).
Sociological Environment (6.3.12)	• None	• Direct minor long-term benefits and/or adverse effects.
Environmental Justice and the Protection of Children (6.3.13)	• Additional noise from expanded JIT on east side of Base • Possible location of homeless assistance facilities at equivalent off-base locations • Creation of Community Trust to benefit West Oakland community	• Direct minor short- and long-term benefits and/or adverse effects. • Indirect minor short- and long-term benefits.
Economic Development (6.3.14)	• Higher employment and sales levels. • More intensive commercial and retail uses.	• Direct minor short- and long-term benefits. • Indirect minor short- and long-term benefits.
Quality of Life (6.3.15)	• Multi-use waterfront access trail and additional shops and services offer additional quality of life benefits	• Direct minor long-term benefits.
Installation Agreements (6.3.16)	• None	• No effects.

due to their proximity to regional transportation facilities. Development intensities within this land use type may vary throughout the Gateway Development Area.

One of the anticipated uses within the Gateway Area includes the potential relocation of the Oakland Produce Market from its current location southeast of the Oakland Central Business District and west of Jack London Square. The Warehouse and Distribution land use type planned for the North sub-area would be consistent and compatible with such operations.

High-End Retail

The intent of the High-End Retail land use designation is to identify locations where limited, high-end only retail uses may be permitted within the Gateway Area. This land use type is intended to provide a distinction between the more standard types of retail establishments that are not anticipated, versus the high-end uses (i.e., a four-star hotel) that may be accommodated.

Summary of Gateway Development Area Land Use Program

The following Table illustrates the total maximum development program anticipated for the Gateway Development Area portion of the former Oakland Army Base. The actual development activity that occurs within this area over time may vary from the development program described herein. However, this description is intended to provide the maximum or "worst-case" scenario of development intensities that may be anticipated or permitted under the environmental review contained in this EIR.

Of the total 189 acres of the Gateway Development Area, 36 acres have been dedicated for specific uses:

- 15 acres have been dedicated to ancillary maritime uses,
- 15 acres have been dedicated to public park,
- 3 acres have been dedicated for job training opportunities (JATC), and
- approximately 3 acres have been targeted specifically for homeless assistance programs.

This leaves a remaining approximately 150 acres within the Gateway Development Area for economic development and redevelopment opportunities. The maximum anticipated development potential for this area according to the Reuse Plan is approximately 2.297,000 square feet of new "Flex-" uses. Therefor, the overall development intensity for this area, based on gross land availability (including land that will be needed for future roadways, pedestrian circulation, utility easements, etc...) is an FAR of 0.35, as shown below.

Table _ : Land Use Summary, Gateway Development Area

	Acres	Square Feet
Gateway Development Area, total acres	**186**	
Committed Uses		
JATC	3	
Homeless Collaborative	3	
Ancillary Maritime Uses	15	
Public Park	15	
Subtotal	**36**	
Other Redevelopment Opportunity Sites		
Flex-Office, Office, and/or R&D		1,528,000
Light Industrial, Warehouse and Distribution		744,000
Retail		25,000
Subtotal	**150**	**2,297,000**
		0.35 FAR

Table ES-1a. Summary of benefits and adverse effects of OARB disposal (for reuse, see Table ES-1b).

Resource Area (Section References)	No Action Alternative	Encumbered Disposal	Unencumbered Disposal
Land Use (5.2.2, 5.3.2, 5.4.2)	• Indirect *significant* long-term adverse effects.	• Direct minor short-term adverse effects and direct minor short-term and long-term benefits.	• Direct minor short-term adverse effects. • Indirect minor short-term adverse effects
Air Quality (5.2.3, 5.3.3, 5.4.3)	• Direct minor long-term benefits.	• Indirect *significant* long-term impacts.	• Indirect *significant* long-term impacts.
Noise (5.2.4, 5.3.4, 5.4.4)	• Direct minor long-term benefits.	• Indirect minor short and long-term adverse effects.	• Indirect minor short- and long-term impacts.
Water Resources (5.2.5, 5.3.5, 5.4.5)	• Direct minor long-term benefits. • Indirect minor long-term benefits.	• Indirect long-term benefits and minor short- and long-term adverse effects.	• Indirect minor short- and long-term impacts.
Geology and Soils (5.2.6, 5.3.6, 5.4.6)	• Indirect minor long-term benefits.	• Indirect minor short- and long-term adverse effects.	• Indirect minor short- and long-term adverse effects.
Infrastructure (5.2.7, 5.3.7, 5.4.7)	• Indirect minor, long-term benefits and adverse effects, but net minor, long-term adverse effect.	• Indirect minor long-term benefits, and indirect minor short- and long-term impacts.	• Indirect minor long-term benefits, and indirect minor short- and long-term impacts.
Traffic and Transportation (5.2.8, 5.3.8, 5.4.8)	• Direct minor long-term benefits. • Indirect minor adverse effects	• Indirect *significant* long-term impacts.	• Indirect *significant* long-term impacts.
Hazardous and Toxic Materials (5.2.9, 5.3.9, 5.4.9)	• Direct minor long-term benefits.	• Direct and indirect minor long-term benefits.	• Direct and indirect minor long-term benefits.
Permits and Regulatory Authorizations (5.2.10, 5.3.10, 5.4.10)	• No effects.	• Direct and indirect minor long-term benefits.	• Indirect minor long-term benefits.
Biological Resources (5.2.11, 5.3.11, 5.4.11)	• Indirect minor long-term benefits.	• Direct minor long-term impacts. • Indirect minor long-term benefits.	• Direct minor long-term impacts. • Indirect minor long-term benefits.
Cultural Resources (5.2.12, 5.3.12, 5.4.12)	• Indirect minor short- and long-term adverse effects (mitigated).	• Direct minor long-term impacts (mitigated).	• Direct minor long-term impacts (mitigated). • Indirect minor long-term impacts (mitigated).
Sociological Environment (5.2.13, 5.3.13, 5.4.13)	• Indirect minor long-term benefits and adverse effects.	• Direct minor long-term benefits. • Indirect minor long-term benefits and impacts.	• Direct minor long-term benefits. • Indirect minor long-term benefits and impacts.
Environmental Justice and the Protection of Children (5.4.13)	• No effects.	• No effects.	• No effects.
Economic Development (5.2.14, 5.3.14, 5.4.14)	• Direct minor long-term adverse effects. • Indirect minor long-term adverse effects.	• Direct minor short- and long term benefits. • Indirect minor short- and long-term benefits.	• Direct and indirect minor short- and long-term benefits.
Quality of Life (5.2.15, 5.3.15, 5.4.15)	• No effects.	• Indirect minor long-term benefit.	• Indirect minor long-term benefits and impacts.
Installation Agreements (5.2.16, 5.3.16, 5.4.16)	• Indirect minor long-term adverse effects.	• Indirect minor long- and short-term impacts.	• Indirect minor long- and short-term impacts.

ATTACHMENT E

able ES-1b. Summary of benefits and adverse effects of the six OARB reuse alternatives evaluated in the Draft EIS.

Resource Area (Section References)	Reuse Alternative 1	Reuse Alternative 2	Reuse Alternative 3
Land Use (5.2.2, 5.3.1, 5.4.2)	• Direct *significant* long-term adverse effects.	• Direct minor long-term adverse effects.	• Direct *significant* long-term adver effects.
Air Quality (5.2.3, 5.3.2, 5.4.3)	• Direct minor long-term benefits.	• Direct minor long-term benefits.	• Direct minor long-term benefits.
Noise (5.2.4, 5.3.3, 5.4.4)	• Direct minor short- and long-term adverse effects.	• Direct minor short- and long-term adverse effects.	• Direct minor short- and long-term adverse effects.
Water Resources (5.2.5, 5.3.4, 5.4.5)	• No effects.	• No effects.	• No effects.
Geology and Soils (5.2.6, 5.3.5, 5.4.6)	• No effects.	• No effects.	• No effects.
Infrastructure (5.2.7, 5.3.6, 5.4.7)	• Direct minor long-term benefits and minor short-term adverse effects.	• Direct minor long-term benefits and minor short-term adverse effects.	• Direct minor long-term benefits a minor short-term adverse effects.
Traffic and Transportation (5.2.8, 5.3.7, 5.4.8)	• Direct long-term benefits.	• Direct minor long-term benefits.	• Direct minor long-term adverse effects to regional traffic and *significant* direct adverse impacts on-site circulation.
Hazardous and Toxic Materials (5.2.9, 5.3.8, 5.4.9)	• Direct minor long-term benefits and adverse effects. • Indirect minor short-term adverse effects.	• Direct minor long-term benefits and adverse effects. • Indirect minor short-term adverse effects.	• Direct minor long-term benefits a adverse effects. • Indirect minor short-term adverse effects.
[illegible] and Regulatory Authorizations (5.2.10, 5.3.9, 5.4.10)	• Direct long-term benefits.	• Direct long-term benefits.	• Direct long-term benefits.
Biological Resources (5.2.11, 5.3.10, 5.4.11)	• Direct and indirect minor long-term adverse effects.	• Direct and indirect minor long-term adverse effects.	• Direct and indirect minor long-ter adverse effects.
Cultural Resources (5.2.12, 5.3.11, 5.4.12)	• Direct *significant* long-term adverse effects (mitigated).	• Direct *significant* long-term adverse effects (mitigated).	• Direct *significant* long-term adver effects (mitigated).
Sociological Environment (5.2.13, 5.3.12, 5.4.13)	• Direct minor long-term benefits. • Indirect minor short- and long-term adverse effects.	• Direct minor long-term benefits and/or adverse effects.	• Direct minor long-term benefits.
Environmental Justice and the Protection Children (5.4.14)	• Direct minor short-term adverse effects. • Indirect minor short- and long-term benefits.	• Direct minor short- and long-term adverse effects. • Indirect minor short- and long-term benefits.	• Direct minor short-term adverse effects. • Indirect minor short- and long-ter benefits.
Economic Development (5.2.14, 5.3.13, 5.4.15)	• Direct minor short- and long-term benefits. • Indirect minor short- and long-term benefits.	• Direct minor short- and long-term benefits. • Indirect minor short- and long-term benefits.	• Direct minor short- and long-term benefits. • Indirect minor short- and long-ter benefits.
Quality of Life (5.2.15, 5.3.14, 5.4.16)	• Direct minor long-term benefits.	• Direct minor long-term benefits and adverse effects.	• Direct minor long-term benefits.
Installation Agreements (5.2.16, 5.3.15, 5.4.17)	• No effects.	• No effects.	• No effects.

Reuse Alternative 4	Reuse Alternative 5	Reuse Alternative 6
• Direct minor long-term adverse effects.	• Direct *significant* long-term adverse effects.	• Direct *significant* long-term adverse effects. • Indirect *significant* adverse effects.
• Direct *significant* long-term adverse effects.	• Direct *significant* long-term adverse effects.	• Direct *significant* long-term adverse effects.
• Direct minor short- and long-term adverse effects.	• Direct minor short- and long-term adverse effects.	• Direct minor short-term adverse effects and *significant* long-term adverse effects.
• Direct minor long-term adverse effect to water supply.	• Direct minor long-term adverse effect to water supply.	• Direct minor long-term adverse effect to water quality. Direct *significant* long-term adverse effect to water supply.
• No effects.	• No effects.	• Minor, long-term adverse effects.
• Direct minor long-term benefits and minor short-and long-term adverse effects.	• Direct minor long-term benefits and minor short-and long-term adverse effects.	• Direct minor long-term benefits; minor short-term adverse effects; and *significant* long-term adverse effects.
• Direct *significant* long-term adverse effects to on-site and regional traffic.	• Direct *significant* long-term adverse effects to on-site circulation.	• Direct *significant* long-term adverse effects to on-site and regional traffic.
• Direct minor long-term benefits and adverse effects. • Indirect minor short-term adverse effects.	• Direct minor long-term benefits and adverse effects. • Indirect minor short-term adverse effects.	• Direct minor long-term benefits and adverse effects. • Indirect minor short-term adverse effects.
• Direct long-term benefits.	• Direct long-term benefits.	• Direct long-term benefits.
• Direct and indirect minor long-term adverse effects.	• Direct and indirect minor long-term adverse effects.	• Direct and indirect minor long-term adverse effects.
• Direct *significant* long-term adverse effects (mitigated).	• Direct *significant* long-term adverse effects (mitigated).	• Direct *significant* long-term adverse effects (mitigated).
• Direct minor long-term benefits and/or adverse effects.	• Direct minor long-term benefits and/or adverse effects.	• Direct *significant* long-term adverse effects and minor long-term benefits.
• Direct minor short-term and long-term benefits and minor short-term adverse effects. • Indirect short- and long-term benefits.	• Direct minor short- and long-term adverse effects. • Indirect minor short- and long-term benefits.	• Direct minor short- and long-term adverse effects. • Indirect minor short- and long-term benefits.
• Direct minor short- and long-term benefits. • Indirect minor short- and long-term benefits.	• Direct minor short- and long-term benefits. • Indirect minor short- and long-term benefits.	• Direct *significant* effects on sales and employment. • Indirect minor short- and long-term benefits.
• Direct minor long-term benefits.	• Direct minor long-term benefits.	• Direct minor long-term benefits.
• No effects.	• No effects.	• No effects.

Appendix 1D
Notice of Determination Regarding Adoption of an Alternative Baseline

Notice of Determination

Adoption of Alternative Baseline for the Oakland Army Base Portion of the Oakland Army Base Area Redevelopment Plan EIR

(Pursuant to Public Resources Code § 21083.8.1)

To: County Clerk
County of Alameda

Office of Planning and Research
State Clearinghouse
1400 Tenth Street
Sacramento, CA 95812-3044

From: City of Oakland
250 Frank Ogawa Plaza, Suite 3315
Oakland, CA 94607

RECEIVED
NOV - 1 2001
STATE CLEARING HOUSE

Oakland Army Base Area Redevelopment Project EIR
Project Title:

2001082058	Ms. Elois A. Thornton, City of Oakland	(510) 238-6284
State Clearinghouse Number (If submitted to Clearinghouse)	Lead Agency Contact Person	Area Code/Telephone

City of Oakland, Alameda County
Project Location (include county)

Project Description: The Oakland Army Base (OARB) Area Redevelopment Project includes adoption of about a 1,731-acre OARB Redevelopment Area and associated redevelopment plan, land assembly, infrastructure improvements, public access improvements, environmental improvements, land development, and required regulatory implementing actions including but not limited to a General Plan amendment and rezoning. The OARB Redevelopment Project Area encompasses three redevelopment sub-areas: the Oakland Army Base sub-area, the Port of Oakland Maritime sub-area, and the 16th and Wood Streets sub-area. Future development within the OARB sub-area will be consistent with the OARB Final Reuse Plan.

The City of Oakland, as the Lead Agency, is preparing an EIR for the Project in accordance with the requirements of the *California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq.* The City has determined that an EIR is required, and provided public notice of that determination, combined with a Public Notice of Scoping/ Notice of Preparation/Notice of Adoption of Baseline Conditions regarding the EIR to interested parties and Responsible and Trustee agencies, on or about August 16, 2001.

Alternative Baseline: *CEQA Section 21083.8.1* offers agencies preparing an EIR for reuse of a military base such as the Oakland Army Base the option to analyze impacts in the context of the physical conditions that were present at the time the federal decision became final for

closure of the base. Use of such an alternative baseline can better represent the actual impact of base reuse when compared to the impacts of the base in full operation. The decision to close the OARB became federal law on September 28, 1995. In order to most accurately assess the type and intensity of OARB reuse impacts, the City intends to use an alternative baseline of 1995 for the OARB portion of the project to determine impacts for the following environmental factors: traffic, air quality, water consumption, wastewater treatment, energy consumption, population/employment, noise and schools.

The City of Oakland as Lead Agency, on September 19, 2001, has made the following findings regarding the above-described project:

[T] The City provided public notice of the intended adoption of Baseline Conditions for the OARB Area Redevelopment Plan EIR to interested parties and Responsible and Trustee agencies on or about August 16, 2001.

[T] The City Planning Commission held a duly noticed hearing on September 19, 2001, at which opportunity for public comment was given, and public comment was received on the scope of the federal EIS being prepared for the project, the scope of the City's EIR and the alternative baseline conditions for the EIR. The Commission also reviewed and considered the Notice of Adoption of Baseline Conditions and the staff report regarding proposed baseline conditions. The Commission found that the contents of the notice and staff report, and the procedures through which the notice was publicized and reviewed, complied with the provisions of CEQA and the *CEQA Guidelines*, specifically *CEQA Guidelines Section 15229*.

[T] The City adopted the 1995 baseline year as described in the Army's *2001 Supplemental EIS* as the baseline for the OARB portion of the OARB Redevelopment Project Area EIR, pursuant to *CEQA Guidelines Section 15229*. Specifically, the City intends to use an alternative baseline of 1995 for the OARB portion of the project to determine impacts for the following environmental factors: traffic, air quality, water consumption, wastewater treatment, energy consumption, population /employment, noise and schools. Where 1995 data is not available the most recent available data will be used as the baseline. However, current environmental conditions for hazardous or toxic wastes, substances and materials must be used as the baseline pursuant to special consideration of these issues as established under *CEQA Guidelines Section 15229(d)(1)*. The City's adoption of the alternative baseline was based on the following findings:

1. The 1995 alternative baseline will provide an even-handed assessment of the future environmental impacts associated with economic activities generated by the reuse of the area, neither minimizing future impacts by comparing them against previously more active levels, nor over-emphasizing future impacts unduly.
2. Use of this baseline year will expedite preparation of the EIR by relying upon existing information as contained in the federal EIS, and will better represent the actual impact of OARB reuse.
3. Use of the 1995 alternative baseline will support the *Redevelopment Plan* goals of eliminating blight, creating new job opportunities and providing economic congruity at the OARB.

The staff report and record of adoption of the alternative baseline is available to the General Public at:

250 Frank Ogawa Plaza, Suite 3315, Oakland, California 94612

Elsa A. 10.29.01 Planner IV

Signature (Public Agency) *Date* *Title*

Date received for filing:

Appendix 4.1
Consistency with Plans and Policies

4.1A San Francisco Bay Plan Objectives and Policies

4.1B San Francisco Bay Area Seaport Plan Policies

4.1C San Francisco Bay Trail Plan Policies

4.1D Oakland General Plan Objectives and Policies–Land Use and Transportation Element (LUTE)

4.1E Oakland General Plan Objectives and Policies–Bicycle Master Plan (BMP)

4.1F Oakland General Plan Objectives and Policies–Estuary Policy Plan

4.1G Oakland General Plan Objectives and Policies–Open Space, Conservation, and Recreation Element (OSCAR)

4.1H Oakland General Plan Objectives and Policies–Historic Preservation Element

4.1I Oakland General Plan Objectives and Policies–Housing Element

4.1J Oakland General Plan Objectives and Policies–Hazards Element

4.1A San Francisco Bay Plan Objectives and Policies

San Francisco Bay Plan Objectives and Policies Relevant to the OARB Redevelopment District

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
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.	✔	✔	
	Fish and Wildlife			
Policy 1	The benefits of fish and wildlife in the Bay should be insured for present and future generations of Californians. Therefore, to the greatest extent feasible, the remaining marshes and mudflats around the Bay, the remaining water volume and surface area of the Bay, and adequate fresh water inflow into the Bay should be maintained.	✔	✔	
Policy 2	Specific habitats that are needed to prevent the extinction of any species, or to maintain or increase any species that would provide substantial public benefits, should be protected, whether in the Bay or on the shoreline behind dikes. Such areas on the shoreline are designated as Wildlife Areas on the Plan maps.	✔	✔	
	Water Quality			
Policy 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.	✔	✔	
Policy 2	Water quality in all parts of the Bay should be maintained at a level that will support and promote the beneficial uses of the Bay as identified in the San Francisco Bay Regional Water Quality Control Board's Basin Plan. The policies, recommendations, decisions, advice and authority of the State Water Resources Control Board and the San Francisco Bay Regional Water Quality Control Board, should be the basis for carrying out the Commission's water quality responsibilities.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
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.	✔	✔	
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.	✔	✔	✔
	Water Surface Area and Volume			
Policy 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.	✔	✔	
Policy 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.	✔	✔	
Policy 3	Because further study is needed before any barrier proposal to improve water circulation can be considered acceptable, the Bay Plan does not include any barriers. Before any proposal for a barrier is adopted in the future, the Commission will be required to replan all of the affected shoreline and water area.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	Smog and Weather			
Policy 1	To the greatest extent feasible, the remaining water volume and surface area of the Bay should be maintained.	✔	✔	
	Safety of Fills			
Policy 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.	✔	✔	
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.	✔	✔	
Policy 3	To provide vitally-needed information on the effects of earthquakes on all kinds of soils, installation of strong-motion seismographs should be required on all future major land fills. In addition, the Commission encourages installation of strong-motion seismographs in other developments on problem soils, and in other areas recommended by the U.S. Coast and Geodetic Survey, for purposes of data comparison and evaluation.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy 4	To prevent damage from flooding, structures on fill or near the shoreline should have adequate flood protection including consideration of future relative sea level rise as determined by competent engineers. As a general rule, structures on fill or near the shoreline should be above the wave runup level or sufficiently set back from the edge of the shore so that the structure is not subject to dynamic wave energy. In all cases, the bottom floor level of structures should be above the highest estimated tide elevation. Exceptions to the, general height rule may be made for developments specifically designed to tolerate periodic flooding.	✔	✔	
Policy 5	To minimize the potential hazard to Bay fill projects and bayside development from subsidence, all proposed developments should be sufficiently high above the highest estimated tide level for the expected life of the project or sufficiently protected by levees to allow for the effects of additional subsidence for the expected life of the project, utilizing the latest information available from the U.S. Geological Survey and the National Ocean Service. Rights-of-way for levees protecting inland areas from tidal flooding should be sufficiently wide on the upland side to allow for future levee widening to support additional levee height so that no fill for levee widening is placed in the Bay.	✔	✔	
Policy 6	Local governments and special districts with responsibilities for flood protection should assure that their requirements and criteria reflect future relative sea level rise and should assure that new structures and uses attracting people are not approved in flood prone areas or in areas that -will become flood prone in the future, and that structures and uses that are approvable will be built at stable elevations to assure long-term protection from flood hazards.	✔	✔	
	Protection of the Shoreline			
Policy 1	New shoreline erosion control projects and the maintenance or reconstruction of existing erosion control facilities should be authorized if: (a) the project is necessary to protect the shoreline from erosion;	✔		

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	(b) the type of the protective structure is appropriate for the project site and the erosion conditions at the site; and (c) the project is properly designed and constructed. Professionals knowledgeable of the Commission's concerns, such as civil engineers experienced in coastal processes, should participate in the design of erosion control projects.			
Policy 2	Riprap revetments, the most common shoreline protective structure, should be constructed of properly sized and placed material that meet sound engineering criteria for durability, density, and porosity. Armor materials used in the revetment should be placed according to accepted engineering practice, and be free of extraneous material, such as debris and reinforcing steel. Generally, only engineered quarry stone or concrete pieces that have either been specially cast or carefully selected for size, density, durability, and freedom of extraneous materials from demolition debris will meet these requirements. Riprap revetments constructed out of other debris materials should not be authorized.	✔	✔	
Policy 3	Authorized protective projects should be regularly maintained according to a long-term maintenance program to assure that the shoreline will be protected from tidal erosion and that the effects of the erosion control project on natural resources during the life of the project will be the minimum necessary.	✔	✔	
Policy 4	Shoreline protective projects should include provisions for nonstructural methods such as marsh vegetation where feasible. Along shorelines that support marsh vegetation or where marsh establishment has a reasonable chance of success, the Commission should require that the design of authorized protective projects include provisions for establishing marsh and transitional upland vegetation as part of the-protective structure, wherever practicable.	✔	✔	
	Dredging			
Policy 1	Dredging should be authorized when the Commission can find: (a) the applicant has demonstrated that the dredging is needed to serve a water-oriented use or other important public purpose;		✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	(b) the materials to be dredged meet the water quality requirements of the San Francisco Bay Regional Water Quality Control Board; (c) important fisheries and Bay natural resources would be protected; and (d) the materials would be disposed in accordance with Policy 2.			
Policy 2	Disposal of dredged materials should be encouraged in non-tidal areas where the materials can be used beneficially, or in the ocean. Disposal in tidal areas of the Bay should be authorized when the Commission can find that: (a) the applicant has demonstrated that non-tidal and ocean disposal is infeasible because there are no alternate sites available or likely to be available for use in a reasonable period, or the cost of disposal at alternate sites is prohibitively expensive; (b) disposal would be at a site designated by the Commission; (c) the quality and volume of the material to be disposed is consistent with the advice of the San Francisco Bay Regional Water Quality Control Board; and (d) the period of disposal is consistent with the advice of the Department of Fish and Game and the National Marine Fisheries Service.		✔	
Policy 3	When the annual amount of dredged material proposed to be disposed in tidal areas of the Bay exceeds the disposal volume targets established by the Commission, in determining which projects to authorize, the Commission shall be guided by all relevant factors concerning the proposed projects, including, but not limited to, need for the dredging and the dredging project, regional economic impact, environmental impact, and other regional effects of the project, and the economic feasibility of using alternate disposal sites.		✔	
Policy 4	To ensure adequate capacity for necessary Bay dredging projects and to protect Bay natural resources, acceptable non-tidal disposal sites should be secured and ocean disposal sites designated. Further, disposal projects should maximize use of dredged		✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	material as a resource, such as creating, enhancing, or restoring tidal and managed wetlands, creating and maintaining levees and dikes, providing cover and sealing material for sanitary landfills, and filling at approved construction projects.			
Policy 5	Once non-tidal or ocean disposal sites have been secured or designated, and prior to completion of the LTMS, the maximum feasible amount of dredged material should be disposed at non-tidal sites or in the ocean. Until non-tidal upland disposal sites are secured and ocean disposal sites designated, aquatic disposal in the Bay should be authorized at sites designated by the U.S. Army Corps of Engineers and the Commission. Dredged materials disposed aquatically in the Bay, particularly at the Alcatraz Island disposal site, should be carefully managed to ensure that the amount and timing of disposal does not create navigational hazards, adversely affect Bay currents or natural resources of the Bay, or foreclose the use of the site by projects critical to the economy of the Bay Area.		✔	
Policy 8	To protect underground fresh water reservoirs (aquifers): (a) all proposals for dredging or construction of work that could penetrate the mud "coves" 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.		✔	
Policy 9	Interested agencies and parties are encouraged to explore and find funding solutions for the additional costs incurred by transporting dredged materials to non-tidal upland and ocean disposal sites, either by general funds contributed by ports and other relevant parties, dredging applicants or otherwise.		✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy 11	The Commission should encourage, sponsor and participate in the LTMS and other initiatives conducting research on Bay sediment movement, the effects of dredging and disposal on Bay natural resources, alternatives to Bay aquatic disposal, and funding additional costs of transporting dredged materials to non-tidal upland and ocean disposal sites.		✔	
	Water-Related Industry			
Policy 1	Sites designated for both water-related industry and port uses in the Bay Plan should be reserved for those industries and port uses that require navigable, deep water for receiving materials or shipping products by water in order to gain a significant transportation cost advantage.	✔	✔	
Policy 2	Linked industries, water-using industries, and industries which gain only limited economic benefits by fronting on navigable water, should be located in adjacent upland areas. However, pipeline corridors serving such facilities may be permitted within water-related industrial priority use areas, provided pipeline construction and use does not conflict with present or future water-transportation use of the site.	✔	✔	
Policy 3	Land reserved for both water-related industry and port use will be developed over a period of years. Other uses may be allowed in the interim that, by their cost and duration, would not preempt future use of the site for water-related industry or port use.	✔	✔	
Policy 4	Water-related industry and port sites should be planned and managed so as to avoid wasteful use of the limited supply of waterfront land. The following principles should be followed to the maximum extent feasible in planning for water-related industry and port use: (a) Extensive use of the shoreline for storage of raw materials, fuel, products, or waste should not be permitted on a long-term basis. If required, such storage areas should generally either be at right angles to the main direction of the shoreline or be as far inland as feasible, so other use of the shoreline may be made possible.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	(b) Where large acreages are available, site planning should strive to provide access to the shoreline for all future plants and port facilities that might locate in the same area. (As a general rule, therefore, the longest dimension of plant sites should be at right angles to the shoreline.) Marine terminals should also be shared as much as possible among industries and port uses. (c) Waste treatment ponds for water-related industry and port uses should occupy as little land as possible, be above the highest recorded level of tidal action, and be as far removed from the shoreline as possible. d. Any new highways, railroads, or rapid transit lines in existing or future water-related industrial and port areas should be located sufficiently far away from the waterfront so as not to interfere with industrial use of the waterfront. New access roads to waterfront industrial and port areas should b approximately at right angles to the shoreline, topography permitting.			
Policy 5	Water-related industry and port uses should be planned so as to make the sites attractive (as well as economically important) uses of the shoreline. The following criteria should bi employed to the maximum extent possible: (a) Air and water pollution should be minimized through strict compliance with a relevant laws, policies and standards Mitigation, consistent with the Commission's policy concerning mitigation, should be provided for all unavoidably adverse environmental impacts. (b) When bayfront hills are used for water related industries, terracing should generally be required and leveling of the hill, should not be permitted. (c) Important Bay overlook points, and historic areas and structures that may be located in water-related industrial and port areas, should be preserved and incorporated into the site design, if at all feasible. In addition, shoreline not actually used for shipping facilities should be used for some type of public access or recreation, to the maximum extent feasible. Public areas need not be directly	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	accessible by private automobiles with attendant parking lots and driveways; access may be provided by hiking paths or by forms of public transit such as elephant trains or aerial tramways. (d) Regulations, tax arrangements, or other devices should be drawn in a manner that encourages industries and port uses to meet the foregoing objectives.			
Policy 6	The Commission, together with the relevant local governments, should cooperatively plan for use of vacant and underutilized water-related industrial priority use areas. Such planning should include regional, state and federal interests where appropriate, as well as public and special interest groups. Resulting plans should include: (a) a program for joint use of waterfront facilities where this is beneficial and feasible; (b) a regulatory or management program for reserving the entire waterfront site or parcel for water-related industrial and port use; and (c) a program for minimizing the environmental impacts of future industrial and port development. Such plans, if approved by the relevant local governments and by the Commission, could be amended into the Bay Plan as special area plans.	✔	✔	
Policy 7	The Bay Plan water-related industrial findings, policies, and priority use areas, together with any detailed plans as described above in Policy 6 should be included as the waterfront element of any Bay regional industrial siting plan or implementation program.	✔	✔	
	Ports			
Policy 1	Port planning and development should be governed by the policies of the Seaport Plan and other applicable policies of the Bay Plan. The Seaport Plan provides for: (a) Expansion and/or redevelopment of port facilities at Alameda, Benicia, Oakland, Redwood City, Richmond, and San Francisco, and development of new port facilities at Vallejo and Selby;	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	(b) Further deepening of ship channels needed to accommodate expected growth in ship size and improved terminal productivity; (c) The maintenance of up-to-date cargo forecasts and existing cargo handling capability estimates to guide the permitting of port terminals; and (d) Development of port facilities with the least potential adverse environmental impacts while still providing for reasonable terminal development.			
Policy 2	Some filling and dredging will be required to provide for necessary port expansion, but any permitted fill or dredging should be in accord with the Seaport Plan.	✔	✔	
Policy 3	Port priority use areas should be protected for marine terminals and directly-related ancillary activities such as container freight stations, transit sheds and other temporary storage, ship repairing, support transportation uses including trucking and railroad yards, freight forwarders, government offices related to the port activity, chandlers, and marine services. Other uses, especially public access and public and commercial recreational development, should also be permissible uses provided they do not significantly impair the efficient utilization of the port area.	✔	✔	
	Recreation			
Policy 1	As the population of the Bay region increases, a more people will use their leisure time in water-oriented recreation activities. Water-oriented recreation facilities such as marinas, launch ramps, beaches, and fishing piers should be provided to meet those needs. For parks, there is no practical estimate of the acreage that should be provided on the shoreline of the Bay, but it is assumed the largest possible portion of the total regional requirement should be provided adjacent to the Bay.	✔	✔	
Policy 2	The Commission should also allow additional marinas, boat-launching lanes, and fishing piers elsewhere on the Bay, provided they would not preempt land or water area needed for other priority uses and provided they would be feasible from an engineering viewpoint, would not have significant adverse effects on water quality and circulation, would not result	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	in inadequate flushing, would not destroy valuable marshes or mudflats, and would not harm identified valuable fish and wildlife resources.			
Policy 3	The Bay Plan maps include about 5,000 acres of existing shoreline parks and 5,800 acres of new parks on the waterfront. In addition, 4,400 acres of military establishments (especially around the Golden Gate) are proposed as parks it and when military use is terminated.	✔	✔	
Policy 4	The following general standards have been used in determining locations for each type of recreational facility (and should be used as a guide in allowing additional ones): **General.** Each type of facility should be well distributed around the shores of the Bay to the extent consistent with more specific criteria below. Any concentrations of facilities should generally be as close to major population centers as is feasible. Recreational facilities should not preempt sites needed for ports, waterfront industry, or airports, but efforts should be made to integrate recreation into such facilities to the extent they might be compatible. Different types of compatible public and commercial recreational facilities should be clustered to the extent feasible to permit joint use of ancillary facilities and provide greater range of choice for users. **Marinas.** (1) Marinas should be allowed at any suitable site on the Bay. Unsuitable sites are those that tend to fill up rapidly with sediment; have insufficient upland; contain valuable marsh, mudflat, or other wildlife habitat; or are subject to unusual amounts of fog. At suitable sites, the Commission should encourage new marinas, particularly those that result in the creation of new open water through the excavation of areas not part of the Bay and not containing valuable wetlands. (2) Fill should be permitted for marina facilities that must be in or over the Bay, such as breakwaters, shoreline protection, boat berths, ramps, launching facilities, pump-out and fuel docks, and short-term unloading areas. Fill for marina support facilities may be permitted at sites with difficult land configurations provided that the fill in the Bay is the minimum necessary and any unavoidable loss of Bay habitat, surface area, or volume is offset to the maximum amount feasible, preferably at or near the site. (3) No new marina or expansion of any existing marina should be approved	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	unless water quality and circulation will be adequately protected and, if possible, improved, and an adequate number of vessel sewage pump-out facilities that are convenient in location And time of operation to recreational boat users should be provided free of charge or at a reasonable fee, as well as receptacles to dispose of waste oil. (4) In addition, all projects approved should provide public amenities such as viewing areas, restrooms, and public parking; substantial physical and visual access; and maintenance for all facilities. Frequent dredging should be avoided. **Live-aboard boats.** Live-aboard boats should be allowed only in marinas and only if: (1) The number would not exceed ten percent of the total authorized boat berths unless the applicant can demonstrate clearly that a greater number of live-aboard boats is necessary to provide security or other use incidental to the marina use; (2) The boats would promote and further the recreational boating use of the marina (for example, providing a degree of security), and are located within the marina consistent with such purpose; (3) The marina would provide, on land, sufficient and conveniently located restrooms, showers, garbage disposal facilities, and parking adequate to serve live-aboard boat occupants and guests; (4) The marina would provide and maintain an adequate number of vessel sewage pump-out facilities in locations that are convenient in location and time of operation to all boats in the marina, particularly live-aboard boats, and would provide the service free of charge or at a reasonable fee; and (5) There would be adequate tidal circulation in the marina to mix, dilute, and carry away any possible wastewater discharge. Live-aboard boats moored in a marina on July 1, 1985, but unauthorized by the Commission, should be allowed to remain in the marina provided the tests of (2), (3), (4), and (5), above, are met. Where existing live-aboard boats in a marina exceed ten percent of the authorized berths, or a greater number is demonstrated to be clearly necessary to provide security or other use incidental to the marina use, no new live-aboard boats should be authorized until the number is reduced below that number and then only if the project is in conformance with tests (1), (2), (3), (4), and (5), above.			

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	Launching Lanes. (1) Launching lanes should be placed where wind and water conditions would be most favorable for smaller boats. (2) Some launching lanes should be located near prime fishing areas and others near calm, clear water suitable for water skiing. (3) Additional launching facilities should be located around the Bay shoreline, especially where there are few existing facilities. These facilities should be available free or at moderate cost. Launching facilities should include adequate car and trailer parking, restrooms, and public access. (4) In marinas, launching facilities should be encouraged where there is adequate upland to provide needed support facilities. (5) Fill for ramps into the water, docks, and similar facilities should be permitted. Other fill should not be permitted. **Fishing Piers.** Fishing piers should not block navigation channels, nor interfere with normal tidal flow. **Beaches.** Beaches for swimming and sunbathing should generally be in warm areas protected from the wind. Some new beaches could be planned adjacent to power plants or other industrial plants that warm the nearby waters as they discharge heated water that has been used to cool industrial machinery. **Water-oriented Commercial-recreation.** Water-oriented commercial-recreational establishments, such as restaurants, specialty shops, theaters, and amusements, should be encouraged in urban areas adjacent to the Bay. Some suggested locations for this type of activity are indicated on the Plan maps. Effort should be made to link commercial-recreation centers (and major shoreline parks) by a fleet of small, inexpensive ferries similar to those operating on some European lakes and rivers.			
Policy 5	To assure optimum use of-the Bay for recreation, the following facilities should be encouraged in shore side parks and in or near yacht harbors or commercial ferryboat facilities. **In shore side parks.** (1) Where possible, parks should provide some camping facilities accessible only by boat, and docking and picnic facilities for boaters. (2) To capitalize on	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	the attractiveness of their bayfront location, parks should emphasize hiking, bicycling, riding trails, picnic facilities, viewpoints, beaches, and fishing facilities. Recreational facilities that do not need a waterfront location, e.g., golf courses and playing fields, should generally be placed inland, but may be permitted in shoreline areas if they are part of a park complex that is primarily devoted to water-oriented uses. (3) Where shoreline open space includes areas used for hunting water birds, public areas for launching rowboats should be provided so long as they do not result in overuse of the hunting area. (4) Public launching facilities for a variety of boats should be provided in shore side parks where feasible. (5) Where open areas include ecological reserves, access via catwalk or other means should be provided for nature study to the extent that such access does not excessively disturb the natural habitat. (6) Limited commercial recreation facilities, such as small restaurants, should be permitted within waterfront parks provided they are clearly incidental to the park use, are in keeping with the basic character of the park, and do not obstruct public access to and enjoyment of the Bay. Limited commercial development may be appropriate (at the option of the park agency responsible) in all parks shown on the Plan maps except where there is a specific note to the contrary. **In yacht harbors and ferryboat terminals.** In or near yacht harbors or commercial ferryboat facilities, private boaters and restaurants should be encouraged where adequate shoreline land is available. Public docks for visiting boaters should be provided where feasible in order to give public access from the water. **In all recreation facilities.** Access to marinas, launch ramps, beaches, fishing piers, and other recreation facilities should be clearly signed and easily available from parking reserved for the public or from public streets.			
Policy 6	All the waterfront land needed for waterfront parks and beaches by the year 2020 should be reserved now, because delay may mean that needed shoreline will otherwise be preempted for other uses. However, recreational facilities need not be built all at once; their development can proceed in accordance with recreational demand over the years.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy 7	In addition to the major recreational facilities indicated on the Plan maps, public access should be included wherever feasible in any shoreline development, as described in the policies for Public Access to the Bay. That policy is intended to result in much more access to the Bay than can be provided by public parks alone, especially in urban areas, and to encourage private development of the shoreline.	✔	✔	
Policy 10	Because of-the need to increase the recreational opportunities available to Bay Area residents, small amounts of Bay filling may be allowed for shoreline parks and recreational areas that provide substantial public benefits and that cannot be developed without some filling.	✔	✔	
	Public Access			
Policy 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.	✔	✔	
Policy 2	Public access to some natural areas should be provided to permit study and enjoyment of these areas (e.g., by boardwalks or piers in or adjacent to some sloughs or marshes). However, some wildlife may be sensitive to human intrusion. For this reason, projects in such areas should be carefully evaluated in consultation with appropriate agencies to determine the appropriate location and type of access to be provided.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy 3	Whenever public access to the Bay is provided as a condition of development, on fill or on the shoreline, the access should be permanently guaranteed. This should be done wherever appropriate by requiring dedication of fee title or easements at no cost to the public, in the same manner that streets, park sites, and school sites are dedicated to the public as part ,of the subdivision process in cities and counties.	✔	✔	
Policy 4	Public access improvements provided as a condition of any approval should be consistent with the project and the physical environment, including protection of natural resources, and provide for the public's safety and convenience. The improvement should be designed end built to encourage diverse Bay-related activities and movement to and along the shoreline, should permit barrier free access for the physically handicapped to the maximum feasible extent, should include an ongoing maintenance program, and should be identified with appropriate signs.	✔	✔	
Policy 5	In some areas, a small amount of fill may be allowed it the fill is necessary and is the minimum absolutely required to develop the project in accordance with the Commission's public access requirements.	✔	✔	
Policy 6	Access to the waterfront should be provided by walkways, trails, or other appropriate means and connect to the nearest public thoroughfare where convenient parking or public transportation may be available.	✔	✔	
Policy 7	Roads near the edge of the water should be designed as scenic parkways for slow-moving, principally recreational traffic. The roadway and right-of-way design should maintain and enhance visual access for the traveler, discourage through traffic, and provide for safe, separated, and improved physical access to and along the shore. Public transit use and connections to the shoreline should be encouraged where appropriate.	✔	✔	
Policy 8	Federal, state, regional, and local jurisdictions, special districts, and. the Commission should cooperate to provide new public access, especially to link the entire series of shoreline parks and existing public access areas to the extent feasible without additional Bay filling or adversely affecting natural resources. State, regional, and local agencies that	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	approve projects should assure that provisions for public access to and along the shoreline are included as conditions of approval and that the access is consistent with the Commission's requirements and guidelines.			
Policy 9	The Public Access Supplement to the Bay Plan should be used as a guide in determining whether a project provides maximum feasible public access. The Design Review Board should advise the Commission regarding the adequacy of the public access proposed.	✔	✔	
	Appearance, Design, Scenic Views			
Policy 1	To enhance the visual quality of development around the Bay and to take maximum advantage of the attractive setting it provides, the shores of the Bay should be developed in accordance with the Public Access Design Guidelines.	✔	✔	
Policy 2	All bayfront development should be designed to enhance the pleasure of the user or viewer of the Bay. Maximum efforts should be made to provide, enhance, or preserve views of the Bay and shoreline, especially from public areas, from the Bay itself, and from the opposite shore. To this end, planning of waterfront development should include participation by professionals who are knowledgeable of the Commission's concerns, such as landscape architects, urban designers, or architects, working in conjunction with engineers and professionals in other fields.	✔	✔	
Policy 3	In some areas, a small amount of fill may be allowed if the fill is necessary-and is the minimum absolutely required-to develop the project in accordance with the Commission's design recommendations.	✔	✔	
Policy 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.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy 5	To enhance the maritime atmosphere of the Bay Area, ports should be designed, whenever feasible, to permit public access and viewing of port activities by means of the following: (a) view points (e.g., piers, platforms, or towers), restaurants, etc., that would not interfere with port operations, and (b) openings between buildings and other site designs that permit views from nearby roads.	✔	✔	
Policy 7	Access routes to Bay crossings should be designed so as to orient the traveler to the Bay (as in the main approaches to the Golden Gate Bridge). Similar consideration should be given to the design of highway and mass transit routes paralleling the Bay (by providing frequent views of the Bay, if possible, so the traveler knows which way he or she is moving in relation to the Bay). Guardrails, fences, landscaping, and other structures related to such routes should be designed and located so as to maintain and to take advantage of Bay views. New or rebuilt roads in the hills above the Bay and in areas-along the shores of the Bay should be constructed as scenic parkways in order to take full advantage of the commanding views of the Bay.	✔	✔	
Policy 8	Shoreline developments should be build in clusters, leaving open area around them to permit more frequent views of the Bay. Developments along the shores of tributary waterways should be Bay-related and should be designed to preserve and enhance views along the waterway, so as to provide maximum visual contact with the Bay.	✔	✔	
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.	✔	✔	
Policy 12	In order to achieve a high level of design quality, the Commission's Design Review Board, composed of design and planning professionals, should review, evaluate, and advise the	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	Commission on the proposed design of developments that affect the appearance of the Bay in accordance with the Bay Plan findings and policies on Public Access; on Appearance, Design, and Scenic Views; and the Public Access Design Guidelines. City, county, regional, state, and federal agencies should be guided in their evaluation of bayfront projects by the above guidelines.			
Policy 13	Local governments should be encouraged to eliminate inappropriate shoreline uses and poor quality shoreline conditions by regulation and by public actions (including development financed wholly or partly by public funds). The Commission should assist in this regard to the maximum feasible extent by providing advice on Bay-related appearance and design issues, and by coordinating the activities of the various agencies that may be involved with projects affecting the Bay and its appearance.	✔	✔	
Policy 14	Views of the Bay from vista points and from roads should be maintained by appropriate arrangements and heights of all developments and landscaping between the view areas and the water. In this regard, particular attention should be given to all waterfront locations, areas below vista points, and areas along roads that provide good views of the Bay for travelers, particularly areas below roads coming over ridges and providing a 'first view" of the Bay (shown in Bay Plan Map No. 8, Natural Resources of the Bay).	✔	✔	
Policy 15.	Vista points should be provided in the general locations indicated in the Plan maps. Access to vista points should be provided by walkways, trails, or other appropriate means and connect to the nearest public thoroughfare where parking or public transportation is available. In some cases, exhibits, museums, or markers would be desirable at vista points to explain the value or importance of the areas being viewed.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	Other Uses of the Bay and Shoreline			
Policy 1	Shore areas not proposed to be reserved for a priority use should be used for any purpose (acceptable to the local government having jurisdiction) that uses the Bay as an asset and in no way affects the Bay adversely. This means any use that does not adversely affect enjoyment of the Bay and its shoreline by residents, employees, and visitors within the site area itself or within adjacent areas of the Bay or shoreline.	✔	✔	
Policy 2	Accessory structures such as boat docks and portions of a principal structure may extend on piles over the water when such extension is necessary to enable actual use of the water, e.g., for mooring boats, or to use the Bay as an asset in the design of the structure.	✔	✔	
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.	✔	✔	

4.1B San Francisco Bay Area Seaport Plan Policies

San Francisco Bay Area Seaport Plan Policies Relevant to the OARB Redevelopment District

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	Cargo Forecasts			
Policy 1	In order to foster economic activity, improvements should be made to the Bay Area port system to handle the forecast growth in waterborne cargo.	✔	✔	
Policy 2	Proposed marine terminal development should be closely linked to the projected regional need for new facilities based upon reasonable forecasts of waterborne cargo.	✔	✔	
	Port Priority Use Areas			
Policy 1	Local governments and the Bay Area ports should protect port priority use areas for marine terminals and other directly related port activities through their land use planning and regulatory authority.	✔	✔	
Policy 3	Uses that would impair the future use of a port priority use area that is not currently used for port purposes may be allowed only on a finite, interim basis. Interim uses should be of a nature that allows the site to be converted to port use when it is needed for marine terminal development or other port priority use. The length of the interim use period should be determined on a case-by-case basis for each site and proposed use. Factors to be considered in determining the length of the interim use should include, but are not limited to: (1) the amortization period of investments associated with the proposed use; (2) the lead time necessary to convert the site to the designated marine terminal or port use; and (3) the need for the site as measured by the Bay Area volume of the cargo type specified to be handled at that site and the available capacity at other ports in the Bay Area to accept the specified cargo.	✔	✔	
Policy 4	No Bay fill should be authorized for interim uses that are not water-oriented.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	Marine Terminals			
Policy 1	Bay fill authorized for development of any marine terminal must be the minimum necessary to achieve a functional terminal at the site. Marine terminal development projects must meet the criteria for Bay fill projects specified in Section 66605(c) and (d) of the McAteer-Petris Act, which are: 1. that public benefits of fill must exceed the public detriment from the loss of water area; 2. that there is no alternative upland location; 3. that the proposed fill is the minimum necessary to achieve the purpose of the fill; 4. that the nature, location, and extent of any fill must minimize harmful effects to the Bay Area, such as reduction or impairment of the volume, surface area or circulation of water, water quality, fertility of marshes or fish or wildlife resources; 5. that the fill be constructed in accordance with sound safety standards; 6. that fill should establish a permanent shoreline; and 7. that the project applicant has valid title to the properties in question.	✔	✔	
Policy 2	Future marine terminals should be developed for the type of cargo specified in this Plan at each port and port priority use area. If a port or terminal operator proposes to use a terminal for a cargo other than that designated in the Seaport Plan, the project proponent must demonstrate to the Seaport Planning Advisory Committee that the proposed project does not prevent Bay Area ports from achieving adequate cargo throughput capability to meet the 2020 projections. In reviewing such requests, the Seaport Planning Advisory Committee should make use of the cargo monitoring data that will be collected as part of the implementation of this plan (see Responsibilities of Other Agencies in Part III of this Plan).	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy 4	New marine terminals requiring large volumes of Bay fill should only be developed when all existing terminals are operating at maximum feasible capacity, and should involve the least possible amount of Bay fill.	✔	✔	
Policy 5	The estimates of throughput capability and the number of new berths needed to meet the 2020 cargo forecast should be used only as an approximate guide.	✔	✔	
Policy 6	To achieve the capacity needed to handle the cargo volume forecast for 2020, the port of Oakland should have 30 berths.	✔	✔	
Policy 7.	If cargo capacity shortfalls occur, fill for additional marine terminals not designated in this plan should not be approved by BCDC unless the project proponent can demonstrate to the satisfaction of BCDC and the Seaport Planning Advisory Committee: 1. that existing berths and terminals have reached their capacity; 2. that no other feasible alternative to construction of new terminals exists; and 3. that net Bay fill included in the proposed terminal is the minimum necessary and that no alternative upland location exists.	✔	✔	
	Container Terminals			
Policy 1	Container terminal development projects for land-constrained sites should have at least 30 acres per berth of backland. Projects with intermodal service, such as the FISCO site at the Port of Oakland, should have 55 acres per berth to accommodate the higher cargo capacity of the larger ships that will be calling at those terminals.	✔	✔	
Policy 2	Projects for combined container/neo-bulk terminals should ideally have 30 acres per berth, but must have at least 20 acres per berth.		✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy 3	Container terminal projects, especially intermodal terminals, should have the following four characteristics: 1. deep water channels and berths (at least -35 feet); 2. access to at least one railroad, but preferably two, and an interstate highway; 3. adequate flat backland (a minimum of 30 acres, and as much as 55 acres per berth for intermodal terminals); and 4. an agency or entity with the ability and willingness to raise the funds to build and operate the terminal. In addition, the sites should be adjacent to existing container terminals.	✔	✔	
	Dredging and Navigation			
Policy 3	Ship channels, turning basins, and berths should be maintained to the depths and widths necessary to safely accommodate the kinds of ships docking at the Bay Area marine terminals if economically justified or if needed for national defense, and if such deepening or widening conforms to -State and national environmental law and policies.	✔	✔	
Policy 4	Adequate capacity for disposal of dredged material should be provided to accommodate necessary dredging of channel and berth areas designated in the Plan. Pending completion of the Long Term Management Strategy (LTMS) for dredging, sites designated as port priority use areas on More Island that are currently being used for the disposal of dredged materials should be retained as port priority use areas and evaluated for continued designation when the recommendations of the LTMS are complete. Similarly, the Praxis site should be reserved for port priority use pending the recommendations of the LTMS concerning the site's use as a regional disposal or rehandling facility.		✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	Ground Transportation			
Policy 1	Local, state and federal government actions, such as land use decisions, public works projects, or rail abandonments, should not impede access to the marine terminal sites identified in the Seaport Plan. Funding for a transportation project affecting ports or port sites should be approved or endorsed by MTC only if the project is consistent with the policies of the Seaport Plan unless there are overriding regional considerations.	✔	✔	
Policy 2	The Bay Area ports, local governments and marine terminal operators should take steps to make the best possible use of existing ground transportation facilities, and should employ measures to mitigate any significant adverse environmental effects of increased traffic at existing and proposed marine terminal facilities.	✔	✔	
Policy 3	Local and regional transportation planning and funding priorities should facilitate the efficient movement of goods by rail and truck to and from the Bay Area ports.	✔	✔	
Policy 4	Ground transportation improvements needed primarily to serve existing or proposed marine terminals should be included in Congestion Management Agency transportation funding priorities only if such improvements and the development they serve are consistent with the policies of the Seaport Plan.	✔	✔	
Policy 5	If funding agencies must choose between marine terminal-related ground transportation projects, highest priority should be given to projects that: • best use existing port and transportation facilities; and • best enhance the movement of Bay Area waterborne cargo.	✔	✔	
	Designations: Port of Oakland			
Policy 1	By the year 2020, the Port of Oakland should have annual cargo throughput capability of 26,439,000.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy 2	The Joint Intermodal Terminal, development of the five berths at the Fleet and Industrial Supply Center Oakland, and the potential development of the Army Terminal, along with improvements in the efficiency of the Port's container transfer equipment, gates, roads, and storage areas, should accommodate the Port's projected container shipping growth requirements for at least the next 15 years without significant Bay fill.	✔	✔	
Policy 3	Schnitzer Steel is and should remain designated as an active dry bulk terminal as long as the facility is used for this purpose. At such time as the site is no longer needed for recycling scrap steel or other bulk shipping operations, it should first be considered for conversion to a container terminal. If Schnitzer Steel is converted to a container terminal, it should have an expected annual throughput capability of 1,520,000 metric tons.		✔	

4.1C San Francisco Bay Trail Plan Policies

San Francisco Bay Trail Plan Policies Relevant to the OARB Redevelopment District

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	Trail Alignment			
Policy 1	Ensure a feasible, continuous trail around the Bay.	✔	✔	
Policy 2	Minimize impacts on and conflicts with sensitive environments.	✔		
Policy 3	Locate trail, where feasible, close to the shoreline.	✔	✔	
Policy 4	Provide a wide variety of views along the Bay and recognize exceptional landscapes.	✔	✔	
Policy 6	In selecting a route for the trail, incorporate local agency alignments where shoreline trail routes have been approved. Incorporate San Francisco Bay Conservation and Development Commission public access trails where they have been required.	✔	✔	
Policy 10	In order to minimize the use of existing staging areas along the shoreline and to reduce the need for additional staging areas, the choice of trail alignment should take full advantage of available transit, including rail service (e.g., Caltrain, BART), ferries, and bus service.	✔	✔	
Policy 11	Connections to other local and regional trail and bikeway systems should be actively sought in order to provide alternatives to automobile access to the Bay Trail. In particular, opportunities should be explored for trail connections to the Bay Area Ridge Trail, which is envisioned to circle the Bay along the region's ridgelines.	✔	✔	
	Trail Design			
Policy 12	Provide access wherever feasible to the greatest range of trail users on each segment.	✔	✔	
Policy 13	Wherever possible, new trails should be physically separated from streets and roadways to ensure the safety of trail users.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy 14	Create a trail that is as wide as necessary to accommodate safely the intended use, with separate alignments, where feasible, to provide alternative experiences.	✔	✔	
Policy 15	Highlight the interpretive potential of certain trail segments, including opportunities for interpretation, education, rest, and view enjoyment.	✔	✔	
Policy 16	Incorporate necessary support facilities, using existing parks, parking lots, and other staging areas wherever possible.	✔	✔	
Policy 17	Design new segments of trail to meet the highest practical standards and regulations, depending on the nature and intensity of anticipate use, terrain, existing regulations, and standards on existing portions of the trail.	✔	✔	
Policy 18	Minimum and maximum standards by use, width, surface, etc. should be developed, to ensure safe enjoyment of the trail and compatibility with surroundings and existing facilities, and to encourage use and design of surfaces for which long-term maintenance will be cost-effective.	✔	✔	
Policy 19	Design and route the trail to discourage use of undesignated trails.	✔	✔	
Policy 20	A consistent signing program should be established throughout the trail system, using a Bay Trail logo which will identify trails within the Bay Trail system as distinct from other connecting trails. The choice of materials used should be the concern of the individual implementing jurisdictions and agencies.	✔	✔	
Policy 21	The Bay Trail signing program may include necessary cautionary and regulatory signing, including warnings of seasonal trail closings and other restrictions on trail use. Interpretive signing may be provided to help educate trail users about the surrounding environment and the importance of observing trail use restrictions and staying on designated trails.	✔	✔	
Policy 22	The trailhead signing program may include a variety of information which will enhance the Bay Trail experience. This may include a description of the length and relative difficulty of the trail as a guide for trail users with mobility limitations, available support facilities,	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	available access to other connecting trails, and a description of the habitat resource which emphasizes interpretive information as well as the need to observe posted trail use restrictions.			
	Environmental Protection			
Policy 23	The Committee is aware of the ecological value of wetlands; in many cases, they provide habitat for a variety of endangered species. In the San Francisco Bay Area, these areas serve as a vital link in the Pacific flyway for feeding, breeding, nesting and cover for migratory birds. To avoid impacts in wetlands habitats, the Bay Trail should not require fill in wetlands, and should be designed so that use of the trail avoids adverse impacts on wetland habitats.	✔	✔	
Policy 24	Future support facilities serving the Bay Trail should be designed and constructed in such a manner that they do not impact fish and wildlife resources, especially wetlands. These facilities should be located and designed in a way that no fill of wetlands will be required.	✔	✔	
Policy 25	The Bay Trail should not be defined as a continuous asphalt loop at the Bay's edge, but as a system of interconnecting trails, the nature of which will vary according to the locale and the nature of the terrain and resources in the vicinity of each particular trail segment.	✔	✔	
Policy 26	The path will not always follow the Bay shoreline; inland reaches may be more appropriate, especially for bicycle travel, in some parts of the San Francisco Bay region.	✔	✔	
Policy 27	The path should be designed to accommodate different modes of travel (such as bicycling and hiking) and differing intensities of use, possibly requiring different trail alignments for each mode of travel, in order to avoid overly intensive use of sensitive areas.	✔	✔	
Policy 28	Where the alignment of the Bay Trail may more appropriately be located away from the shoreline in order to protect particularly sensitive habitats, access to shoreline areas may be possible by connecting the Bay Trail to existing loop trails and other interpretive facilities. These access points should be planned and designed to make clear the distinction between the continuous Bay Trail and the interpretive trail. (Features may	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	include different trail surfaces, marked entry points to interpretive areas, expanded facilities for education and shoreline interpretation, signage, regulation and enforcement of regulations.)			
Policy 29	Provision of land or funds for Bay Trail planning or construction shall not be considered mitigation for wetland losses.	✔	✔	
	Transportation Access Policies			
Policy 30	Bridges and roads will be important connections in the Bay Trail system, providing not only commute routes, but enhancing the recreational use of the Trail by creating trail loops which will allow a greater number of people to enjoy the Trail.	✔	✔	
Policy 31	In the short term, attention should be focused on improving safe access to the bridges, possible expansion of bicycle shuttle services and public transit accommodations of bicycles to allow cross-bay access.	✔	✔	
Policy 32	In the long term, unconstrained access on bridge structures is preferred. This can more easily be accomplished in planning future facilities, as long as public access is a requirement for new structures. Legislative action which would require bicycle and pedestrian access on new facilities should be actively sought.	✔	✔	
Policy 33	Opportunities for cooperative funding of pedestrian and bicycle accessways should be investigated in order to make financing feasible.	✔	✔	
Policy 34	Access to the trail by all forms of public transit should be strongly encouraged. Opportunities for reaching the trail by public transit should be highlighted on trail maps and promotional materials.	✔	✔	
	Implementation Policies			
Policy 35	Domestic pets should be prohibited on new trails if the managing agency determines that their presence would conflict with habitat values or other recreational users. This prohibition is not intended to apply to service animals such as guide dogs.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy 36	An ongoing Bay Trail Project should be established to implement the Bay Trail Plan. The Project should be jointly sponsored by a wide range of organizations and agencies committed to realizing the vision of the Bay Trail.	✔	✔	
Policy 37	The Bay Trail Committee, technical committee and outreach program should be established as described in Section IV of the Bay Trail Plan.	✔	✔	
Policy 38	"Friends of the Bay Trail" should be established to provide widespread opportunities for the active involvement of individuals and organizations throughout the Bay Area to promote the Bay Trail.	✔	✔	
Policy 39	ABAG's Executive Board should continue Bay Trail Program oversight, by reviewing monitoring reports prepared by the Bay Trail Committee.	✔	✔	
Policy 40	The Bay Trail Committee should continue to explore the establishment of a management authority to coordinate maintenance, patrolling and liability functions for portions of the Bay Trail.	✔	✔	
Policy 41	Local governments and other implementing agencies should be strongly encouraged to amend relevant planning and policy documents (general plans, specific plans, zoning ordinances) to incorporate appropriate references to the Bay Trail.	✔	✔	
Policy 42	The Bay Trail Plan recognizes the authority of managing agencies to set policy regarding the use of trails within their jurisdiction.	✔	✔	
Policy 43	Since the passage of the McAteer-Petris Act in 1965 and adoption of the San Francisco Bay Plan, significant trail access to and along San Francisco Bay has been obtained for residents of the Bay Area by the San Francisco Bay Conservation and Development Commission. The Bay Trail Plan recognizes that BCDC has accomplished this without greatly interfering with wildlife values and property rights, and strongly recommends that the Commission's public access efforts be continued.	✔	✔	
Policy 44	In constructing the trail and implementing signing programs, agencies should be	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	encouraged to utilize non-profit organizations (e.g., the California Conservation Corps, the East Bay Conservation Corps, the Marin Conservation Corps, the San Jose Conservation Corps, the San Francisco Conservation Corps and the Trail Center).			
Policy 45	Local agencies should be sensitive to the natural environment not only in project planning to implement segments of the Bay Trail, but also in maintaining and managing the trail once built.	✔	✔	
Policy 46	Agencies should be encouraged to take advantage of the wide variety of available trail financing and implementation techniques identified in the Bay Trail Plan as they undertake implementation of Bay Trail segments in their jurisdictions.	✔	✔	
Policy 47	The Bay Trail Committee should assist local agencies in identifying and securing funding for Bay Trail implementation.	✔	✔	

4.1D Oakland General Plan Objectives and Policies Land Use and Transportation Element (LUTE)

Oakland General Plan Objectives and Policies Relevant to the OARB Redevelopment District
Land Use and Transportation Element (LUTE)

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Objective I/C1	Expand and retain Oakland's job base and economic strength.	✔	✔	✔
Policy I/C1.1	**Attracting New Business.** The City will strive to attract new businesses to Oakland, which have potential economic benefits in terms of jobs and/or revenue generation. This effort will be coordinated through a citywide economic development strategy/marketing plan, which identifies the City's existing economic base, the assets and constraints for future growth, target industries or activities for future attraction, and geographic areas appropriate for future use and development.	✔	✔	✔
Policy I/C1.2	**Retaining Existing Business.** Existing businesses and jobs within Oakland which are consistent with the long-range objectives of this Plan should, whenever possible, be retained.		✔	✔
Policy I/C1.3	**Supporting Economic Development Expansion Through Public Investment.** The public investment strategy of the City should support economic development expansion efforts through such means as identifying target "catalyst projects" for investment, which will support the employment or revenue base of the city and providing infrastructure improvements to serve key development locations or projects, which are consistent with the goals and objectives of this Plan.	✔	✔	✔
Policy I/Cl.4	**Investing In Economically Distressed Areas of Oakland.** Economic investment, consistent with the City's overall economic strategy, should be encouraged, and, where feasible, should promote viable investment in economically distressed areas of the City	✔	✔	✔
Policy I /C1.5	**Using City-Owned Property to Stimulate Economic Development.** City-owned properties should, where feasible, be utilized to stimulate economic development activities or serve as catalysts to such efforts.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy I/CI.9	**Locating Industrial and Commercial Area Infrastructure.** Adequate public infrastructure should be ensured within existing and proposed industrial and commercial areas to retain viable existing uses, improve the marketability of existing vacant or underutilized sites, and encourage future use and development of these areas with activities consistent with the goals of this Plan.	✔	✔	✔
Policy I/C1.10	**Coordinating City and Port Economic Development Plans.** The City and Port should mutually develop and implement a coordinated plan-of-action to support all airport and port related activities, which expand the local or regional employment or revenue base.	✔	✔	✔
Policy I/C1.11	**Expanding Job Training Opportunities.** The City should expand and coordinate job training opportunities for Oakland residents by supporting programs sponsored by the Oakland Unified School District, local community colleges, the Port of Oakland, and other educational institutions or vocational training establishments.	✔	✔	
Objective I/C2	Maximize the usefulness of existing abandoned or underutilized industrial buildings and land	✔	✔	✔
Policy I/C2.1	**Pursuing Environmental Clean-Up.** The environmental cleanup of contaminated industrial properties should be actively pursued to attract new users in targeted industrial and commercial areas.	✔		✔
Policy I /C2.2	**Reusing Abandoned Buildings.** The reuse of abandoned industrial buildings by non-traditional activities should be encouraged where the uses are consistent with, and will assist in the attainment of, the goals and objectives of all elements of the Plan.			✔
Policy I/C2.3	**Providing Vacant or Buildable Sites.** Development in older industrial areas should be encouraged through the provision of an adequate number of vacant or buildable sites designated for future development.			✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Objective I/C3	Ensure that Oakland is adequately served by a wide variety of commercial uses, appropriately sited to provide for competitive retail merchandising and diversified office uses, as well as personal and professional services.	✔		✔
Policy I/C3.1	**Locating Commercial Business.** Commercial uses, which serve long term retail needs of regional consumers and which primarily offer durable goods, should be located in areas adjacent to the I-880 freeway or at locations visible or amenable to high volumes of vehicular traffic, and accessible by multiple modes of transportation.	✔		✔
Policy I/C3.3	**Clustering Activity In "Nodes."** Retail uses should be focused in "nodes" of activity, characterized by geographic clusters of concentrated commercial activity, along corridors that can be accessed through many modes of transportation.			✔
Policy I/C3.4	**Strengthening Vitality.** The vitality of existing neighborhood mixed use and community commercial areas should be strengthened and preserved.			✔
Objective I/C4	Minimize land use compatibility conflicts in commercial and industrial areas through achieving a balance between economic development values and community values.	✔	✔	✔
Policy I/C4.1	**Protecting Existing Activities.** Existing industrial, residential and commercial activities and areas, which are consistent with long-term land use plans for the City should be protected from the intrusion of potentially incompatible land uses.		✔	✔
Policy I/C4.2	**Minimizing Nuisances.** The potential for new or existing industrial or commercial uses, including seaport and airport activities, to create nuisance impacts on surrounding residential land uses should be minimized through appropriate siting and efficient implementation and enforcement of environmental and development controls.	✔	✔	✔
Objective I/C5	The economic utility, employment generation, and citywide benefit of military facilities closed by the Federal Government should be maximized.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy I/C5.1	**Planning for Military Base Reuse.** Plans for the reuse of military bases should encourage activities, which provide economic development expansion opportunities for the City.	✔	✔	
Policy I/C5.2	**Planning for the Fleet Industrial Supply Center.** The reuse of the waterfront portions of the Fleet Industrial Supply Center should emphasize maritime-, rail-, and open space-related activities.		✔	
Policy I/C5.3	**Planning for the Army Base.** Land reuse plans for the Oakland Army Base site shall encourage activities that will result in expanded employment opportunities and revenues for the city and the West Oakland community.	✔		
Objective T1	Provide adequate infrastructure and land for the needs of rail, shipping, commercial, and manufacturing uses, balancing this need with those of surrounding residential neighborhoods.	✔	✔	
Policy T1.1	**Supporting the Port.** Support the Port of Oakland's efforts to compete as a primary Port of Call for the West Coast shipping industry.	✔	✔	
Policy T1.4	**Marketing Oakland.** Encourage, promote, and support region-serving business, tourism industries, and businesses related to the transportation industry, to locate or relocate to Oakland.	✔	✔	✔
Objective T1.5	Reduce truck traffic impacts on residential neighborhoods.			✔
Policy T1.5	**Locating Truck Services.** Truck services should be concentrated in areas adjacent to freeways and near the seaport and airport, while ensuring the attractiveness of the environment for visitors, local business, and nearby neighborhoods.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy T1.6	**Designating Truck Routes.** An adequate system of roads connecting port terminals, warehouses, freeways and regional arterials, and other important truck destinations should be designated. This system should rely upon arterial streets away from residential neighborhoods. (See the Truck Route Diagram in Volume II of the Land Use and Transportation Element.)	✔	✔	✔
Policy T1.8	**Re-routing and Enforcing Truck Routes.** The City should make efforts to re-route truck traffic away from neighborhoods, wherever possible, and enforce truck route controls.	✔	✔	✔
Objective T2	Provide mixed use, transit-oriented development that encourages public transit use and increases pedestrian and bicycle trips at major transportation nodes.	✔		✔
Policy T2.4	**Linking Transportation and Economic Development.** Encourage transportation improvements that facilitate economic development.	✔	✔	✔
Policy T2.5	**Linking Transportation and Activities.** Link transportation facilities and infrastructure improvements to recreational uses, job centers, commercial nodes, and social services (i.e., hospitals, parks, or community centers).	✔	✔	✔
Objective T3	Provide a hierarchical network of roads that reflects desired land use patterns and strives for acceptable levels of service at intersections.	✔	✔	✔
Policy T3.5	**Including Bikeways and Pedestrian Walks.** The City should include bikeways and pedestrian walks in the planning of new, reconstructed, or realigned streets, wherever possible.	✔	✔	✔
Policy T3.7	**Resolving Transportation Conflicts.** The City, in constructing and maintaining its transportation infrastructure, should resolve any conflicts between public transit and single occupant vehicles in favor of the transportation mode that has the potential to provide the greatest mobility and access for people, rather than vehicles, giving due consideration to the environmental, public safety, economic development, health, and social equity impacts.	✔	✔	✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy T3.9	**Providing Parking for Transportation.** The City should strive to provide parking for multiple modes of transportation throughout the city where it is needed and does not unduly disrupt traffic flow.	✔		✔
Objective T4	Increase use of alternative modes of transportation.	✔	✔	✔
Policy T4.1	**Incorporating Design features for Alternative Travel.** The City will require new development, rebuilding, or retrofit to incorporate design features in their projects that encourage use of alternative modes of transportation such as transit, bicycling, and walking.	✔	✔	✔
Policy T4.8	**Accommodating Multiple Types of Travel on the Bay Bridge.** The City should encourage the design and engineering for the new Bay Bridge to accommodate multiple means of access and travel by automobiles, trucks, transit, bicycles, pedestrians, and future mass transit.	✔		
Policy T4.9	**"Gateway" Public Access Area.** The City, in concert with the East Bay Regional Park District, Port of Oakland, Oakland Base Reuse Authority, and Bay Conservation and Development Commission, should support development of a significant new "gateway" public park area at the terminus of the San Francisco/Oakland Bay Bridge east span that is accessible by auto, bicycle, or walking (See also the Open Space, Conservation, and Recreation Element).			
Objective T6	Make streets safe, pedestrian accessible, and attractive.	✔	✔	✔
Policy T6.3	**Making the Waterfront Accessible.** The waterfront should be made accessible to pedestrians and bicyclists throughout Oakland.	✔	✔	
Objective W1	Enhance the waterfront with a wide variety of uses. The seaport and airport should have uses, which promote its economic and transportation assets, and other waterfront areas should have multi-purpose uses including recreation, entertainment, cultural, education, economic, transportation, and residential assets.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy W1.1	**General Plan Conformance of Projects In the Seaport and Airport Areas.** The Port shall make a written determination on General Plan conformity for each project, plan, and/or land use guideline it approves in the Port area. Prior to making such determination the Port will forward its proposed determination to the Director of City Planning, who may provide the Port with written comments within a specified time period. Any comments so provided shall be considered and responded to in writing by the Port in its conformity determination. For projects in the Port Area outside the seaport and airport areas, the Port's determination of General Plan conformity may be appealed to the City Council within 10 days. If not appealed within 10 days, the Port's determination shall be deemed final. If appealed, the City Council, by a vote of a least 6 members, shall make a final determination on the appeal within 30 days. The City Planning Commission shall provide recommendation to the City Council for consideration in hearing on appeal of the Port's conformity determination. Projects appealable to the City Council under policy are those for which and Environmental Impact Report of Mitigated Negative Declaration has been prepared pursuant to the California Environmental Quality Act; new construction, additions, changes in use, or, expansion of use involving 20,000 square feet or more in floor area; and public improvements in transportation or public access valued at $250,000 or more.	✔	✔	
Policy W1.2	**Planning with the Port of Oakland.** Plans for maritime and aviation operations as well as activities on all lands in Port jurisdiction should be coordinated with, and generally consistent with the Oakland General Plan.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy W1.3	**Reducing Land Use Conflicts.** Land uses and impacts generated from Port or neighborhood activities should be buffered, protecting adjacent residential areas from the impacts of seaport, airport, or other industrial uses. Appropriate siting of industrial activities, buffering (e.g., landscaping, fencing, transitional uses, etc.), truck traffic management efforts, and other mitigations should be used to minimize the impact of incompatible uses.	✔	✔	
Objective W2	Encourage and accommodate facilities and public linkages, which attract the public to the waterfront without endangering public safety or compromising airport and seaport operations and security.	✔		
Policy W2.1	**Linking Neighborhoods with the Waterfront.** All recreational activity sites along the waterfront should be connected to each other to create continuous waterfront access. Safe and direct automobile, bicycle, pedestrian and waterway access between the waterfront and adjacent neighborhoods should be created and strengthened.	✔	✔	
Policy W2.2	**Buffering of Heavy Industrial Uses.** Appropriate buffering measures for heavy industrial uses and transportation uses on adjacent residential neighborhoods should be developed and implemented.	✔	✔	
Policy W2.3	**Providing Public Access Improvements.** Public access improvements to the waterfront and along the water's edge should be implemented as projects are developed. The access improvement should conform to the requirements of the Bay Conservation and Development Commission (BCDC).	✔	✔	
Policy W2.4	**Mitigation Banking.** Public access that is developed in advance, by entities with future plans for waterfront project development, should be credited as meeting BCDC's public access requirement for those waterfront projects.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy W2.5	**Improved Railroad Crossings.** To create safe access to the water pedestrian, bicycle, and automobile railroad crossings should be provided where feasible. Crossings could include grade separations, at-grade crossings, skyway bridges, or connections between buildings.		✔	
Policy W2.6	**Providing Maritime and Aviation Viewing Access.** Safe access to areas for viewing maritime and aviation activities without interfering with seaport and airport activities should be encouraged.	✔	✔	
Policy W2.7	**Encouraging Public Transportation.** Public transportation to the waterfront should be encouraged, coordinated, and strategically located. Waterfront transportation should be marketed to enhance ease of access both locally and regionally.	✔	✔	
Policy W2.10	**Making Public Improvements as a Part of Projects.** Physical improvements to improve the aesthetic qualities of the waterfront, and increase visitor comfort, safety, and enjoyment should be incorporated in the development of projects in the waterfront area. These amenities may include landscaping, lighting, public art, comfort stations, street furniture, picnic facilities, bicycle racks, signage, etc. These facilities should be accessible to all persons and designed to accommodate elderly and physically disabled persons.	✔	✔	
Policy W2.11	**Disseminating Public Information.** Waterfront development should incorporate public, educational and interpretive information for waterfront activities to encourage public knowledge and understanding of the historic, cultural, economic, and environmental context.	✔	✔	
Objective W3	Preserve the high quality and uniqueness of the natural and built environment of the waterfront.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy W3.1	**Requiring Consistency with Conservation Objectives and Policies.** Waterfront objectives, policies, and actions regarding geology, land stability, erosion, soils, water quality, flood hazards, wetland plant and animal habitats, and air quality and pollutants, shall be consistent and in compliance with the 1996 Open Space, Conservation, and Recreation Element of the City's General Plan.	✔	✔	
Policy W3.2	**Enhancing the Quality of the Natural and Built Environment.** The function, design and appearance, and supplementary characteristics of all uses, activities, and facilities should enhance, and should not detract from or damage the quality of, the overall natural and built environment along the waterfront.	✔	✔	
Policy W3.3	**Protecting and Preserving Wetland Plant and Animal Habitats.** Native plant communities, wildlife habitats, and sensitive habitats should be protected and enhanced.	✔	✔	
Policy W3.4	**Preserving Views and Vistas.** Buildings and facilities should respect scenic viewsheds and enhance opportunities for visual access of the waterfront and its activities.	✔	✔	
Objective W4	Establish comprehensive approaches to waterfront issues, implementation, and monitoring efforts.	✔	✔	
Policy W4.1	**Creating Coordinated and Comprehensive Approaches.** Public agencies and jurisdictions involved in waterfront matters should work together in a cooperative and coordinated way and strive for consistency among general planning, strategic planning, and specific planning practices and programs.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy W4.2	**Considerations for the OBRA Process.** The Oakland Base Reuse Authority (OBRA) process should consider issues affecting West Oakland including: public access and public safety to the waterfront, open space, and amenities; buffering of heavy industrial and transportation uses on residential neighborhoods; and potential job creation and other economic benefits generated as a result of the Army Base re-use. (See also the Industry and Commerce Policy Framework section.)	✔		
Policy W4.3	**Coordinating Permit Process Procedures.** The City and Port should ensure that the permit process procedures for waterfront development are coordinated and efficient while providing for public notification and input.	✔	✔	
Objective W5	Enhance and promote the Port of Oakland as the waterfront's major economic generator for Oakland.	✔	✔	
Policy W5.1	**Conserving Land for Airport and Seaport Use.** Lands needed for maritime and aviation operations are of local, regional, national, and international importance and should be recognized as a valuable economic resource. The development of these lands to enhance maritime and aviation functions should be encouraged, and uses that would impair functional operation of the airport and seaport should not be permitted.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy W5.2	• **Defining Seaport and Airport Uses.** Pursuant to the Port of Oakland's mission and the 'Trust Provisions' established by the State of California, Port controlled property within the Seaport and Airport areas should be used primarily for purposes that are unique to a modem seaport or airport, require water frontage or access to regional airspace, relate to port operations and expansion, or are dependent on proximity to maritime and/or aviation facilities. Examples of such activities include: • Cargo handling; Ship and Airplane Handling/Building/Repair; Commercial Fishing, etc. • Cargo Industry Services, e.g. Warehousing, Distribution, Freight Forwarding, Container Storage and Repair, etc. • Passenger Services, e.g. Ferry facilities, Shuttle and Car Rental Facilities, Reservations and Ticketing, Flight Catering, Baggage Handling, Parking, Hotels, etc. • Ancillary and Support Services, e.g. Truck and Rail Operations and Associated Services, Administration, Customs, Education/Training Facilities, etc.	✔	✔	
Objective W6	Develop the seaport and airport as northern California's major international gateway and hubs of the national, regional, and local transportation network.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy W6.1	**Maintaining a Competitive Edge.** In order to maintain international stature and competitiveness, the Port should continue to develop, expand, or otherwise modernize facilities and/or support infrastructure to enhance its overall efficiency and capabilities to handle increasing amounts of cargo and passengers. Examples include: • Outer harbor terminals expansion and modernization • Channel deepening as necessary • Consolidation of rail services and facilities • Air passenger terminals expansion and modernization • Expansion of air cargo services and facilities • Improvement of BART/Airport access and other public transportation access • Continued development of ferry service • Expansion of telecommunications and utility networks	✔	✔	
Policy W6.3	**Enhancing Intermodal Transportation.** Transportation corridors which serve the harbor/airport terminals should be preserved and enhanced to accommodate higher capacities, service and safety levels, and intermodal connections.	✔	✔	
Objective W7	Capitalize on the seaport and airport for increased economic activity and jobs in Oakland.	✔	✔	
Policy W7.1	**Developing Lands in the Vicinity of the Seaport/Airport.** Outside the seaport and airport, land should be developed with a variety of uses that benefit from the close proximity to the seaport and airport and that enhance the unique characteristics of the seaport and airport. These lands should be developed with uses which can buffer adjacent neighborhoods from impacts related to such activities.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy W7.2	**Encouraging Commercial and Industrial Uses.** Other commercial and industrial uses should be encouraged at appropriate locations (Port-owned or not) where they can provide economic opportunity to the community at large.	✔	✔	
Objective N1	Provide for healthy, vital, and accessible commercial areas that help meet local consumer needs in the neighborhoods.	✔		✔
Policy N1.1	**Concentrating Commercial Development.** Commercial development in the neighborhoods should be concentrated in areas that are economically viable and provide opportunities for smaller scale, neighborhood-oriented retail.	✔		✔
Policy N1.2	**Placing Public Transit Stops.** The majority of commercial development should be accessible by public transit. Public transit stops should be placed at strategic locations in Neighborhood Activity Centers and Transit-Oriented Districts to promote browsing and shopping by transit users.	✔		✔
Policy N1.3	**Locating Parking Facilities.** Wherever feasible, and desired by merchants and residents, the City should construct strategically located, safe, and attractive parking facilities in Neighborhood Activity Centers. Use of in lieu fees, parking assessment districts, or other programs to pay for these facilities should be explored.	✔		✔
Policy N1.4	**Locating Large-Scale Commercial Activities.** Commercial uses which serve long term retail needs or regional consumers and which primarily offer high volume goods should be located in areas visible or amenable to high volumes of traffic. Traffic generated by large scale commercial developments should be directed to arterial streets and freeways and not adversely affect nearby residential streets.	✔		✔
Policy N1.5	**Designing Commercial Development.** Commercial development should be designed in a manner that is sensitive to surrounding residential uses.	✔		✔
Objective N2	Encourage adequate civic, institutional, and educational facilities located within Oakland, appropriately designed and sited to serve the community.	✔	✔	✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy N2.7	**Designing Community Facilities.** Site design, architecture and operating practices of community facilities should be compatible with the area's desired character, and should include public art where possible.	✔	✔	✔
Objective N3	Encourage the construction, conservation, and enhancement of housing resources in order to meet the current and future needs of the Oakland community.	✔	✔	✔
Policy N3.1	**Facilitating Housing Construction.** Facilitating the construction of housing units should be considered a high priority for the City of Oakland.	✔	✔	✔
Policy N3.2	**Encouraging Infill Development.** In order to facilitate the construction of needed housing units, infill development that is consistent with the General Plan should take place throughout the City of Oakland.	✔	✔	✔
Policy N3.5	**Encouraging Housing Development.** The City should actively encourage development of housing in designated mixed housing type and urban housing areas through regulatory and fiscal incentives, assistance in identifying parcels that are appropriate for new development, and other measures.	✔	✔	✔
Policy N3.8	**Required High-Quality Design.** High-quality design standards should be required of all new residential construction. Design requirements and permitting procedures should be developed and implemented in a manner that is sensitive to the added costs of those requirements and procedures.			✔
Policy N3.9	**Orienting Residential Development.** Residential developments should be encouraged to face the street and to orient their units to desirable sunlight and views, while avoiding unreasonably blocking sunlight and views for neighboring buildings, respecting the privacy needs of residents of the development and surrounding properties, providing for sufficient conveniently located on-site open space, and avoiding undue noise exposure.			✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy N3.10	**Guiding the Development of Parking.** Off-street parking for residential buildings should be adequate in amount and conveniently located and laid out, but its visual prominence should be minimized.			✔
Objective N4	Actively encourage the provision of affordable housing throughout the Bay Area.	✔	✔	✔
Policy N4.1	**Supporting "Fair Share" Accountability.** The City is generally supportive of any efforts to establish accountability for communities that do not provide their fair share of affordable housing units.	✔	✔	✔
Policy N4.2	**Advocating for Affordable Housing.** The City encourages local non-profit organizations, affordable housing proponents, the business community, the real estate industry, and other local policy makers to join in efforts to advocate for the provision of affordable housing in communities throughout the Bay Area region.	✔	✔	✔
Objective N5	Minimize conflicts between residential and non-residential activities while providing opportunities for residents to live and work at the same location.			✔
Policy N5.1	**Environmental Justice.** The City is committed to the identification of issues related to the consequences of development on racial, ethnic, and disadvantaged socioeconomic groups. The City will encourage active participation of all its communities, and will make efforts to inform and involve groups concerned about environmental justice and representatives of communities most impacted by environmental hazards in the early stages of the planning and development process through notification and two-way communication.	✔	✔	✔
Policy N5.2	**Buffering Residential Areas.** Residential areas should be buffered and reinforced from conflicting uses through the establishment of performance-based regulations, the removal of non-conforming uses, and other tools.	✔	✔	✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy N5.3	**Supporting Live-Work Development.** The city should support and encourage residents desiring to live and work at the same location where neither the residential use nor the work occupation adversely affects nearby properties or the character of the surrounding area.			✔
Objective N9	Promote a strong sense of community within the city of Oakland, and support and enhance the district character of different areas of the city, while promoting linkages between them.			✔
Policy N9.1	**Recognizing Distinct Neighborhoods.** The City should encourage and support the identification of distinct neighborhoods. (Many of these neighborhoods are identified on the Structure Diagram and in the Area View section of the Plan.)			✔
Policy N9.2	**Supporting Neighborhood Improvement.** The City should be supportive of the efforts of local neighborhood organizations in improving their neighborhoods, by providing information, guidance, and assistance where feasible.			✔
Policy N9.5	**Marking Significant Sites.** Identify locations of interest and historic significance by markers, signs, public art, landscape, installations, or by other means. (See the Historic Preservation Element for treatment of historic resources.)			✔
Policy N9.7	**Creating Compatible but Diverse Development.** Diversity in Oakland's built environment should be as valued as the diversity in population. Regulations and permit processes should be geared toward creating compatible and attractive development, rather than "cookie cutter" development.			✔
Policy N9.8	**Preserving History and Community.** Locations that create a sense of history and community within the City should be identified and preserved where feasible (see the Historic Preservation Element for more information).			✔
Policy N9.9	**Respecting Architectural Integrity.** The City encourages rehabilitation efforts which respects the architectural integrity of a building's original style (see the Historic Preservation Element for more information).			✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Objective N12	Provide adequate infrastructure to meet the needs of Oakland's growing community.	✔	✔	✔
Policy N12.1	**Developing Public Service Facilities.** The development of public facilities and staffing of safety-related services, such as fire stations, should be sequenced and timed to provide a balance between land use and population growth, and public services at all times.	✔	✔	✔
Policy N12.2	**Making Schools Available.** Adequate public school capacity should be available to meet the needs of Oakland's growing community. The City and the Oakland Unified School District (OUSD) should work together to establish a continuing procedure for coordinating residential and commercial development and exploring residential and commercial development and exploring the imposition of mutually agreed upon reasonable and feasible strategies to provide for adequate school capacity. The City and OUSD should jointly consider where feasible and appropriate, finding mechanisms such as assessment districts, Redevelopment Agency funding (AB 1290), use of surplus, City-owned land, bond issues, and adjacent or shared use of land or school facilities with recreation, libraries, child care and other public uses.	✔	✔	✔
Policy N12.4	**Undergrounding Utility Lines.** Electrical, telephone, and related distribution lines should be undergrounded in commercial and residential areas, except where special local conditions such as limited visibility of the poles and wires make this unneeded. They should also be underground in appropriate institutional, industrial, and other areas, and generally along freeways, scenic routes, and heavily traveled streets. Programs should lead systematically toward the eventual undergrounding of all existing lines in such places. Where significant utility extensions are taking place in these areas, such as in new subdivisions, utilities should be installed underground from the start.	✔	✔	✔

4.1E Oakland General Plan Objectives and Policies Bicycle Master Plan (BMP)

Oakland General Plan Objectives and Policies Relevant to the OARB Redevelopment District
Bicycle Master Plan (BMP)

No.	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy 1	Create, enhance and maintain the recommended bikeway network	✔	✔	
Policy 2	Establish design and maintenance standards for all streets that recognize the needs of bicyclists	✔	✔	
Policy 3	Make efforts to obtain, redevelop, or encourage private redevelopment of unused railroad, utility, and other right-of-ways as linked, multi-use Class I bicycle paths or trails	✔	✔	
Policy 4	Include provisions for safe and direct bicycle access to special development areas and key corridors	✔	✔	
Policy 5	Promote secure and conveniently located bicycle parking at destinations throughout Oakland	✔	✔	✔
Policy 6	Support improve bicycle access to public transportation	✔	✔	✔
Policy 8	Insure the needs of bicyclists are considered in the design of new development and redevelopment projects	✔	✔	✔
Policy 10	Prior to the implementation of bikeway projects, affected residents, merchants and property owners shall be notified in writing of the potential impacts	✔	✔	✔

4.1F Oakland General Plan Objectives and Policies
Estuary Policy Plan

Oakland General Plan Objectives and Policies Relevant to the OARB Redevelopment District
Estuary Policy Plan Element

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	Land Use Objectives			
Objective LU-1	Provide for a broad mixture of activities within the Estuary area.	✔		
Objective LU-2	Provide for public activities that are oriented to the water.	✔		
Objective LU-4	Develop the Estuary area in a way that enhances Oakland's long-term economic development.	✔	✔	
Objective LU-5	Provide for the orderly transformation of land uses while acknowledging and respecting cultural and historical resources.	✔	✔	
Objective LU-6	Create greater land use continuity between the Estuary waterfront and adjacent inland districts.	✔	✔	✔
	Shoreline Access & Public Spaces Objectives			
Objective SA-1	Create a clear and continuous system of public access along the Estuary shoreline.	✔	✔	
Objective SA-2	Punctuate the shoreline promenade with a series of parks and larger open spaces.	✔	✔	
Objective SA-4	Develop opportunities for recreational activities that are oriented to the waterfront and serve identified neighborhood needs.	✔	✔	
Objective SA-5	Enhance natural areas along the shoreline.	✔	✔	
Objective SA-6	Encourage the development of educational and cultural programs and interpretive facilities that enhance understanding of the waterfront environment.		✔	
	Regional Circulation and Local Street Network Objectives			
Objective C-1	Improve and clarify regional access to Oakland's waterfront.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Objective C-4	Strengthen local circulation connections between Oakland neighborhoods and the waterfront.	✔	✔	
Objective C-5	Promote transit service to and along the waterfront.	✔	✔	
Objective C-6	Improve pedestrian and bicycle circulation.	✔	✔	
Objective C-7	Provide adequate parking without diminishing the quality of the urban environment.	✔	✔	
Estuary Planning District Polices that May be Relevant to the Redevelopment District				
Policy JL-14	Provide for increased transit service	✔	✔	
Policy OAK-2	Establish a well-structured, integrated system of major recreational facilities which accommodate a wide variety of activities and which take advantage of the unique waterfront setting. Promote a variety of recreational experiences.	✔	✔	

4.1G Oakland General Plan Objectives and Policies Open Space, Conservation, and Recreation Element (OSCAR)

Oakland General Plan Objectives and Policies Relevant to the OARB Redevelopment District
Open Space, Conservation, and Recreation Element (OSCAR)

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Objective OS-1	**Resource Conservation Areas.** To conserve and appropriately manage undeveloped areas in Oakland which have high natural resource value, scenic value, or natural hazards, which preclude safe development.	✔		
Policy OS-1.1	**Wildland Parks.** Conserve existing City and Regional Parks characterized by steep slopes, large groundwater recharge areas, native plant and animal communities, extreme fire hazards, or similar conditions.	✔	✔	
Objective OS-2	**Urban Parks, Schoolyards, and Gardens.** To an urban park, schoolyard, and garden system, which provides open space for outdoor recreation, psychological and physical well-being, and relief from the urban environment.	✔	✔	✔
Policy OS-2.1	**Protection of Park Open Space.** Manage Oakland's urban parks to protect and enhance their open space character while accommodating a wide range of outdoor recreational activities.	✔	✔	✔
Objective OS-3	**Institutional and Functional Open Space.** To retain major institutional and functional open space areas and enhance their recreational and aesthetic benefits.	✔		
Policy OS-3.2	**Military Base Open Space.** Support provisions for park and open space areas in plans for military base re-use. At Oak Knoll Naval Hospital, designate undeveloped areas with high natural resource or scenic value as Resource Conservation Areas. Consider using existing athletic fields and recreational facilities at Oak Knoll as a new Urban Park site.	✔		
Objective OS-4	**Private Open Space.** To supplement public open spaces with outdoor open space for private use.			✔
Policy OS-4.1	**Provision of Useable Open Space.** Continue to require new multifamily development to provide useable outdoor open space for its residents.			✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy OS-4.4	**Elimination of Blighted Vacant Lots.** Discourage property owners from allowing vacant land to become a source of neighborhood blight, particularly in residential areas with large numbers of vacant lots.	✔	✔	✔
Objective OS-5	**Linear Parks and Trails.** To develop a system of linear parks and trails which (a) links existing parks together; (b) provides safe, convenient access to open space from residential areas and employment centers; (c) provides places to hike, bike, and experience Oakland's scenery; and (d) provides a means of moving from one place to another without an automobile.	✔	✔	
Policy OS-5.1	**Priorities for Trail Improvement.** Improve trail connections within Oakland, emphasizing connections between the flatlands and the hill and shoreline parks; lateral trail connections between the hill area parks; and trails along the waterfront.	✔	✔	
Policy OS-5.3	**Trail Design Principles.** Plan and design all new trails in a manner which: (a) environmental impacts; (b) fully considers neighbor privacy and security issues; (c) involves the local community in alignment and design; and (d) considers the needs of multiple users, including pedestrians, bicycles, and wheelchairs.	✔	✔	
Objective OS-6	**Regional Planning.** To integrate Oakland's open spaces with a larger system of open spaces serving the entire Bay Area, emphasizing the creation and maintenance of a regional greenbelt.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy OS-6.1	**Intergovernmental Coordination.** Coordinate Oakland's open space planning with other agencies, including adjacent cities and counties, the Port of Oakland, and the East Bay Regional Park District.	✔	✔	
Objective OS-7	**Shoreline Access.** To increase physical and visual access to the Oakland shoreline and create new opportunities for shoreline recreation.	✔	✔	
Policy OS-7.1	**Promotion of Beneficial Waterfront Uses.** Require land uses along the shoreline which promote the beneficial uses of the Estuary and Bay waters, including a balanced mix of commercial shipping facilities; water-dependent industry, commerce, and transportation; recreation; water-oriented services and housing-, and resource conservation.	✔	✔	
Policy OS-7.2	**Dedication of Shoreline Public Access.** Support the BCDC requirements which mandate that all new shoreline development designate the water's edge as publicly accessible open space where safety and security are not compromised, and where access can be achieved without interfering with waterfront industrial and maritime uses. Where such conflicts or hazards would result, support the provision of off-site access improvements in lieu of on-site improvements. In such cases, the extent of off-site improvements should be related to the scale of the development being proposed.	✔	✔	
Policy OS-7.3	**Waterfront Appreciation.** Promote a greater appreciation of the Oakland waterfront by preserving and enhancing waterfront views, promoting its educational value, and, exploring new and creative ways to provide public access to the shoreline without interfering with transportation and shipping operations or endangering public safety.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy OS-7.4	**Waterfront Park Enhancement.** Expand and enhance the City's waterfront park areas. Signage and access provisions to existing waterfront parks should be improved. Opportunities for new shoreline parks as depicted in Figure 7 (Shoreline Access) should be pursued as redevelopment along the waterfront occurs. A variety of park environments should be created, including active recreation areas, fishing piers and boating facilities, natural areas, and small "pocket" parks with landscaping and benches, all linked by linear parks or pedestrian paths emphasizing shoreline views and access.	✔	✔	
Policy OS-7.5	**Lateral Access and Links to the Flatlands.** Improve lateral access along the Oakland shoreline and linkages between the shoreline and nearby neighborhoods by creating a "Bay Trail" along the length of the Oakland waterfront. Where an alignment immediately along the waterfront is not possible, site the trail as close to the water as possible, with spur trails leading to the water's edge. In the transitional areas between Jack London Square and High Street, interim alignments may be designated along local streets but the ultimate goal should be an unbroken trail along the water's edge between Jack London Square and Martin Luther King, Jr. Regional Shoreline.	✔	✔	
Objective OS-9	**Landform.** To retain Oakland's natural features and topography wherever possible and recognize their important role in defining the character and image of the city and its neighborhoods.	✔	✔	
Policy OS-9.2	**Use of Natural Features to Define Communities.** Use open space and natural features to define city and neighborhood edges and give communities within Oakland a stronger sense of identity. Maintain and enhance city edges, including the greenbelt on the eastern edge of the city, the shoreline, and San Leandro Creek. Use creeks, parks, and topographical features to help define neighborhood edges and create neighborhood focal points.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy OS-9.3	**Gateway Improvements.** Enhance neighborhood and city identity by maintaining or creating gateways. Maintain view corridors and enhance the sense of arrival at the major entrances to the city, including freeways, BART lines, and the airport entry. Use public art, landscaping, and signage to create stronger City and neighborhood gateways.	✔		
Objective OS-10	**Scenic Resources.** To protect scenic views and improve visual quality.	✔		
Policy OS-10.1	**View Protection.** Protect the character of existing scenic views in Oakland, paying particular attention to: • views of the Oakland Hills from the flatlands; • views of downtown and Lake Merritt; • views of the shoreline; and • panoramic views from Skyline Boulevard, Grizzly Peak Road, and other hillside locations.	✔	✔	
Policy OS-10.2	**Minimizing Adverse Visual Impacts.** Encourage site planning for new development which minimizes adverse visual impacts and takes advantage of opportunities for new vistas and scenic enhancement.	✔		
Objective OS-11	**Civic Open Spaces.** To maintain and develop plazas, pocket parks, pedestrian walkways, and rooftop gardens in Oakland's major activity centers and enhance the appearance of these and other public spaces with landscaping and art.	✔		✔
Policy OS-11.2	**New Civic Open Space.** Create new civic open spaces at BART Stations, in neighborhood commercial areas, on parking garages, and in other areas where high-intensity redevelopment is proposed.	✔		✔
Objective OS-12	**Street Trees.** To "green" Oakland's residential neighborhoods and commercial areas with street trees.	✔	✔	✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy OS-12.1	**Street Tree Selection.** Incorporate a broad and varied range of tree species which is reflected on a city-maintained list of approved trees. Street tree selection should respond to the general environmental conditions at the planting site, including climate and micro-climate, soil types, topography, existing tree planting, maintenance of adequate distance between street trees and other features, the character of existing development, and the size and context of the tree planting area.	✔	✔	✔
Objective CO-1	**Soil Conservation.** To protect and preserve soil as a resource for healthy plant, animal, and human life.	✔	✔	✔
Policy CO-1.1	**Soil Loss in New Development.** Regulate development in a manner which protects soil from degradation and misuse or other activities which significantly reduce its ability to support plant and animal life. Design all construction to ensure that soil is well secured so that unnecessary erosion, siltation of streams, and sedimentation of water bodies does not occur.	✔	✔	✔
Policy CO-1.2	**Soil Contamination Hazards.** Minimize hazards associated with soil contamination through the appropriate storage and disposal of toxic substances, monitoring of dredging activities, and clean-up of contaminated sites. In this regard, require soil testing for development of any site (or dedication of any parkland or community garden) where contamination is suspected due to prior activities on the site.	✔	✔	✔
Objective CO-2	**Land Stability.** To minimize safety hazards, environmental impacts, and aesthetic impacts associated with development on hillsides and in seismic high-risk areas.	✔	✔	✔
Policy CO-2.3	**Development on Filled Soils.** Require development on filled soils to make special provisions to safeguard against subsidence and seismic hazards.	✔	✔	✔
Objective CO-4	**Water Supply.** To maintain a water supply sufficient to meet local needs while minimizing the need to develop new water supply facilities.	✔	✔	✔
Policy CO-4.1	**Water Conservation.** Emphasize water conservation and recycling strategies in efforts to meet future demand.	✔	✔	✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy CO-4.2	**Drought-Tolerant Landscaping.** Require use of drought-tolerant plants to the greatest extent possible and encourage the use of irrigation systems which minimize water consumption.	✔	✔	✔
Policy CO-4.3	**Use of Reclaimed Water.** Promote the use of reclaimed wastewater for irrigating landscape medians, cemeteries, parks, golf courses, and other areas requiring large volumes of non-potable water.	✔	✔	✔
Objective CO-5	**Water Quality.** To minimize the adverse effects of urbanization on Oakland's groundwater, creeks, lakes, and nearshore waters.	✔	✔	
Policy CO-5.2	**Improvements to Groundwater Quality.** Support efforts to improve groundwater quality, including the use of non-toxic herbicides and fertilizers, the enforcement of anti-litter laws, the dean-up of sites contaminated by toxics, and on-going monitoring by the Alameda County Flood Control and Water Conservation District.	✔	✔	✔
Policy CO-5.3	**Control of Urban Runoff.** Employ a broad range of strategies, compatible with the Alameda Countywide Clean Water Program, to: (a) reduce water pollution associated with stormwater runoff; (b) reduce water pollution associated with hazardous spills, runoff from hazardous material areas, improper disposal of household hazardous wastes, illicit dumping, and marina "live-aboards;" and (c) improve water quality in Lake Merritt to enhance the lake's aesthetic, recreational, and ecological functions.	✔	✔	✔
Objective CO-6	**Surface Waters.** To protect the ecology and promote the beneficial uses of Oakland's creeks, lakes, and nearshore waters.	✔	✔	
Policy CO-6.5	**Protection of Bay And Estuary Waters.** Protect the surface waters of the San Francisco Estuary system, including San Francisco Bay, San Leandro Bay, and the Oakland Estuary. Discourage shoreline activities which negatively impact marine life in the water and marshland areas.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy CO-6.6	**Restriction on Bay Fill.** Prohibit bay fill unless there is compelling evidence that its benefits will outweigh the environmental and other costs. In such instances, support compliance with the mitigation requirements of the Bay Conservation and Development Commission and other regulatory agencies.	✔	✔	
Objective CO-8	**Wetlands.** To conserve wetlands so that they may continue to provide habitat for fish and wildlife.		✔	
Policy CO-8.1	**Mitigation of Development Impacts.** Work with federal, state, and regional agencies on an on-going basis to determine mitigation measures for development which could potentially impact wetlands. Strongly discourage development with unmitigable adverse impacts.		✔	
Objective CO-9	**Rare, Endangered, and Threatened Species.** To protect rare, endangered, and threatened species from the impacts of urbanization.	✔	✔	
Policy CO-9.1	**Habitat Protection.** Protect rare, endangered, and threatened species by conserving and enhancing their habitat and requiring mitigation of potential adverse impacts when development occurs within habitat areas.	✔	✔	
Objective CO-11	**Wildlife.** To sustain a healthy wildlife population within the City of Oakland.	✔	✔	✔
Policy CO-11.1	**Protection from Urbanization.** Protect wildlife from the hazards of urbanization, including loss of habitat and predation by domestic animals.	✔		
Objective CO-12	**Air Resources.** To improve air quality in Oakland and the surrounding Bay Region.	✔	✔	✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy CO-12.1	**Land Use Patterns Which Promote Air Quality.** Promote land use patterns and densities which help improve regional air quality conditions by: (a) minimizing dependence on single passenger autos; (b) promoting projects which minimize quick auto starts and stops, such as live-work development, mixed use development, and office development with ground floor retail space; (c) separating land uses which are sensitive to pollution from the sources of air pollution; and (d) supporting telecommuting, flexible work hours, and behavioral changes which reduce the percentage of people in Oakland who must drive to work on a daily basis.	✔	✔	✔
Policy CO-12.2	**Coordinated Transportation Systems.** Maintain a coordinated bus, rail, and ferry transit system which provides efficient service to major destinations and promotes alternatives to the single passenger auto.	✔	✔	✔
Policy CO-12.3	**Transportation Systems Management.** Expand existing transportation systems management and transportation demand management strategies which reduce congestion, vehicle idling, and travel in single passenger autos.	✔	✔	✔
Policy CO-12.4	**Design of Development to Minimize Air Quality Impacts.** Require that development projects be designed in a manner which reduces potential adverse air quality impacts. This may include: • the use of vegetation and landscaping to absorb carbon monoxide and to buffer sensitive receptors; • the use of low-polluting energy sources and energy conservation measures; • designs which encourage transit use and facilitate bicycle and pedestrian travel.	✔	✔	✔
Policy CO-12.5	**Use of Best Available Control Technology.** Require new industry to use best available control technology to remove pollutants, including filtering, washing, or electrostatic treatment of emissions.	✔		

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy CO-12.6	**Control of Dust Emissions.** Require construction, demolition and grading practices which minimize dust emissions.	✔	✔	✔
Policy CO-12.7	**Regional Air Quality Planning.** Coordinate local air quality planning efforts with other agencies, including adjoining cities and counties, and the public agencies responsible for monitoring and improving air quality. Cooperate with regional agencies such as the Bay Area Air Quality Management District (BAAQMD), the Metropolitan Transportation Commission (MTC), the Association of Bay Area Governments (ABAG), and the Alameda County Congestion Management Agency in developing and implementing regional air quality strategies. Continue to work with BAAQMD and the California Air Resources Board in enforcing the provisions of the State and Federal Clean Air Acts, including the monitoring of air pollutants on a regular and on-going basis.	✔	✔	✔
Objective CO-13	**Energy Resources.** To manage Oakland's energy resources as efficiently .as possible, reduce consumption of non-renewable resources, and develop energy resources which reduce dependency on fossil fuels.	✔	✔	✔
Policy CO-13.1	**Reliable Energy Network.** Promote a reliable local energy network which meets future needs and long-term economic development objectives at the lowest practical cost.	✔	✔	
Policy CO-13.2	**Energy Efficiency.** Support public information campaigns, energy audits, the use of energy-saving appliances and vehicles, and other efforts which help Oakland residents, businesses, and City operations become more energy efficient.	✔	✔	✔
Policy CO-13.3	**Construction Methods and Materials.** Encourage the use of energy-efficient construction and building materials. Encourage site plans for new development which maximize energy efficiency.	✔	✔	✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy CO-13.4	**Alternative Energy Sources.** Accommodate the development and use of alternative energy resources, including solar energy and technologies which convert waste or industrial byproducts to energy, provided that such activities are compatible with surrounding land uses and regional air and water quality requirements.	✔	✔	✔
Objective Rec-2	**Park Design and Compatibility of Uses.** To ensure that park are well designed, and that facilities and activities within parks are compatible with each other, the natural environment, historic resources, and the surrounding	✔	✔	✔
Policy Rec-2.3	**Environmentally-Sensitive Design.** Protect sensitive natural areas within parks, including creeks and woodlands, and integrate them into park design. Require new recreational facilities to respect existing park character, be compatible with the natural environment, and achieve a high standard of design quality.	✔	✔	✔
Policy Rec-2.5	**Park Visibility.** Plan and design parks in a way which maximizes their visibility while minimizing conflicts between pedestrians, bicyclists, and automobiles.	✔	✔	
Objective Rec-10	**Funding.** To stabilize existing funding sources, develop new funding sources, and effectively manage park expenses.	✔		
Policy Rec-10.2	**Parkland Dedication And Impact Fee.** To the extent permitted by law, require recreational needs created by future growth to be offset by resources contributed by that growth. In other words, require mandatory land dedication for large scale residential development and establish a park impact fee for smaller-scale residential development, including individual new dwelling units. Calculate the dedication or fee requirement based on a standard of four acres of local-serving parkland per 1,000 residents.	✔		✔
Policy Rec-10.3	**East Bay Regional Park District Benefits**. Work with the East Bay Regional Park District to ensure that Oakland receives an equitable share of benefits from the District, including improved access between Oakland neighborhoods and the hill and shoreline parks.	✔	✔	✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Objective OS-1	**Resource Conservation Areas.** To conserve and appropriately manage undeveloped areas in Oakland which have high natural resource value, scenic value, or natural hazards which preclude safe development.	✔	✔	

4.1H Oakland General Plan Objectives and Policies
Historic Preservation Element

Oakland General Plan Objectives and Policies Relevant to the OARB Redevelopment District
Historic Preservation Element

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Goal 1	To use historic preservation to foster the economic vitality and quality of life in Oakland by: 1. Stressing the positive community attributes expressed by well-maintained older properties 2. Maintaining and enhancing throughout the City the historic character, distinct charm, and special sense of place provided by older properties; 3. Establishing and retaining positive continuity with the past thereby promoting pride, a sense of stability and progress, and positive feelings for the future 4. Stabilizing neighborhoods, enhancing property values, conserving housing stock, increasing public and private economic and financial benefits, and promoting tourist trade and interest through preservation and quality maintenance of significant older properties 5. Preserving and encouraging a city of varied architectural styles and environmental character reflecting the distinct phases of Oakland's cultural, social, ethnic, economic, political, and architectural history; and 6. Enriching the quality of human life in its educational, spiritual, social, and cultural dimensions through continued exposure to tangible reminders of the past.	✔	✔	✔
Goal 2	To preserve, protect, enhance, perpetuate, use, and prevent the unnecessary destruction or impairment of properties or physical features of special character or special historic, cultural, educational, architectural or aesthetic interest or value. Such properties or physical features include buildings, building components, structures, objects, districts, sites, natural features related to human presence, and activities taking place on or within such properties or physical features	✔	✔	✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy 1.1	**Historical and Architectural Inventory.** The City will establish and maintain a Historical and Architectural Inventory which covers all of Oakland. The Inventory will investigate all individual pre-1946 properties and areas throughout the City and will evaluate each property and area according to the table entitled "Historical and Architectural Inventory Rating System." The Inventory will cover the entire City as quickly as possible and an Intensive Survey that will perform detailed research and evaluation. The Reconnaissance Survey will serve as an interim Inventory for properties not yet covered by the Intensive Survey.	✔	✔	✔
Policy 1.2	**Potential Designated Historic Properties.** The City considers any property receiving an existing or contingency rating from the Reconnaissance or Intensive Surveys of "A" (highest importance), "B" (major importance), or "C" secondary importance) and all properties determined by the Surveys to contribute or potentially contribute to an Area of Primary or Secondary Importance to warrant consideration for possible preservation. Unless already designated as Landmarks, Preservation Districts, or Heritage properties pursuant to Policy 1.3, such properties will be called "Potential Designated Historic Properties."	✔	✔	✔
Policy 1.3	**Designated Historic Properties.** The City will designate significant older properties which definitively warrant preservation as Landmarks, Preservation Districts or Heritage Properties. The designations will be based on a combination of Historical and Architectural Inventory Ratings, National Register of Historical Places criteria, and special criteria for Landmarks and Preservation District eligibility. Landmarks, properties which contribute or potentially contribute to Preservation Districts, and Heritage Properties will be called "Designated Historic Properties"	✔	✔	✔
Policy 2.1	**Preservation Incentives and Regulations for Designated Historic Properties.** The City will use a combination of incentives and regulations to encourage preservation of significant older properties and areas which have been designated as Landmarks, Preservation Districts, or Heritage Properties. The regulations will be applied according to the importance of each property, with the more important properties having stronger regulations.	✔	✔	✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy 2.2	**Landmark and Preservation District Eligibility Criteria.** Landmarks and Preservation Districts will be classified according to importance, with three classes of Landmarks and two classes of Preservation Districts. Properties eligible for each of these classifications will be as follows: *Class 1 Landmarks:* Properties rated "A" under the Landmarks Preservation Advisory Board's "Guidelines for Determination of Landmark Eligibility" (the "Guidelines") and which are on or appear eligible for the National Register of Historic Places. *Class 2 Landmarks:* Properties rated "B" under the Guidelines and which are on or appear eligible for the National Register of Historic Places; and properties rated "All under the Guidelines and which are not on and do not appear eligible for the National Register of Historic Places. *Class 3 Landmarks:* Properties rated "B" under the Guidelines and which are not on and do not appear eligible for the National Register of Historic Places. *Class 1 Preservation Districts:* All Areas of Primary Importance identified by the Intensive Survey plus other areas which meet the "Guidelines for Determination of Preservation District Eligibility." *Class 2 Preservation Districts:* All Areas of Secondary Importance identified by the Intensive Survey plus other areas which meet the "Guidelines for Determination for Preservation District Eligibility". The methodology of the Intensive Survey will be used to determine whether properties appear eligible for the National Register of Historic Places.			✔
Policy 2.3	**Landmark and Preservation District Designation Procedure.** (a) Landmarks and Preservation Districts will be treated as zones pursuant to the Oakland Zoning Regulations and will be designated in the same manner as rezonings. Designation of Landmarks and Preservation Districts may be initiated			✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	by the owner(s), the Landmarks Preservation Advisory Board or the City Planning Commission. The City Planning Commission will hold a public hearing and act after either (i) receiving the proposal from the Landmarks Preservation Advisory Board (if initiated by the Board); or (ii) receiving the Board's recommendation on the proposal (if initiated by the owner(s) or Planning Commission). The Planning Commission will forward all recommendations to the City Council which will make the final decision.			
	(b) For purposes of preservation regulations, designation will apply only to property exteriors and to specially-designated interiors.			
	(c) Property owner notification will be required before Landmarks Board, City Planning Commission or City Council action on Landmark or Preservation District designation proposals. Initial Landmarks Board notification will be by both certified and first class mail. If a property owner does not respond to the first notification attempt, the Board, before acting on the designation proposal, will make a second attempt for that owner in the same manner as the first attempt. However, a second attempt will not be required if the Board determines that an emergency exists. An emergency will exist whenever there is significant reason to believe that immediate demolition, removal or alteration is being considered for the property proposed for designation and that such demolition, removal or alteration would adversely affect the property's Character-Defining Elements.			
	(d) If a property owner submits a written Objection to a proposed Landmark designation, the designation will be approved only if the City Council determines either that (i) the objection is without substantial merit or (ii) the proposed Landmark is of exceptional significance. Property owner objections to Preservation District designations will be handled on a case by case basis.			

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy 2.4	**Landmark and Preservation District Regulations.** (a) Demolitions and removals involving Landmarks or Preservation Districts will generally not be permitted or be subject to postponement unless certain findings are made. Demolition or removal of more important Landmarks and of most Preservation District properties will normally not be permitted without the required findings, while demolition or removal of less important Landmarks will be subject only to postponement. (b) Alterations or New Construction involving Landmarks or Preservation Districts will normally be approved if they are found to meet the Secretary of the Interior's Standards for the Treatment or Historic Properties or if certain other findings are made. (c) Findings for approval of demolitions, removals, alterations or New Construction involving Landmarks or Preservation Districts will seek to balance preservation of these properties with other concerns. (d) Specific regulatory provisions are set forth in the tables entitled "Demolition and Removal Regulations for Landmarks and Preservation Districts" and "Alteration and New Construction Regulations for Landmarks and Preservation Districts."			✔
Policy 2.6	Preservation Incentives. Landmarks and all properties contributing or potentially contributing to a Preservation District will be eligible for the following preservation incentives: (a) Mills Act contracts for reducing property tax assessments; (b) State Historical Building Code and other related alternative codes for older buildings such as the Uniform Code for Building Conservation (UCBC), to provide more flexible construction standards;			✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	(c) conservation easements to reduce property tax assessments and, for National Register properties, to obtain income tax deductions;			
	(d) broader range of permitted or conditionally-permitted uses;			
	(e) transferable development rights;			
	(f) priority for economic development and community development project assistance and eligibility for possible historic preservation grants for low-income housing;			
	(g) eligibility for acquisition, rehabilitation, and other development assistance from a possible historic preservation revolving fund or possible Marks historical rehabilitation bond program; and			
	(h) fee waivers or reductions for City permits for demolition, new construction, or alterations. Compatible new development on vacant noncontributing Preservation District parcels will be eligible for Incentives (iv), (v), (vi) and (vii). Heritage Properties will be eligible for incentives (ii), (vi) and (vii).			
Policy 3.1	**Avoid or Minimize Adverse Preservation Impacts Related to Discretionary City Actions.** The City will make all reasonable efforts to avoid or minimize adverse effects on the Character-Defining Elements of existing or Potential Designated Historic Properties which could result from private or public projects requiring discretionary City actions.	✔		✔
Policy 3.3	**Designated Historic Property Status for Certain City-Assisted Properties**. To the extent consistent with other General Plan Goals, Policies and Objectives, as a condition for providing financial assistance to projects involving existing or Potential Designated Historic Properties, the City will require that complete application be made for such properties to receive the highest local designation for which they are eligible prior to issuance of a building permit for the project or transfer of title (for City-owned or controlled properties), whichever comes first.	✔	✔	

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	However, Landmark or Preservation District applications will not be required for projects which are small-scale or do not change exterior appearance.			
Policy 3.4	**City Acquisition for Historic Preservation Where Necessary.** Where all other means of preservation have been exhausted, the City will consider acquiring, by eminent domain if necessary, existing or Potential Designated Historic Properties, or portions thereof, in order to preserve them. Such acquisition may be in fee, as conservation easements, or a combination thereof.			✔
Policy 3.5	**Historic Preservation and Discretionary Permit Approvals.** For additions or alteration to Heritage Properties or Potential Designated Historic Properties requiring discretionary City permits, the City will make a finding that: 1. the design matches or is compatible with, but not necessarily identical to, the property's existing or historical design; or 2. the proposed design comprehensively modifies and is at least equal in quality to the existing design and is compatible with the character of the neighborhood; or 3. the existing design is undistinguished and does not warrant retention and the proposed design is compatible with the character of the neighborhood. For any project involving complete demolition of Heritage Properties or Potential Designated Historic Properties requiring discretionary City permits, the City will make a finding that: 1. the design quality of the proposed project is at least equal to that of the original structure and is compatible with the character of the neighborhood; or 2. the public benefits of the proposed project outweigh the benefits of the proposed project outweigh the benefit of retaining the original structure; or 3. the existing design is undistinguished and does not warrant retention and the proposed design is compatible with the character of the neighborhood.			✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Policy 3.7	**Property Relocation Rather than Demolition as Part of Discretionary Projects.** As a condition of approval for all discretionary projects involving demolition of existing or Potential Designated Historic Properties, the City will normally require that reasonable efforts be made to relocate the properties to an acceptable site.	✔		
Policy 3.8	**Definition of "Local Register of Historical Resources" and Historic Preservation "Significant Effects" for Environmental Review Purposes.** For purposes of environmental review under the California Environmental Quality Act, the following properties will constitute the City of Oakland's Local Register of Historical Resources: 1. All Designated Historic Properties, and 2. Those Potential Designated Historic Properties that have an existing rating of "A" or "B" or are located within an Area of Primary Importance. Until complete implementation of Action 2.1.2 (Redesignation), the Local Register of Historical Resources will also include the following designated properties: Oakland Landmarks, S-7 Preservation Combining Zone properties, and Preservation Study List properties. Complete demolition of a Historical Resource will normally be considered a significant effect that cannot be mitigated to a level less than significant and will, in most cases, require preparation of an Environmental Impact Report A proposed addition or alteration to a Historical Resource that has the potential to disqualify a property from Landmark or Preservation District eligibility or may have substantial adverse effects on the property's Character-Defining Elements will normally, unless adequately mitigated, be considered to have a significant effect. Possible mitigation	✔	✔	✔

[1] This footnote is part of the text and reads: "Per the provisions of the California Environmental Quality Act, determination of whether mitigations are adequate to reduce a significant effect to a Historical Resource to a level less than significant will be determined by the lead agency on a case by case basis."

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood

measures are suggested in Action 3.8.1.

Amend the Regulations to include specific measures that may be considered to mitigate significant effects to a Historical Resource. Measures appropriate to mitigate significant effects to a Historical Resource may include one or more of the following measures depending on the extent of the addition or alteration.[1]

1. Modifications of the project design to avoid adversely affecting the character defining elements of the property.
2. Relocation of the affected Historical Resource to a location consistent with its historical or architectural character.

If the measures are not feasible, then other measures may be considered including, but not limited to the following:

1. Modification of the project design to include restoration of the remaining historic character of the property.
2. Modification of the project design to incorporate or replicate elements of the building's original architectural design.
3. Salvage and preservation of significant features and materials of the structure in a local museum or within the new project.
4. Measures to protect the Historical Resource from effects of on-site or other construction activities.
5. Documentation in a Historic American Buildings Survey report or other appropriate format: photographs, oral history, video, etc.
6. Placement of a plaque, commemorative marker, or artistic or interpretive display on the site providing information on the historical significance of the resource.
7. Contribution to a Facade Improvement Fund, the Historic Preservation Revolving Loan Fund, the Oakland Cultural Heritage Survey, or other program appropriate to the

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	character of the resource.			
Policy 3.9	**Consistency of Zoning With Existing or Eligible Preservation Districts.** (a) Unless necessary to achieve some other Oakland General Plan goal or policy which is greater significance, the base zone of existing or eligible Preservation Districts shall not encourage demolition or removal of a district's contributing or potentially contributing properties nor encourage new construction that is incompatible with these properties. (b) The City will always consider including a historic preservation component in area wide or specific plans. As part of any amendment to the Zoning Regulations, the impact on historic properties will be evaluated.			✔
Policy 3.11	**Historic Preservation and Seismic Retrofit and Other Building Safety Programs.** (a) The City's building safety programs, including seismic retrofit programs, will seek to preserve existing or Potential Designated Historic Properties and their Character-Defining Elements. Where changes to such elements are unavoidable to achieve code compliance or other City-mandated modifications, the City will encourage owners to design the changes in a manner which minimizes visual impacts. (b) Prevailing codes for the City's building safety programs when applied to existing or Potential Designated Historic Properties will be the Oakland Building Code; the Uniform Code for Building Conservation where permitted under state law; and, for qualified historical buildings, the State Historical Building Code.			✔
Policy 3.12	**Historic Preservation and Substandard or Public Nuisance Properties.** Before requiring vacation or demolition, the City will take all reasonable actions to repair or rehabilitate existing or Potential Designated Historic Properties which have been determined to be substandard or public nuisances under the Oakland Dangerous Buildings Code, the Oakland Housing Code, the Blight Ordinance, the Earthquake Repair Ordinance,			✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	or any other City code or ordinance. In cases where such properties are already vacant or an immediate hazard, such repair or rehabilitation will occur expeditiously to prevent further deterioration or to abate the immediate hazard.			

4.1l Oakland General Plan Objectives and Policies Housing Element

Oakland General Plan Objectives and Policies Relevant to the OARB Redevelopment District
Housing Element

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Substandard Housing	The City recognizes that housing is a valuable resource that should be carefully conserved and maintained and will take all necessary steps to prevent damage to the City's occupied or vacant residential property.			✔
Overcrowded Conditions	The City encourages developers to construct a range of housing types, sizes, and prices proportionate to the household size and income characteristics of Oakland's present and projected population			✔
	Recognizing that there may be an impact on Oakland's housing needs generated by new local and regional commercial development, the City shall gather relevant data and make it available to all interested parties, and, acting on that data, facilitate the production of new housing to meet identified needs whenever possible		✔	✔
	The City encourages market-rate housing development and will facilitate such development by providing assistance to developers and by expediting the review and application processing for desirable projects			✔
	To promote the development of below-market rate and other types of housing meeting special identified needs, the City will consider the use of regulatory concessions These concessions might include density bonuses, parking adjustments, waiver of certain development fees, and other similar measures			✔
	The City will cooperate with private housing producers wherever justifiable to reduce the overall cost of housing units			✔
	The City encourages well-designed mixed-use housing and nonresidential projects within the City's commercial zones, particularly in the Central District and on many of the City's major arterials			✔
Low-/Moderate-Income Households	Oakland will take maximum advantage of the full variety of available federal and state housing subsidy programs and will seek out and develop new financial resources for below market-rate housing development	✔	✔	✔

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
	The City will work with private developers to include a reasonable percentage of housing units affordable by low- to moderate-income households within all future developments The City will also use its influence to procure subsidies for these housing units, including the waiver of certain development fees			✔
	Whenever feasible, housing for low- and moderate-income households should be included in all publicly-sponsored redevelopment projects	✔	✔	✔
	At least 20 percent of tax increment funds generated by all City of Oakland redevelopment projects will be appropriated for low- and moderate-income housing	✔	✔	✔
Eliminating Discrimination in Housing	All housing in the City should be available equally to all persons without restrictions based on race, color, ethnicity, religion, sex, age, source of income, arbitrary income criteria, physical disability, national origin, marital status, sexual preference, family size, presence of children, Acquired Immune Deficiency (ADIS), or AIDS-related conditions (ARC)			✔
	The City will take all necessary and appropriate steps to achieve a completely open housing market; the City calls upon all citizens and upon private industry to build, finance, sell, and rent properties without regard to race, color, ethnicity, religion, sex, age, source of income, physical disability, national origin, marital status, arbitrary income criteria, sexual preference, family-size, presence of children, Acquired Immune Deficiency (AIDS), or AIDS-related conditions (ARC)			✔
	Whenever feasible, the City of Oakland, through its regulatory powers, will require that potential residential developers and sponsors prepare affirmative action marketing and management programs to implement federal, state, and local policy regarding open housing			✔
	The City supports State and local laws prohibiting housing discrimination against households with children and will provide support for the enforcement of these laws			✔
	The City supports programs for the removal of architectural barriers in order to make more housing suitable for the disabled			✔

4.1J Oakland General Plan Objectives and Policies
Hazards Element

Oakland General Plan Objectives and Policies Relevant to the OARB Redevelopment District
Hazards Element

Description	Text of Objective, Policy	Applies to Sub-district		
		OARB	Maritime	16th/Wood
Geologic Hazards	Except where adequate corrective measures can feasibly be taken, construction should not occur over known faults or on land subject to landslide, erosion, or flooding. The City will continue to make efforts to obtain more information about such hazardous areas, and will consider the imposition of additional controls on development there.	✔	✔	✔
Seismic Hazards	The City will employ the most current seismic design criteria in the construction of new public buildings. Buildings to accommodate activities and equipment related to public safety, especially police, fire and communication services, should be constructed to ensure continued operation and availability of service after an earthquake.	✔	✔	✔
Fire Hazards	Continue the Fire Department's fire prevention program, including the inspection of existing buildings and the review of proposed development to ensure maximum safety from potential fire hazards.	✔	✔	✔
Flooding Hazards	The City fully supports the Alameda Flood Control and Water Conservation District's program for eliminating flood hazards in the City of Oakland, endorsing the District's policy of balancing the costs of new projects against the potential damage that might result from flooding.	✔	✔	✔
	The City will participate in the Federal Insurance Program to enable property owners who desire and/or need flood insurance to acquire it at reasonable rates.	✔	✔	✔
Safety During Emergencies	The City Council assigns high priority to the maintenance and continual updating of the Emergency Operations Plan to insure that the City will be able to respond effectively in the face of disaster.	✔	✔	✔

Appendix 4.2
Land Use

Relevant City of Oakland General Plan Land Use Classifications

RELEVANT CITY OF OAKLAND LAND USE CLASSIFICATIONS

1. CLASSIFICATIONS THAT APPLY WITHIN THE STUDY AREA

Business Mix

Intent: The Business Mix classification is intended to create, preserve and enhance areas of the City that are appropriate for a wide variety of business and related commercial and industrial establishments. High impact industrial uses including those that have hazardous materials on- site may be allowed provided they are adequately buffered from residential areas. High impact or large scale commercial retail uses should be limited to sites with direct access to the regional transportation system.

Desired Character and Uses: These areas may accommodate a mix of businesses such as light industrial, manufacturing, food processing, commercial, bioscience and biotechnology, research and development, environmental technology, business and health services, air, truck and rail- related transportation services, warehouse and distribution facilities, office, and other uses of similar business character.

Intensity/Density: The maximum FAR for this classification is 4.0. In some business mix locations, zoning should establish lower intensities to establish or maintain campus-Re business settings. In others, uses and development standards should offer maximum flexibility. In areas where higher impact uses are located, buffing strategies will need to be developed.

Policy Framework Basis for the Classification: Industry and Commerce Goals; Industry and Commerce Objectives I/C 1, I/C 2, I/C 3, I/C 4, I/C 5. Waterfront Objectives W6, W7.

General Industry/Transportation

Intent: The General Industry and Transportation classification is intended to recognize, preserve, and enhance areas of the City for a wide variety of businesses and related establishments that may have the potential to create off-site impacts such as noise, light/glare, truck traffic, and odor. These areas are characterized by sites with good freeway, rail, seaport, and/or airport access.

Desired Character and Uses: A wide variety of uses are included, such as heavy industrial and manufacturing uses, transportation, rail yards, maritime terminals, distribution and warehousing, food processing, heavy impact research and development facilities, and other uses of similar or supporting character.

Density/intensity: The maximum overall FAR for this classification is 2.0.

Policy Framework Basis for the Classification: Waterfront Objectives W5, W6, W7; Industry and Commerce Goals; Industry and Commerce Objectives I/C 1, I/C 2, I/C 4, I/C 5. Neighborhood Objective N5; Transportation Objective T1.

Parks and Urban Open Space

Intent: The Urban Park and Open Space classification is intended to identify, enhance and maintain land for parks and open space. Its purpose is to maintain an urban park, schoolyard, and garden system which provides open space for outdoor recreation, psychological and physical well-being, and relief from the urban environment.

Desired Character and Uses: Urban parks, schoolyards, cemeteries, and other active outdoor recreation spaces.

Intensity/Density: The OSCAR generally describes facilities that may be included in urban parks and open spaces, which may include one caretakers dwelling unit per site, if needed. Otherwise, policies call for "no net loss" of open space. Standards for lot coverage win be included in the development of open space zoning.

Policy Framework Basis for the Classification: OSCAR Objective OS 2.

2. CLASSIFICATIONS THAT APPLY WITHIN THE REGION, BUT NOT WITHIN THE STUDY AREA

Mixed Housing Residential

Intent: The Mixed Housing Type Residential classification is intended to create, maintain, and enhance residential areas typically located near the City's major arterials and characterized by a mix of single family homes, townhouses, small multi-unit buildings, and neighborhood businesses where appropriate.

Desired Character and Uses: Future development within this classification should be primarily residential in character, with live-work types of development, small commercial enterprises, schools, and other small scale, compatible civic uses possible in appropriate locations.

Intensity/Density: Development of single family homes, townhouses, and small multi-unit buildings is allowed in this classification. Maximum allowable density in these areas is 30 principal units per gross acre. Within these mixed housing type neighborhoods, there exist areas and pockets of lower density housing which should be preserved through appropriate zoning designations.

Policy Framework Basis for the Classification: Neighborhood Goals; Neighborhood Objectives N2, N3, N6, N7, N8, N10, N11 and related policies. Waterfront Objectives W8, W12, and related policies. Downtown Objectives D1, D10, and related policies.

Urban Residential

Intent: The urban Residential classification is intended to create, maintain, and enhance areas of the City that are appropriate for multi-unit, mid-rise or high-rise residential structures in locations with good access to transportation and other services.

Desired Character and Uses: The Primary future use in this classification is residential. Ed use buildings that house ground floor commercial uses and public facilities of compatible character are also encouraged. If possible, where detached density housing adjoins urban residential the zoning should be structured to create a transition area between the two.

Intensity/ Density: Maximum allowable density in these areas is 125 units per gross acre.

Policy Framework Basis for the Classification: Neighborhood Goals; Neighborhood Objectives NI, N2, N3, N5, N6, N8, N9, N10, N11 and related policies. Waterfront Objectives W8, W12, and related policies. Downtown Objectives D1, D2, D3, D6, D10, D11 and related policies.

Neighborhood Center Mixed Use

Intent: The Neighborhood Center Mixed Use classification is intended to identify, create, maintain and enhance mixed use neighborhood commercial centers. These centers are typically characterized by smaller scale pedestrian-oriented, continuous street frontage with a mix of retail, housing, office, active open space, eating and drinking places, personal and business services, and smaller scale educational, cultural, or entertainment uses.

Desired Character and Uses: Future development within this classification should be commercial or mixed uses that are pedestrian-oriented and serve nearby neighborhoods, or urban residential with ground floor commercial.

Intensity/Density: The maximum FAR for this classification is 4.0. The maximum residential density is 125 units per gross acre. Vertical integration of uses, including, residential units above street-level commercial space, is encouraged.

Policy Framework Basis for the Classification: Neighborhood Goals; Neighborhood Objectives N1, N2, N3, N6, N8, N9, N10, N11, and related policies. Industry and Commerce Goals; Industry and Commerce Objectives I/C1, I/C2, and I/C3. Transportation Objectives T2, T6.

Community Commercial

Intent: The Community Commercial classification is intended to identify, create, maintain, and enhance areas suitable for a wide variety of commercial and institutional operations along the City's major corridors and in shopping districts or centers.

Desired Character and Uses: Community Commercial areas may include neighborhood center uses and larger scale retail and commercial uses, such as auto related businesses, business and personal services, health services and medical uses, educational facilities, and entertainment uses. Community Commercial areas can be complemented by the addition of urban residential development and compatible mixed use development.

Intensity/Density: The maximum FAR for this classification is 5.0. Maximum residential density is 125 units per gross acre.

Policy Framework Basis for the Classification: Neighborhood Goals; Neighborhood Objectives N1, N2, N3, N6, N8, N9, N10, N11, and related policies. Industry and Commerce Goals; Industry and Commerce Objectives I/C 1, I/C 2, and I/C 3, I/C 5. Transportation Objective T2.

Housing and Business Mix

Intent: The classification recognizes the equal importance of both housing and business. This classification is intended to guide a transition from heavy industry to low impact light industrial and other businesses that can co-exist compatibly with residential development. Respect for environmental quality, coupled with opportunities for additional housing and neighborhood-friendly businesses is desired, as well as the transition from industry that generates impacts detrimental to residences.

Desired Character and Uses: Future business development within this classification should be compatible with housing, and development should recognize the mixed business nature of the area. Development of site specific buffers are essential as are specific conditions under which business and housing will coexist. This classification allows mixed housing type destiny housing, "live-work", low impact light industrial, commercial, and service businesses, and compatible community facilities.

Intensity/Density: The maximum residential density is 30 principal units per gross acre. The maximum non-residential FAR is 3.0.

Policy Framework Basis for the Classification: Neighborhood Goals; Neighborhood Objectives N1, N2, N3, N5, N6, N9, N10 and related policies; Industry and Commerce Objectives I/C 1, I/C 2, I/C 4 and related policies.

Regional Commercial

Intent: The Regional Commercial classification is intended to maintain, support and create areas of the City that serve as region-drawing centers of activity.

Desired Character and Uses: A mix of commercial, office, entertainment, arts, recreation, sports, and visitor serving activities, residential, mixed use development and other uses of similar character or supportive of regional drawing power.

Intensity/Density: The maximum FAR for this classification is 4.0. Maximum residential density is 125 units per gross acre, in a mixed use project.

Policy Framework Basis for the Classification: Industry and Commerce Goals; Industry and Commerce Objectives I/C 1, I/C 2, I/C 3. Neighborhood Objective N1.

Institutional

Intent: The Institutional classification is intended to create, maintain, and enhance areas appropriate for educational facilities, cultural and institutional uses, health services and medical uses as well as other uses of similar character.

Desired Character of the Area: Future uses include educational and cultural facilities, institutions, health services, and medical facilities. Under certain conditions, mixed use housing and commercial development that supports these institutional areas may be allowed.

Intensity/Density: The maximum FAR for this classification is 8.0. Appropriate development standards that reflect the nature of the institutional facility and contain appropriate standards to address edge conditions adjacent to residential areas, and the need for expansion space, are all important factors that will be addressed by zoning.

Policy Framework Basis for the Classification: Neighborhood Objective N2, N5, N11, Industry and Commerce Objective I /C1.

Resource Conservation

Intent: The Resource Conservation classification is intended to identify, enhance and maintain publicly-owned lands for the purpose of conserving and appropriately managing undeveloped areas which have high natural resource value, scenic value, or natural hazards which preclude safe development.

Desired Character and Uses: Future development within this classification is extremely limited, and must relate to the conservation and management of natural resources, public open space, and natural hazards.

Intensity/ Density: Buildings are not permitted in Resource Conservation areas except as required to facilitate the maintenance of conservation areas.

Policy Framework Basis for the Classification: OSCAR Objective OS 1.

Appendix 4.3
Transportation and Traffic

4.3A Traffic Level of Service Definitions

4.3B Assumptions for the Port of Oakland

4.3C Freeway Levels of Service

4.3D CMP Analysis

4.3A Traffic Level of Service Definitions

Traffic Level of Service Definitions			
		Average Delay (Seconds per Vehicle)	
LOS	**Description**	**Signalized Intersections**	**Unsignalized Intersections**
A	Operations with very low delay. This level of service occurs at signalized intersections when progression is extremely favorable and most vehicles arrive during the green phase. Most vehicles do not stop at all.	10	10
B	At signalized intersections, this level generally occurs with good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay.	>10 and ≤20	>10 and ≤15
C	At signalized intersections, higher delays may result from fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear at this level. The number of vehicles stopping is considerable at this level, though many still pass through the intersection without stopping.	>20 and ≤35	>15 and ≤25
D	At level D, the influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable.	>35 and ≤55	>25 and ≤35
E	This level is considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent.	>55 and ≤80	>35 and ≤50
F	This level, considered to be unacceptable to most drivers, often occurs with over-saturation; that is, when arrival flow rates exceed the capacity of the intersection.	>80	>50

Source: Transportation Reseacch Board 1998

4.3B Assumptions for the Port of Oakland

Oakland Army Base EIR

Marine Terminal Acres

Zone / Terminal	Existing	Approved New	Total Approved	Planned	Total Proposed
1 & 2 Berths 57-58	0	248	248	67	315
3 Middle Harbor	79	0	79	42	121
4 7th St. Harbor	162	43	205	15	220
5 Outer Harbor	205	12	217	9	226
6 Berth 21	0	0	0	69	69
Subtotal	446	303	749	202	951
Inner Harbor Area	49	0	49	0	49
Total	495	303	798	202	1000

Oakland Army Base EIR

Rail Terminal Track Feet (Intermodal Only)

Zone / Terminal	Existing	Approved New	Total Approved	Planned	Total Proposed
9 Approved J.I.T.	0	31,700	31,700	-31,700	0
7 Proposed J.I.T.	0	0	0	28,700	28,700
J.I.T.	0	31,700	31,700	-3,000	28,700
8 W. Oakland Yard	22,250	0	22,250	0	22,250
Total	22,250	31,700	53,950	-3,000	50,950

Oakland Army Base EIR
Marine / Rail Traffic Assumptions

Marine / Rail Factors

Parameter	Assumptions		Comment
	Marine	Rail	
Weeks of operation per year	52	52	
Days of operation per week	5	7	
Peak Week / Average Week	1.25	1.19	
Peak Weekday/Avg. Day of Week	1	1.33	Rail peak factor accounts for slow weekends.
Gate Moves / Lift	1.33	1.52	
Truck Trips / Gate Move - Total	Varies	1.6	
Over-the-Road	1.65		
Intermodal	1.9		

Oakland Army Base EIR
Rail Background Data

Peak / Average Activity Factor (1)

	Total
	32
Peak	27
Average Factor	1.19

Peak Day / Average Day Factor Calculation Based On Rail Terminal Gate Transactions (2)

	Railroad		Total
Day	SP	UP	
	950	800	1,750
Mon	950	970	1,920
Tue	950	900	1,850
Wed	950	800	1,750
Thu	950	500	1,450
Fri	250	700	950
Sat	200	250	450
Sun	5,200	4,920	10,120
Total	743	703	1,446
Average	950	970	1,920
Maximum Factor	1.28	1.38	1.33

(1) Provided by Nolte and Associates.

(2) Joint Intermodal Terminal Operating Plan, Summit/Lynch consulting Engineers, et. al., Feb. 1995.

Oakland Army Base EIR
Marine Traffic - 2020 Unconstrained

Annual Lifts (Containers)

Zone / Terminal	Project Scenario	
	Total Approved	Total Proposed
1 & 2 Berths 57-58	635,245	723,975
3 Middle Harbor	202,356	278,098
4 7th St. Harbor	525,102	505,633
5 Outer Harbor	555,840	519,423
6 Berth 21	0	158,585
Total	1,918,543	2,185,714

Intermodal Percentage of Total Containers

Zone / Terminal	Project Scenario	
	Total Approved	Total Proposed
All Marine Terminals	49.0%	49.0%

Weekday Truck Trips - Over-the-Road

Zone / Terminal	Project Scenario	
	Total Approved	Total Proposed
1 & 2 Berths 57-58	3,418	3,896
3 Middle Harbor	1,089	1,496
4 7th St. Harbor	2,825	2,721
5 Outer Harbor	2,991	2,795
6 Berth 21	0	853
Total	10,323	11,761

Weekday Truck Trips - Intermodal

Zone / Terminal	Project Scenario	
	Total Approved	Total Proposed
1 & 2 Berths 57-58	3,782	4,310
3 Middle Harbor	1,205	1,656
4 7th St. Harbor	3,126	3,010
5 Outer Harbor	3,309	3,092
6 Berth 21	0	944
Total	11,421	13,012

Weekday Truck Trips - Total

Zone / Terminal	Project Scenario	
	Total Approved	Total Proposed
1 & 2 Berths 57-58	7,200	8,205
3 Middle Harbor	2,293	3,152
4 7th St. Harbor	5,951	5,731
5 Outer Harbor	6,300	5,887
6 Berth 21	0	1,797
Total	21,744	24,772

Oakland Army Base EIR
Rail Traffic Capacity

Annual Lifts - Sustainable

Zone / Terminal	Project Scenario	
	Total Approved	Total Proposed
J.I.T.	865,000	780,000
8 W. Oakland Yard	395,000	395,000
Total	1,260,000	1,175,000

Annual Lifts - Constrained

Zone / Terminal	Project Scenario	
	Total Approved	Total Proposed
J.I.T.	1,038,000	936,000
8 W. Oakland Yard	474,000	474,000
Total	1,512,000	1,410,000

Annual Lifts - Gridlocked

Zone / Terminal	Project Scenario	
	Total Approved	Total Proposed
J.I.T.	1,245,600	1,123,200
8 W. Oakland Yard	568,800	568,800
Total	1,814,400	1,692,000

Oakland Army Base EIR
Traffic at the Port of Oakland

Annual Lifts - Marine Terminals

Scenario	Marine Terminal Container Throughput										Containers Diverted To Other Ports [3]
	Total Demand	Intermodal				Other (over-the-road)	Total Constrained Throughput	Excess Container Demand	W. O. Yard Additional Absorbtion [2]	Richmond Additional Absorbtion	
		Unconstrained		Constrained[1]							
		Percent	Number	Percent	Number						
Total Approved	1,918,543	49.0%	940,086	47.3%	879,000	978,457	1,857,457	61,086	61,086	0	0
Total Proposed	2,185,714	49.0%	1,071,000	44.1%	879,000	1,114,714	1,993,714	192,000	192,000	0	0

Annual Lifts - Railyards (Constrained[1])

Scenario	Rail Intermodal Throughput						Total	Surplus Capacity [5]	W.O. Yard Potential Additional Capacity [2]	Richmond Potential Additional Capacity [2]
	Capacity	Operating Efficiency	Intermodal (Constrained)		Other (domestic & trailers)					
			Number	Percent	Number [4]	Percent				
Total Approved	1,410,000	Constrained	879,000	62%	531,000	38%	1,410,000	0	302,241	62,700
Total Proposed	1,410,000	Constrained	879,000	62%	531,000	38%	1,410,000	0	302,241	62,700

Weekday Truck Trips (Constrained[1])

Scenario	Marine Terminals				Rail Intermodal Terminals				
	Total	Intermodal [1]		Other (over-the-road)	Total	Intermodal		Other (domestic & trailers)	
		Number	Percent			Number	Percent	Number	Percent
Total Approved	21,744	11,421	53%	10,323	14,828	11,421	77%	5,239	35%
Total Proposed	24,772	13,012	53%	11,761	18,251	13,012	71%	5,239	29%

(1) Intermodal traffic would be constrained by limited rail lift capacity at the Port of Oakland.
(2) Assumes West Oakland Yard would be able to operate at the same efficiency as the JIT.
(3) Assumes the excess container demand that could not be absorbed into local railyards would be diverted to other Ports.
(4) Domestic and trailer demand at the railyards would be 531,000 (Summit Lynch 1995).
(5) The surplus capacity for each alternative shows the number of additional lifts that could be accommodated at the indicated operating efficiency level.

Oakland Army Base EIR
Marine Employees

2020

Zone / Terminal	Project Scenario			
	Existing	Total Approved	Total Proposed	New Employees
1 & 2 Berths 57-58	0	678	861	183
3 Middle Harbor	216	216	331	115
4 7th St. Harbor	442	560	601	41
5 Outer Harbor	560	593	618	25
6 Berth 21	0	0	189	189
Total	1,218	2,047	2,599	552

Note: 1996 employees per acre = 2.73
2020 employees per acre = 2.73

Oakland Army Base EIR
Rail Employees

2020

Zone / Terminal	Project Scenario			
	Existing	Total Approved	Total Proposed	New Employees
7 J.I.T.	0	208	188	-20
8 W. Oakland Yard	120	146	146	0
Total	120	354	334	-20

Note: 1996 employees per thousand track feet = 5.37
2020 employees per thousand track feet = 6.56

Source: Existing and future employment from Rail Terminal Traffic Analysis, Appendix J.3 (U.S. Navy and Port of Oakland 1997)

Oakland Army Base EIR
Hourly Traffic Proportion of Daily Traffic

Period	Cars		Trucks to Rail Terminals		Trucks to Marine Terminals				
	Enter	Exit	Enter	Exit	Enter	Exit			
0:00	0.2%	0.5%	0.3%	0.1%					
1:00	0.3%	0.2%	0.3%	0.1%					
2:00	0.4%	0.3%	0.3%	0.1%					
3:00	0.2%	0.3%	0.1%	0.1%					
4:00	0.4%	0.2%	0.4%	0.1%					
5:00	2.8%	0.5%	0.9%	0.4%					
6:00	7.8%	1.0%	2.9%	0.5%					
7:00	7.9%	1.8%	4.5%	1.2%	3.1%	0.0%		161	0
8:00	3.7%	1.7%	4.6%	3.1%	4.8%	5.1%	AM Peak Analysis Period	252	268
9:00	2.8%	1.9%	4.9%	4.6%	7.1%	8.7%		370	453
10:00	2.5%	2.5%	5.0%	3.9%	5.8%	6.4%		303	337
11:00	2.5%	4.8%	5.0%	5.1%	7.3%	6.6%	Truck Peak Period	382	343
12:00	4.7%	3.7%	4.6%	2.1%	3.0%	5.2%		158	270
13:00	3.2%	2.6%	4.7%	4.3%	7.2%	5.1%		376	267
14:00	2.7%	3.6%	4.6%	4.5%	5.5%	6.4%		288	332
15:00	2.2%	5.9%	3.7%	3.7%	3.9%	4.7%		206	247
16:00	1.6%	5.9%	2.8%	4.9%	1.1%	2.5%	PM Peak Analysis Period	55	130
17:00	1.4%	4.7%	1.2%	2.3%	0.0%	0.5%		0	27
18:00	0.9%	2.0%	0.9%	0.8%					
19:00	0.5%	1.3%	1.1%	1.0%					
20:00	0.6%	1.1%	0.7%	0.7%					
21:00	0.6%	0.7%	0.7%	0.8%					
22:00	0.9%	0.9%	0.5%	0.3%					
23:00	0.6%	0.8%	0.3%	0.4%					
TOTAL	51.2%	48.8%	54.7%	45.3%	48.8%	51.2%			

Sources: Auto/rail truck percentages from traffic counts taken on Middle Harbor Road south of 3rd Street (Wiltec 1996)
Truck percentages from Marine Terminal Traffic Analysis, Appendix J.2 (U.S. Navy and Port of Oakland 1997)

Oakland Army Base EIR
Truck Trip Generation
(in passenger car equivalents: 1 truck = 2 cars)

Approved Port Development - 2020

AM Peak Hour

Zone / Description	Intermodal				Over-the-Road			Total Trips
	Number of Trips			Distribu-	Number of Trips			
	Inbound	Outbound	Total	tion	Inbound	Outbound	Total	
Marine								
1 & 2 Berths 57-58	365	388	753	33.1%	330	351	680	1433
3 Middle Harbor	116	124	240	10.5%	105	112	217	456
4 7th St. Harbor	302	321	622	27.4%	273	290	562	1185
5 Outer Harbor	319	339	659	29.0%	288	307	595	1254
6 Berth 21	0	0	0	0.0%	0	0	0	0
Subtotal	1,102	1,172	2,273	100.0%	996	1,059	2,055	4,328
Rail								
9 Approved J.I.T.	804	756	1,561	68.7%	331	223	554	2115
8 W. Oakland Yard	367	345	713	31.3%	151	102	253	966
Subtotal	1,172	1,102	2,273	100.0%	482	325	807	3,080
Total	2,273	2,273	4,547		1,478	1,384	2,862	7,408

PM Peak Hour

Zone / Description	Intermodal				Over-the-Road			Total Trips
	Number of Trips			Distribu-	Number of Trips			
	Inbound	Outbound	Total	tion	Inbound	Outbound	Total	
Marine								
1 & 2 Berths 57-58	80	188	268	11.8%	72	170	242	510
3 Middle Harbor	25	60	85	3.8%	23	54	77	162
4 7th St. Harbor	66	156	221	9.7%	59	141	200	421
5 Outer Harbor	70	165	234	10.3%	63	149	212	446
6 Berth 21	0	0	0	0.0%	0	0	0	0
Subtotal	240	568	809	35.6%	217	514	731	1,540
Rail								
9 Approved J.I.T.	804	756	1,561	68.7%	201	352	554	2115
8 W. Oakland Yard	367	345	713	31.3%	92	161	253	966
Subtotal	1,172	1,102	2,273	100.0%	293	513	807	3,080
Total	1,412	1,670	3,082		511	1,027	1,538	4,620

Oakland Army Base EIR
Truck Trip Generation
(in passenger car equivalents: 1 truck = 2 cars)

Proposed Port Development - 2020

AM Peak Hour

Zone / Description	Intermodal				Over-the-Road			Total Trips
	Number of Trips			Distribu-tion	Number of Trips			
	Inbound	Outbound	Total		Inbound	Outbound	Total	
Marine								
1 & 2 Berths 57-58	416	442	858	33.1%	376	400	775	1633
3 Middle Harbor	160	170	330	12.7%	144	154	298	627
4 7th St. Harbor	290	309	599	23.1%	262	279	542	1141
5 Outer Harbor	298	317	615	23.8%	270	287	556	1172
6 Berth 21	91	97	188	7.3%	82	88	170	358
Subtotal	1,255	1,335	2,590	100.0%	1,134	1,206	2,341	4,931
Rail								
7 Proposed J.I.T.	886	833	1,719	66.4%	320	216	536	2255
8 W. Oakland Yard	449	422	871	33.6%	162	109	271	1142
Subtotal	1,335	1,255	2,590	100.0%	482	325	807	3,397
Total	2,590	2,590	5,180		1,616	1,531	3,148	8,327

PM Peak Hour

Zone / Description	Intermodal				Over-the-Road			Total Trips
	Number of Trips			Distribu-tion	Number of Trips			
	Inbound	Outbound	Total		Inbound	Outbound	Total	
Marine								
1 & 2 Berths 57-58	91	214	305	33.1%	82	194	276	581
3 Middle Harbor	35	82	117	12.7%	32	74	106	223
4 7th St. Harbor	63	150	213	23.1%	57	135	193	406
5 Outer Harbor	65	154	219	23.8%	59	139	198	417
6 Berth 21	20	47	67	7.3%	18	42	60	127
Subtotal	274	647	921	100.0%	248	585	833	1,754
Rail								
7 Proposed J.I.T.	430	182	612	66.4%	195	341	536	1147
8 W. Oakland Yard	218	92	310	33.6%	99	173	271	581
Subtotal	647	274	921	100.0%	293	513	807	1,728
Total	921	921	1,843		541	1,099	1,640	3,482

Oakland Army Base EIR
Train Traffic at the Port of Oakland

Number of Trains Served At the Port of Oakland

Scenario	Annual Railyard Lifts	Number of Daily Trains Served [1]
Total Approved	1,471,086	23.4
Total Proposed	1,602,000	25.4

(1) One 6,000-foot train per day would be required to serve 63,000 annual lifts.
(2) The number of trains that could be served would be constrained by limited lift capacity at the West Oakland Rail Yard.

4.3C Freeway Levels of Service

Oakland Army Base Area Redevelopment Plan EIR
Existing Level of Service Summary for Freeway Segments

Freeway Segment	1995 Baseline				Existing Plus Project Conditions				Lanes	1995 Baseline Traffic Volume		Project Traffic (in PCEs)		Significant?	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour								
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C		AM	PM	AM	PM	AM	PM
I-80 at the Bay Bridge															
Eastbound	C	0.639	F	1.236	C	0.687	F	1.248	5	5,813	11,252	436	103		
Westbound	F	1.201	D	0.818	F	1.213	D	0.865	5	10,929	7,448	105	421		
I-80 between I-880 and I-580															
Eastbound	B	0.430	D	0.833	B	0.446	D	0.919	5	3,917	7,581	144	785		
Westbound	D	0.809	C	0.551	D	0.900	C	0.571	5	7,364	5,019	823	174		
I-80 East of I-80/I-580 Split															
Eastbound	C	0.632	F	1.223	C	0.655	F	1.310	5	5,751	11,131	213	830		Yes
Westbound	F	1.188	D	0.810	F	1.282	D	0.832	5	10,813	7,369	855	204	Yes	
I-880 Connector to I-80 East															
Northbound	D	0.779	D	0.860	D	0.838	F	1.088	2	2,837	3,131	213	831		Yes
Southbound	C	0.668	C	0.571	D	0.903	C	0.627	2	2,433	2,080	855	204		
I-880 Connector to I-80 West															
Northbound	B	0.467	B	0.480	B	0.536	D	0.811	2	1,700	1,746	5	6		
Southbound	A	0.295	B	0.495	C	0.641	C	0.571	2	1,074	1,801	9	4		
I-880 North of 7th St.															
Northbound	B	0.522	C	0.704	B	0.525	C	0.707	3	2,849	3,844	16	18		
Southbound	B	0.460	C	0.743	B	0.465	C	0.744	3	2,513	4,056	25	7		
I-880 South of 7th St.															
Northbound	D	0.857	C	0.770	F	1.021	D	0.812	3	4,679	4,203	898	231	Yes	
Southbound	B	0.497	D	0.879	C	0.548	F	1.036	3	2,715	4,797	277	860		Yes
I-880 North of I-980															
Northbound	D	0.888	C	0.697	F	1.049	C	0.736	3	4,846	3,805	882	213	Yes	
Southbound	B	0.404	D	0.805	B	0.445	E	0.932	3	2,208	4,395	224	694		
I-880 South of I-980															
Northbound	F	1.055	F	1.000	F	1.169	F	1.029	4	7,680	7,282	830	209	Yes	
Southbound	C	0.682	D	0.909	C	0.723	F	1.017	4	4,967	6,618	293	784		Yes
I-880 North of I-238															
Northbound	F	1.002	F	1.115	F	1.087	F	1.137	4	7,295	8,120	620	157	Yes	
Southbound	F	1.079	F	1.014	F	1.111	F	1.094	4	7,856	7,380	232	582	Yes	Yes
I-880 South of I-238															
Northbound	E	0.940	F	1.124	F	1.020	F	1.144	4	6,842	8,185	580	145	Yes	
Southbound	F	1.230	F	1.074	F	1.252	F	1.150	4	8,940	7,815	178	556		Yes
I-238															
Eastbound	B	0.507	D	0.877	B	0.517	D	0.882	3	2,771	4,788	54	26		
Westbound	D	0.848	B	0.366	D	0.855	B	0.369	3	4,629	2,001	40	12		

Existing Level of Service Summary for Freeway Segments

Freeway Segment	1995 Baseline				Existing Plus Project Conditions				Lanes	1995 Baseline Traffic Volume		Project Traffic (in PCEs)		Significant?	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour								
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C		AM	PM	AM	PM	AM	PM
I-580 East of I-238															
Eastbound	C	0.551	E	0.953	C	0.557	E	0.956	5	5,017	8,670	54	26		
Westbound	D	0.921	B	0.398	D	0.926	B	0.399	5	8,383	3,623	40	12		
I-580 West of I-238															
Eastbound	C	0.688	D	0.835	C	0.694	D	0.869	4	5,008	6,078	44	249		
Westbound	C	0.750	C	0.745	D	0.785	C	0.753	4	5,458	5,422	256	56		
I-580 East of I-980/SH-24															
Eastbound	D	0.837	F	1.165	D	0.854	F	1.257	4	6,091	8,482	124	671		Yes
Westbound	F	1.016	D	0.909	F	1.112	E	0.930	4	7,399	6,618	693	153	Yes	
I-580 West of I-980/SH-24															
Eastbound	D	0.844	F	1.195	D	0.860	F	1.281	5	7,682	10,873	144	785		Yes
Westbound	F	1.140	E	0.992	F	1.230	F	1.011	5	10,373	9,027	822	174	Yes	Yes
I-980															
Eastbound	B	0.384	D	0.806	B	0.386	D	0.809	4	2,792	5,866	15	26		
Westbound	D	0.796	B	0.389	D	0.800	B	0.391	4	5,792	2,834	30	11		
SH 24 East of I-580															
Eastbound	B	0.379	E	0.987	B	0.395	F	1.058	4	2,758	7,184	118	515		Yes
Westbound	F	1.022	B	0.442	F	1.094	B	0.459	4	7,437	3,216	528	127	Yes	

Note: PCEs are passenger car equivalents (1 truck = 2 passenger car equivalents).

Source: Dowling Associates, Inc.

Freeway Capacity Source: 1985 Highway Capacity Manual

Ideal Freeway Capacity =	2000 (p. 3-8)
Percent Trucks =	10.0%
Actual Capacity / Ideal Capacity =	91%
Adjusted Freeway Capacity =	1820

V/C	LOS
0.350	A
0.540	B
0.770	C
0.930	D
1.000	E

Oakland Army Base Area Redevelopment Plan EIR
2025 Level of Service Summary for Freeway Segments

Freeway Segment	No Action Alternative				Cumulative Conditions				Lanes	Cumulative Traffic Volume		Project Traffic (in PCEs)		Significant?	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour								
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C		AM	PM	AM	PM	AM	PM
I-80 at the Bay Bridge															
Eastbound	D	0.864	F	1.353	D	0.912	F	1.365	5	8,295	12,419	436	103		
Westbound	F	1.321	F	1.227	F	1.333	F	1.274	5	12,127	11,589	105	421		Yes
I-80 between I-880 and I-580															
Eastbound	C	0.630	E	0.947	C	0.646	F	1.033	5	5,880	9,403	144	785		Yes
Westbound	F	1.016	D	0.873	F	1.107	D	0.892	5	10,070	8,116	823	174	Yes	
I-80 East of I-80/I-580 Split															
Eastbound	E	0.966	F	1.118	E	0.989	F	1.209	5	9,004	11,000	213	830		Yes
Westbound	F	1.025	E	0.994	F	1.119	F	1.016	5	10,187	9,249	855	204	Yes	Yes
I-880 Connector to I-80 East															
Northbound	D	0.827	C	0.716	D	0.885	E	0.944	2	3,222	3,437	213	831		
Southbound	C	0.541	C	0.561	D	0.776	C	0.617	2	2,823	2,246	855	204		
I-880 Connector to I-80 West															
Northbound	B	0.454	A	0.193	B	0.523	B	0.524	2	1,902	1,907	5	6		
Southbound	A	0.003	B	0.448	A	0.348	B	0.524	2	1,268	1,906	9	4		
I-880 North of 7th St.															
Northbound	C	0.547	C	0.734	C	0.550	C	0.737	3	3,004	4,023	16	18		
Southbound	B	0.485	C	0.769	B	0.489	D	0.771	3	2,672	4,207	25	7		
I-880 South of 7th St.															
Northbound	D	0.778	C	0.757	E	0.943	D	0.799	3	5,147	4,362	898	231		
Southbound	B	0.536	D	0.773	C	0.586	E	0.931	3	3,202	5,081	277	860		
I-880 North of I-980															
Northbound	E	0.954	C	0.768	F	1.116	D	0.807	3	6,092	4,405	882	213	Yes	
Southbound	B	0.537	D	0.847	C	0.578	E	0.974	3	3,156	5,319	224	694		
I-880 South of I-980															
Northbound	F	1.162	F	1.111	F	1.276	F	1.139	4	9,289	8,294	830	209	Yes	
Southbound	D	0.820	E	0.971	D	0.860	F	1.079	4	6,261	7,852	293	784		Yes
I-880 North of I-238															
Northbound	F	1.175	F	1.103	F	1.260	F	1.125	4	9,175	8,189	620	157	Yes	
Southbound	F	1.145	F	1.306	F	1.177	F	1.386	4	8,567	10,090	232	582	Yes	Yes
I-880 South of I-238															
Northbound	F	1.038	F	1.271	F	1.117	F	1.291	4	8,135	9,399	580	145	Yes	
Southbound	F	1.417	F	1.176	F	1.441	F	1.252	4	10,491	9,114	178	556		Yes
I-238															
Eastbound	C	0.601	E	0.976	C	0.611	E	0.981	3	3,336	5,356	54	26		
Westbound	F	1.077	C	0.696	F	1.084	C	0.698	3	5,918	3,810	40	12		

2025 Level of Service Summary for Freeway Segments

Freeway Segment	No Action Alternative				Cumulative Conditions				Lanes	Cumulative Traffic Volume		Project Traffic (in PCEs)		Significant?	
	AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour								
	LOS	V/C	LOS	V/C	LOS	V/C	LOS	V/C		AM	PM	AM	PM	AM	PM
I-580 East of I-238															
Eastbound	C	0.706	F	1.004	C	0.712	F	1.007	5	6,478	9,161	54	26		
Westbound	F	1.029	C	0.733	F	1.033	C	0.734	5	9,404	6,682	40	12		
I-580 West of I-238															
Eastbound	E	0.957	F	1.043	E	0.963	F	1.077	4	7,010	7,844	44	249		Yes
Westbound	D	0.848	D	0.909	D	0.883	D	0.917	4	6,427	6,677	256	56		
I-580 East of I-980/SH-24															
Eastbound	C	0.588	F	1.168	C	0.605	F	1.260	4	4,407	9,171	124	671		Yes
Westbound	F	1.063	D	0.774	F	1.159	D	0.795	4	8,435	5,787	693	153	Yes	
I-580 West of I-980/SH-24															
Eastbound	C	0.742	E	0.985	C	0.758	F	1.071	5	6,896	9,749	144	785		Yes
Westbound	E	0.932	D	0.870	F	1.023	D	0.889	5	9,307	8,090	822	174	Yes	
I-980															
Eastbound	B	0.419	D	0.878	B	0.421	D	0.881	4	3,065	6,415	15	26		
Westbound	D	0.867	B	0.424	D	0.871	B	0.426	4	6,340	3,099	30	11		
SH 24 East of I-580															
Eastbound	C	0.546	F	1.001	C	0.562	F	1.072	4	4,094	7,803	118	515		Yes
Westbound	F	1.005	C	0.596	F	1.077	C	0.614	4	7,843	4,467	528	127	Yes	

Note: PCEs are passenger car equivalents (1 truck = 2 passenger car equivalents).

Source: Dowling Associates, Inc.

Freeway Capacity Source: 1985 Highway Capacity Manual

Ideal Freeway Capacity =	2000 (p. 3-8)
Percent Trucks =	10.0%
Actual Capacity / Ideal Capacity =	91%
Adjusted Freeway Capacity =	1820

V/C	LOS
0.350	A
0.540	B
0.770	C
0.930	D
1.000	E

4.3D CMP Analysis

CMP Analysis for Oakland Army Base Redevelopment EIR

Alameda County Congestion Management Agency Analysis
Significance Criteria

The project roadway impacts were considered significant if the addition of Oakland Army Base (OARB) Project traffic would result in a level of service (LOS) value worse than LOS E, except where the roadway link was already at LOS F under no project conditions. For those locations where this Baseline condition is LOS F, the project impacts were considered significant if the contribution of project traffic is at least three percent (3%) of the total traffic. This criterion has been included to address impacts along roadway segments currently operating under unacceptable levels and was developed based on professional judgment using a "reasonableness test" of daily fluctuations of traffic. Also a change of "volume to capacity" (V/C) ratio of 3% has been found to be the threshold for which a perceived change in congestion is observed (the V/C ratio is calculated by comparing the peak hour link volume to the peak hour capacity of the road link). This change is equivalent to about one-half of the change from one level of service to the next.

Level of service (LOS) is a measure of the traffic characteristics of a road segment under different traffic conditions, and is assigned a letter from "A" to "F", with LOS A representing uncongested, high speed and minimum delay, conditions, while LOS F represents highly unstable congested conditions with low speeds and high delay.

This CMP analysis focuses on roadway links on MTS and CMP highway segments and transit corridors, and does not extend to intersections. This is consistent with the guidelines of the 2001 Congestion Management Program.

Congestion Management Program Land Use Analysis

Since the proposed project for the OARB would generate more than 100 peak hour trips, the impacts of the proposed project on the regional transportation system were assessed using the Alameda County Congestion Management Agency (ACCMA) Countywide Travel Demand Model. The impact analysis for roadways includes all MTS roadways and CMP-designated roadways, plus several local MTS roadways in the project vicinity.

The traffic forecasts were based on the most recent version (during the period when the comments on the NOP were issued) of the Countywide Model, which uses Association of Bay Area Government's (ABAG) *Projections 2000* (P'00) socio-economic forecasts. The socio-economic data for the project alternative was added into the model for the 2005 and 2025 forecasts for all OARB traffic analysis zones (model TAZ's 67,475,476,477,482). The table below summarizes the added land use for the OARB project in 2005 and 2025.

TAZ	2005		2025	
	Households	Jobs	Households	Jobs
67	0	0	0	3035
475	0	0	0	1063
476	252	0	0	2395
477	124	0	0	1617
482	0	0	0	0

For the CMP analysis, traffic estimates were calculated for the proposed project using the model and then compared against 2005 and 2025 baseline volumes. The model was used to calculate trip generation, trip distribution, mode choice and trip assignment of project trips from/to the OARB. The results were summarized for both highway and transit impacts. Highway impacts were summarized at the designated link locations identified based on discussions with ACCMA staff (these link locations are generally similar to those identified in the Notice of Preparation letter). Transit impacts were addressed for AC Transit and BART.

CMP and MTS Highway Segments

The levels of service (LOS) for the designated links were analyzed in a spreadsheet using the Florida Department of Transportation LOS methodology,[1] which provides a planning level analysis based on *Highway Capacity Manual* methods. As planning level analysis, the level of service is based on forecasts of traffic and assumptions for roadway and signalization control conditions, such as facility type (freeway, expressway, and arterial classification), speeds, capacity and number of lanes. The assumption for the number of lanes at each link location was extracted from the model and confirmed through some field observations.

The traffic baseline forecasts for 2005 & 2025 were extracted at the required CMP and MTS highway segments from the ACCMA Countywide Travel Model, for both the AM and PM peak hours. The tables compare the Baseline results to the With-Project results for each model horizon year. The AM and PM peak hour volumes, V/C ratios and the LOS for Baseline and With Project conditions represent both directions of flow. Detailed tables (**A1 to A8**) are provided at the end of the analysis and include all data for 2005 and 2025 forecast years.

Impact A.1: The proposed project would contribute to the 2005 cumulative impacts on the regional and local roadways. This results in a less than significant impact.

The addition of project traffic to the regional and local roadways **would result in a change in LOS** when compared to the 2005 Baseline condition (**see tables 1 & 2**).

Under 2005 conditions with the proposed project, selected links do change level of service (i.e.: change from A to B or C to D), but all analysis roadways would continue to operate at LOS "E" or better (i.e.: no roadway reaches LOS F with the project).

[1] Florida Department of Transportation. Level of Service Standards and Guidelines Manual for Planning, 1995.

There are two roadways that exhibit LOS F conditions with project conditions. These are I-80, at the Bay Bridge, at LOS F during both AM and PM Peak hours, and SR 260 at Posey/Webster Street tubes during both AM and PM peak hours. However, at both these locations the baseline conditions also exhibit LOS F conditions. Based on the significance criteria of 3% for new project traffic described previously, this is not considered significant. The project trips do not contribute many new significant trips at these locations primarily due to the small increase in project size in 2005.

Mitigation Measure A.1: None required.

Impact A.2: The proposed project would contribute to the 2025 cumulative impacts on the regional and local roadways. This results in a less than significant impact.

The addition of project traffic to the regional and local roadways **would result in a change in LOS** when compared to the 2025 Baseline condition (**see tables 3 & 4**).

Under 2025 conditions with the proposed project, selected links do change level of service (i.e.: changes from A to B or C to D), but all analysis roadways would continue to operate at LOS "E" or better (i.e.: no roadway reaches LOS F with the project).

There are three roadways that exhibit LOS F conditions with project conditions. These are I-80, at Bay Bridge at LOS F during both AM and PM Peak hours, SR 260 at Posey/Webster Street tubes during both AM and PM peak hours, and San Pablo Avenue, north of Macarthur Boulevard during the PM Peak hour. However, at all these locations the baseline conditions also exhibit LOS F conditions. Based on the significance criteria of 3% for new project traffic described previously, this is not considered significant since project trips at these locations do not increase beyond 2.5% of the total traffic. The project trips do not contribute more than 3% of new trips at these locations primarily due to trip-redistributions that occur with the introduction of new jobs at OARB. Also when compared to normal daily fluctuations in traffic volumes (and model assignment fluctuations), the project impacts at these locations would not be considered significant.

Mitigation Measure A.2: None required.

MTS Transit Corridors

The impact of the proposed OARB project to the transit system was assessed using the ACCMA Countywide Model. Daily transit trips are composed of home-based work trips and non-work trips (shop, social/recreation and non-home based). However it is difficult to estimate daily transit levels of service, since daily transit has both peak and off-peak service. Off-peak service is approximately 18 hours of the day and is generally a difficult period to calculate level of service, so this particular analysis focuses primarily on home-based work travel, most of which generally occurs during peak times. The transit trips generated by the proposed project have been estimated using the production-attraction tables for home-based work trips that are forecast by

the ACCMA Countywide Model. These home-based work trips are assumed to represent one-way trips occurring during a two- to three-hour PM peak period. To estimate the number of transit trips occurring during the peak hour, and since the model does not produce PM Peak hour transit estimates, it was conservatively assumed that all the home-based work trips occur during the PM peak hour. The ACCMA Countywide model predicts transit ridership for AC Transit buses (local and express) and BART trains (walk/bus to BART and drive to BART).

For the purposes of the CMP analysis, the proposed project is located within the service area of AC Transit and BART. The frequency of transit service in the project vicinity meets or exceeds the performance measures proposed in Table 8 of the 2001 *Congestion Management Program.* The proposed project is located within an average of 1 mile from existing AC Transit services and within a few miles from existing BART service at the West Oakland BART station.

Impact A.3: The proposed project would increase ridership on AC Transit buses. This would be a less than significant impact.

The impacts of the proposed project on the existing AC Transit bus system were assessed. Based on the modal split assumptions derived from the Countywide Model, and conservatively assuming all project home-based work trips occur during the peak two-hour period (in reality home-based work trips are spread over three to four hours) the proposed project has the potential to generate between **47 to 447 new AC Transit bus trips** in 2005 and 2025 respectively, during the PM peak hour (**See Tables 5, 6 & 7**). These trips are for both inbound and outbound directions (i.e.: departing the zone and entering the zone). There are 5 AC Transit bus lines with frequencies of 15 minutes during the peak hour, plus one AC Transit bus with frequency of 30 minutes during the peak hour, that serve the study area. So this equates to 42 buses in two hours, which averages to 1 passengers/bus for 2005 and 10 passengers/bus for 2025. Based on the recent survey conducted by AC Transit, one or two buses on some lines are approaching or exceed the maximum load factor of 1.25 (this mainly applies to downtown Oakland), but most existing buses during the peak hour have sufficient capacity to accommodate this increase in bus trips. So the project is not expected to require an increase in bus frequencies.
Mitigation Measure A.3: None required.

Impact A.4: The proposed project would increase ridership on BART. This would be a less than significant impact.

Based on the modal split assumptions derived from the Countywide Model, the proposed project would generate an estimated **160 to 819 new BART trips** in 2005 and 2025 respectively, during the PM peak two-hour. Most of these trips access the nearby West Oakland BART station (a few may use adjacent stations) via walk, bus or drive (park-and-ride or kiss-and-ride). The trips are for both directions of travel (boarding and alighting). BART has three rail lines that service the West Oakland Station (from Dublin/Pleasanton/Fremont to SF, Baypoint to SF and Richmond to SF). The Baypoint to SF line has an average frequency of 7.5 minutes, while the other two lines have a 15 minute frequency during the peak hour. This represents a total of 64 trains in each direction in two hours. Based on the model estimates for new project trips, and assuming all

project trips occur during the peak-two hour period, this averages to 2.5 passengers per train and 13 passengers per train, for 2005 and 2025 respectively. Based on the total seating and standing capacity of a BART train, this equates to less than 1.0% and 1.7% of the total capacity, respectively. So based on this analysis, the increase in passengers for the project alternative in both 2005 and 2025 would not cause significant impacts on BART parking, fare gates, platform or trains, and can be accommodated with the planned BART service.

Mitigation Measure A.5: None required.

Table 1: 2005 - AM Peak Hour Volumes

Project: Oakland Army Base - MTS Segment Evaluation for CMP Analysis

2005 AM Peak Hour	Northbound/Eastbound								Southbound/Westbound							
Comparison of No-Project vs Project																
Link Location	No-Project 2005 AM Volume	Project 2005 AM Volume	% Vol Diff	Vol Diff	No-Project 2005 AM LOS	Project 2005 AM LOS	Change in V/C > 3%	Change in LOS	No-Project 2005 AM Volume	Project 2005 AM Volume	% Vol Diff	Vol Diff	No-Project 2005 AM LOS	Project 2005 AM LOS	Change in V/C > 3%	Change in LOS
Interstate/State Highways																
I-80 - at Bay Bridge	8,583	8,639	0.6%	56	D	D	no	no change	11,262	11,293	0.3%	31	F	F	no	no change
I-80 - east of I-80/I-580	7,683	7,761	1.0%	78	D	D	no	no change	9,117	9,155	0.4%	38	E	E	no	no change
I-880 - connector to I-80 east	2,017	2,095	3.7%	78	C	C	no	no change	2,700	2,728	1.0%	28	D	D	no	no change
I-880 - connector to I-80 west	1,495	1,495	0.0%	0	B	B	no	no change	1,375	1,379	0.3%	4	B	B	no	no change
I-880 - north of 7th St	3,390	3,394	0.1%	4	C	C	no	no change	3,800	3,800	0.0%	0	C	C	no	no change
I-880 - south of 7th St	3,783	3,821	1.0%	38	C	C	no	no change	3,825	3,853	0.7%	28	C	C	no	no change
I-880 - south of I-980	7,535	7,652	1.5%	117	E	E	no	no change	6,416	6,477	0.9%	61	D	D	no	no change
I-880 - north of I-238	7,967	8,004	0.5%	37	E	E	no	no change	7,845	7,865	0.3%	20	E	E	no	no change
I-238 - east of I-880	2,616	2,619	0.1%	3	B	B	no	no change	5,466	5,470	0.1%	4	E	E	no	no change
I-580 - east of I-980	4,827	4,879	1.1%	52	C	C	no	no change	7,861	7,958	1.2%	97	E	E	no	no change
I-580 - west of I-980	7,518	7,575	0.8%	57	D	D	no	no change	8,764	8,785	0.2%	21	D	D	no	no change
I-980 - north of 12th St	2,472	2,472	0.0%	0	B	B	no	no change	4,798	4,799	0.0%	1	D	D	no	no change
SR 24 - east of I-580	3,674	3,700	0.7%	26	B	B	no	no change	7,502	7,581	1.0%	79	E	E	no	no change
SR 260 - at Posey/Webster Tubes	2,584	2,612	1.1%	28	F	F	no	no change	2,222	2,236	0.7%	16	F	F	no	no change
Arterials																
5th St - east of Market	181	183	1.1%	2	B	B	no	no change	0	0	0.0%	0	A	A	no	no change
7th St - east of I-880	175	221	20.8%	46	B	B	no	no change	183	203	9.9%	20	B	B	no	no change
8th St - east of Castro	0	0	0.0%	0	A	A	no	no change	265	291	8.9%	26	B	B	no	no change
14th St - east of Mandela Parkway	109	127	14.2%	18	B	B	no	no change	232	387	40.1%	155	B	C	yes	change
Broadway - north of 7th St	138	139	0.7%	1	B	B	no	no change	99	99	0.0%	0	B	B	no	no change
Harrison St - north of 7th St	1,448	1,473	1.7%	25	C	C	no	no change	0	0	0.0%	0	A	A	no	no change
Castro St - south of 12th St	248	248	0.0%	0	B	B	no	no change	0	0	0.0%	0	A	A	no	no change
Brush St - south of 12th St	0	0	0.0%	0	A	A	no	no change	1,720	1,720	0.0%	0	C	C	no	no change
Embarcadero - west of Broadway	116	126	7.9%	10	B	B	no	no change	105	109	3.7%	4	B	B	no	no change
Middle Harbor Rd - south of 3rd St	21	21	0.0%	0	B	B	no	no change	234	234	0.0%	0	B	B	no	no change
W. Grand Av - east of I-880	515	595	13.4%	80	C	C	yes	no change	251	313	19.8%	62	C	C	yes	no change
Maritime St - South of W. Grand Av	129	277	53.4%	148	B	C	yes	change	244	321	24.0%	77	B	C	yes	change
MacArthur Bl - east of Adeline St	1,559	1,606	2.9%	47	C	C	no	no change	336	354	5.1%	18	B	C	no	change
Adeline St - north of MacArthur Bl	159	163	2.5%	4	B	B	no	no change	501	517	3.1%	16	C	C	no	no change
M L King Jr Way - north of W. Grand Av	102	102	0.0%	0	B	B	no	no change	148	149	0.7%	1	B	B	no	no change
Powell St - east of I-80	475	476	0.2%	1	C	C	no	no change	206	207	0.5%	1	B	B	no	no change
San Pablo Av - north of MacArthur Bl	1,559	1,561	0.1%	2	D	D	no	no change	1,177	1,178	0.1%	1	C	C	no	no change
Ashby Av - east of I-80	1,139	1,157	1.6%	18	C	C	no	no change	968	973	0.5%	5	C	C	no	no change
	74,277	**75,193**	1.3%	**976**					**89,622**	**90,436**	0.9%	**814**				

Table 2: 2005 - PM Peak Hour Volumes

Project: Oakland Army Base - MTS Segment Evaluation for CMP Analysis

2005 PM Peak Hour	Northbound/Eastbound								Southbound/Westbound							
Comparison of No-Project vs Project																
Link Location	No-Project 2005 PM Volume	Project 2005 PM Volume	% Vol Diff	Vol Diff	No-Project 2005 PM LOS	Project 2005 PM LOS	Change in V/C > 3%	Change in LOS	No-Project 2005 PM Volume	Project 2005 PM Volume	% Vol Diff	Vol Diff	No-Project 2005 PM LOS	Project 2005 PM LOS	Change in V/C > 3%	Change in LOS
Interstate/State Highways																
I-80 - at Bay Bridge	11,849	11,887	0.3%	38	F	F	no	no change	11,568	11,646	0.7%	78	F	F	no	no change
I-80 - east of I-80/I-580	8,909	9,006	1.1%	97	D	D	no	no change	8,907	8,961	0.6%	54	D	D	no	no change
I-880 - connector to I-80 east	2,761	2,858	3.4%	97	D	D	no	no change	2,797	2,827	1.1%	30	D	D	no	no change
I-880 - connector to I-80 west	1,958	1,958	0.0%	0	C	C	no	no change	1,994	1,994	0.0%	0	C	C	no	no change
I-880 - north of 7th St	4,266	4,266	0.0%	0	D	D	no	no change	4,520	4,520	0.0%	0	D	D	no	no change
I-880 - south of 7th St	4,356	4,389	0.8%	33	D	D	no	no change	4,598	4,609	0.2%	11	D	D	no	no change
I-880 - south of I-980	6,704	6,762	0.9%	58	D	D	no	no change	8,226	8,331	1.3%	105	E	E	no	no change
I-880 - north of I-238	7,735	7,754	0.2%	19	E	E	no	no change	8,732	8,767	0.4%	35	E	E	no	no change
I-238 - east of I-880	4,803	4,810	0.1%	7	D	D	no	no change	3,326	3,328	0.1%	2	C	C	no	no change
I-580 - east of I-980	8,778	8,864	1.0%	86	E	E	no	no change	5,526	5,569	0.8%	43	C	C	no	no change
I-580 - west of I-980	9,394	9,416	0.2%	22	E	E	no	no change	8,395	8,414	0.3%	29	D	D	no	no change
I-980 - north of 12th St	5,163	5,163	0.0%	0	D	D	no	no change	2,620	2,620	0.0%	0	B	B	no	no change
SR 24 - east of I-580	7,452	7,531	1.0%	79	E	E	no	no change	4,558	4,586	0.6%	28	C	C	no	no change
SR 260 - at Posey/Webster Tubes	2,293	2,307	0.6%	14	F	F	no	no change	2,977	3,005	0.9%	28	F	F	no	no change
Arterials																
5th St - east of Market	361	374	3.5%	13	C	C	no	no change	0	0	0.0%	0	A	A	no	no change
7th St - east of I-880	236	254	7.1%	18	B	C	no	change	114	142	19.7%	28	B	B	no	no change
8th St - east of Castro	0	0	0.0%	0	A	A	no	no change	298	316	5.7%	18	B	B	no	no change
14th St - east of Mandela Parkway	175	198	11.6%	23	B	B	no	no change	120	204	41.2%	84	B	B	yes	no change
Broadway - north of 7th St	140	141	0.7%	1	B	B	no	no change	338	338	0.0%	0	B	B	no	no change
Harrison St - north of 7th St	1,194	1,204	0.8%	10	C	C	no	no change	0	0	0.0%	0	A	A	no	no change
Castro St - south of 12th St	663	663	0.0%	0	C	C	no	no change	0	0	0.0%	0	A	A	no	no change
Brush St - south of 12th St	0	0	0.0%	0	A	A	no	no change	1,193	1,193	0.0%	0	C	C	no	no change
Embarcadero - west of Broadway	280	290	3.4%	10	C	C	no	no change	663	673	1.5%	10	C	C	no	no change
Middle Harbor Rd - south of 3rd St	312	312	0.0%	0	C	C	no	no change	35	35	0.0%	0	B	B	no	no change
W. Grand Av - east of I-880	472	528	10.6%	56	C	C	yes	no change	952	1,102	13.6%	150	C	C	yes	no change
Maritime St - South of W. Grand Av	332	405	18.0%	73	C	C	yes	no change	113	226	50.0%	113	B	B	yes	no change
MacArthur Bl - east of Adeline St	1,119	1,135	1.4%	16	C	C	no	no change	425	456	6.8%	31	C	C	no	no change
Adeline St - north of MacArthur Bl	241	245	1.6%	4	B	B	no	no change	1,094	1,104	0.9%	10	C	C	no	no change
M L King Jr Way - north of W. Grand Av	118	118	0.0%	0	B	B	no	no change	159	159	0.0%	0	B	B	no	no change
Powell St - east of I-80	495	495	0.0%	0	C	C	no	no change	583	589	1.0%	6	C	C	no	no change
San Pablo Av - north of MacArthur Bl	1,578	1,578	0.0%	0	D	D	no	no change	1,776	1,780	0.2%	4	E	E	no	no change
Ashby Av - east of I-80	1,315	1,323	0.6%	8	D	D	no	no change	1,297	1,309	0.9%	12	D	D	no	no change
	85,472	**86,254**	0.8%	**782**					**87,894**	**88,903**	1.0%	**909**				

Table 3: 2025 - PM Peak Hour Volumes

Project: Oakland Army Base - MTS Segment Evaluation for CMP Analysis

2025 AM Peak Hour	Northbound/Eastbound								Southbound/Westbound							
Comparison of No-Project vs Project																
	No-Project	Project			No-Project	Project			No-Project	Project			No-Project	Project		
Link Location	2025 AM Volume	2025 AM Volume	% Vol Diff	Vol Diff	2025 AM LOS	2025 AM LOS	Change in V/C > 3%	Change in LOS	2025 AM Volume	2025 AM Volume	% Vol Diff	Vol Diff	2025 AM LOS	2025 AM LOS	Change in V/C > 3%	Change in LOS
Interstate/State Highways																
I-80 - at Bay Bridge	8,671	8,753	0.9%	82	D	D	no	no change	11,672	11,583	-0.8%	-89	F	F	no	no change
I-80 - east of I-804-580	8,191	8,138	-0.7%	-53	D	D	no	no change	8,537	8,723	2.1%	186	D	D	no	no change
I-880 - connector to I-80 east	2,448	2,415	-1.4%	-33	C	C	no	no change	2,355	2,449	3.8%	94	C	C	no	no change
I-880 - connector to I-80 west	1,550	1,555	0.3%	5	B	B	no	no change	1,463	1,421	-3.0%	-42	B	B	no	no change
I-880 - north of 7th St	3,883	3,782	-2.7%	-101	C	C	no	no change	3,595	3,633	1.3%	48	C	C	no	no change
I-880 - south of 7th St	4,263	4,354	2.1%	91	D	D	no	no change	3,610	3,661	1.4%	51	C	C	no	no change
I-880 - south of I-980	7,809	7,920	1.4%	111	E	E	no	no change	6,298	6,271	-0.4%	-27	D	D	no	no change
I-880 - north of I-238	8,075	8,164	1.1%	89	E	E	no	no change	8,107	8,046	-0.8%	-61	E	E	no	no change
I-238 - east of I-880	3,005	2,974	-1.0%	-31	C	C	no	no change	5,598	5,562	-0.6%	-36	E	E	no	no change
I-580 - east of I-980	4,533	4,533	0.0%	0	C	C	no	no change	8,130	8,240	1.3%	110	E	E	no	no change
I-580 - west of I-980	7,416	7,364	-0.7%	-52	D	D	no	no change	9,124	9,167	0.5%	43	E	E	no	no change
I-980 - north of 12th St	2,653	2,644	-0.3%	-9	B	B	no	no change	5,177	5,146	-0.6%	-31	D	D	no	no change
SR 24 - east of I-580	4,104	4,065	-1.0%	-39	C	C	no	no change	7,652	7,733	1.0%	81	E	E	no	no change
SR 260 - at Posey/Webster Tubes	3,225	3,288	1.9%	63	F	F	yes	no change	3,668	3,666	-0.1%	-2	F	F	no	no change
Arterials																
5th St - east of Market	80	50	-60.0%	-30	B	B	no	no change	0	0	0.0%	0	A	A	no	no change
7th St - east of I-880	142	127	-11.8%	-15	B	B	no	no change	195	255	23.5%	60	B	C	yes	change
8th St - east of Castro	0	0	0.0%	0	A	A	no	no change	381	452	15.7%	71	B	C	no	change
14th St - east of Mandela Parkway	113	117	3.4%	4	B	B	no	no change	275	380	27.6%	105	C	C	yes	no change
Broadway - north of 7th St	143	143	0.0%	0	B	B	no	no change	107	106	-0.9%	-1	B	B	no	no change
Harrison St - north of 7th St	1,803	1,886	4.4%	83	C	D	yes	change	0	0	0.0%	0	A	A	no	no change
Castro St - south of 12th St	286	286	0.0%	0	B	B	no	no change	0	0	0.0%	0	A	A	no	no change
Brush St - south of 12th St	0	0	0.0%	0	A	A	no	no change	1,913	1,893	-1.1%	-20	D	D	no	no change
Embercadero - west of Broadway	139	141	1.4%	2	B	B	no	no change	204	238	14.3%	34	B	B	no	no change
Middle Harbor Rd - south of 3rd St	25	54	53.7%	29	B	B	no	no change	321	506	36.6%	185	C	C	yes	no change
W. Grand Av - east of I-880	438	521	15.9%	83	C	C	yes	no change	317	335	5.4%	18	C	C	no	no change
Maritime St - South of W. Grand Av	139	193	28.0%	54	B	B	no	no change	295	661	55.4%	366	C	C	yes	no change
MacArthur Bl - east of Adeline St	1,775	1,840	3.5%	65	C	C	no	no change	339	342	0.9%	3	B	B	no	no change
Adeline St - north of MacArthur Bl	245	259	5.4%	14	B	C	no	change	616	681	9.5%	65	C	C	yes	no change
M L King Jr Way - north of W. Grand Av	99	98	-1.0%	-1	B	B	no	no change	201	195	-3.1%	-6	B	B	no	no change
Powell St - east of I-80	597	607	1.6%	10	C	C	no	no change	378	387	2.3%	9	C	C	no	no change
San Pablo Av - north of MacArthur Bl	1,818	1,786	-1.8%	-32	F	E	no	change	1,399	1,377	-1.6%	-22	D	D	no	no change
Ashby Av - east of I-80	810	824	1.7%	14	C	C	no	no change	537	533	-0.8%	-4	C	C	no	no change
	78,478	***78,881***	0.5%	***403***					***92,454***	***93,642***	1.3%	***1,188***				

Table 4: 2025 - PM Peak Hour Volumes

Project: Oakland Army Base - MTS Segment Evaluation for CMP Analysis

2025 PM Peak Hour	Northbound/Eastbound								Southbound/Westbound							
Comparison of No-Project vs Project																
	No-Project	Project			No-Project	Project			No-Project	Project			No-Project	Project		
Link Location	2025 PM Volume	2025 PM Volume	% Vol Diff	Vol Diff	2025 PM LOS	2025 PM LOS	Change in V/C > 3%	Change in LOS	2025 PM Volume	2025 PM Volume	% Vol Diff	Vol Diff	2025 PM LOS	2025 PM LOS	Change in V/C > 3%	Change in LOS
Interstate/State Highways																
I-80 - at Bay Bridge	12,078	11,997	-0.7%	-81	F	F	no	no change	11,756	11,839	0.7%	83	F	F	no	no change
I-80 - east of I-804-580	8,967	9,293	3.5%	326	E	E	no	change	8,835	8,809	-0.3%	-26	D	D	no	no change
I-880 - connector to I-80 east	2,915	3,251	10.3%	336	D	D	yes	no change	2,638	2,626	-0.5%	-12	C	C	no	no change
I-880 - connector to I-80 west	2,069	2,064	-0.2%	-5	C	C	no	no change	2,110	2,105	-0.2%	-5	C	C	no	no change
I-880 - north of 7th St	4,486	4,594	2.4%	108	D	D	no	no change	4,472	4,448	-0.5%	-24	D	D	no	no change
I-880 - south of 7th St	4,548	4,711	3.5%	163	D	D	no	no change	4,550	4,583	0.7%	33	D	D	no	no change
I-880 - south of I-980	6,973	6,964	-0.1%	-9	D	D	no	no change	8,175	8,280	1.3%	105	E	E	no	no change
I-880 - north of I-238	8,014	7,988	-0.3%	-26	E	E	no	no change	8,804	8,863	0.7%	59	E	E	no	no change
I-238 - east of I-880	5,090	5,106	0.3%	16	D	D	no	no change	3,516	3,497	-0.5%	-19	C	C	no	no change
I-580 - east of I-980	8,858	8,940	0.9%	82	E	E	no	no change	5,770	5,780	0.2%	10	D	D	no	no change
I-580 - west of I-980	9,490	9,526	0.4%	36	E	E	no	no change	8,411	8,468	0.7%	57	D	D	no	no change
I-980 - north of 12th St	5,530	5,372	-2.9%	-158	E	E	no	no change	2,587	2,570	-0.7%	-17	B	B	no	no change
SR 24 - east of I-580	7,660	7,728	0.9%	68	E	E	no	no change	4,342	4,319	-0.5%	-23	C	C	no	no change
SR 260 - at Posey/Webster Tubes	3,843	3,844	0.0%	1	F	F	no	no change	3,511	3,564	1.5%	53	F	F	no	no change
Arterials																
5th St - east of Market	90	70	-28.6%	-20	B	B	no	no change	0	0	0.0%	0	A	A	no	no change
7th St - east of I-880	234	336	30.4%	102	B	C	yes	change	124	167	25.7%	43	B	B	no	no change
8th St - east of Castro	0	0	0.0%	0	A	A	no	no change	418	445	6.1%	27	B	B	no	no change
14th St - east of Mandela Parkway	201	262	23.3%	61	B	C	yes	change	145	179	19.0%	34	B	B	no	no change
Broadway - north of 7th St	164	166	1.2%	2	B	B	no	no change	362	353	-2.5%	-9	C	C	no	no change
Harrison St - north of 7th St	2,224	2,241	0.8%	17	D	D	no	no change	0	0	0.0%	0	A	A	no	no change
Castro St - south of 12th St	713	781	8.7%	68	C	C	no	no change	0	0	0.0%	0	A	A	no	no change
Brush St - south of 12th St	0	0	0.0%	0	A	A	no	no change	1,262	1,247	-1.2%	-15	C	C	no	no change
Embercadero - west of Broadway	321	412	22.1%	91	C	C	yes	no change	817	820	0.4%	3	C	C	no	no change
Middle Harbor Rd - south of 3rd St	373	705	47.1%	332	C	C	yes	no change	47	95	50.5%	48	B	B	no	no change
W. Grand Av - east of I-880	487	521	6.5%	34	C	C	no	no change	1,019	1,142	10.8%	123	C	C	yes	no change
Maritime St - South of W. Grand Av	433	893	51.5%	460	C	C	yes	no change	120	213	43.7%	93	B	B	yes	no change
MacArthur Bl - east of Adeline St	1,233	1,240	0.6%	7	C	C	no	no change	432	496	12.9%	64	C	C	no	no change
Adeline St - north of MacArthur Bl	273	320	14.7%	47	C	C	no	no change	1,147	1,124	-2.0%	-23	C	C	no	no change
M L King Jr Way - north of W. Grand Av	127	126	-0.8%	-1	B	B	no	no change	177	173	-2.3%	-4	B	B	no	no change
Powell St - east of I-80	596	618	3.6%	22	C	C	no	no change	706	721	2.1%	15	C	C	no	no change
San Pablo Av - north of MacArthur Bl	1,784	1,760	-1.4%	-24	E	E	no	no change	1,902	1,951	2.5%	49	F	F	no	no change
Ashby Av - east of I-80	899	927	3.0%	28	C	C	no	no change	641	663	3.3%	22	C	C	no	no change
	100,673	***102,756***	2.0%	***2,083***					***88,796***	***89,540***	0.8%	***744***				

Table 5: Home-Based-Work Trip Mode Choice for OARB
Home-Based Work Trips
differences between no-project & project are attributed to the project

	NO-PROJECT		PROJECT		Increase between No-project and Project		Percent Growth between No-project and Project	
Mode	**2005**	**2020**	**2005**	**2020**	**2005**	**2020**	**2005**	**2020**
Transit	774	1,115	967	2,379	193	1,264	24.9%	113.4%
Auto	8,397	9,619	8,982	17,914	585	8,295	7.0%	86.2%
Total	**9,171**	**10,734**	**9,949**	**20,293**	**778**	**9,559**	8.5%	89.1%

Table 6: AC Transit Ridership
Home-Based Work Trips
differences between no-project & project are attributed to the project

	NO-PROJECT		PROJECT		Increase between No-project and Project		Percent Growth between No-project and Project	
Operator	**2005**	**2020**	**2005**	**2020**	**2005**	**2020**	**2005**	**2020**
AC Transit	72,164	86,914	72,211	87,361	47	447	0.1%	0.5%

Table 7: BART Boardings & Alightings
Home-Based Work Trips
differences between no-project & project are attributed to the project

	NO-PROJECT		PROJECT		Increase between No-project and Project		Percent Growth between No-project and Project	
BART Station	**2005**	**2020**	**2005**	**2020**	**2005**	**2020**	**2005**	**2020**
West Oakland	4,301	6,072	4,461	6,891	160	819	3.7%	13.5%

Table A1:
Project: Oakland Army Base - MTS Segment Evaluation for CMP Analysis
2005 AM Peak Hour
No-Project

Link Location	NB/EB Volume	Capacity	V/C	Lanes	LOS	SB/WB Volume	Capacity	V/C	Lanes	LOS	Facility Type
Interstate/State Highways											
I-80 - at Bay Bridge	8,583	11225	0.76	5	D	11,262	11225	1.00	5	F	FWY
I-80 - east of I-80/I-580	7,683	11225	0.68	5	D	9,117	11225	0.81	5	E	FWY
I-880 - connector to I-80 east	2,017	4295	0.47	2	C	2,700	4295	0.63	2	D	FWY
I-880 - connector to I-80 west	1,495	4295	0.35	2	B	1,375	4295	0.32	2	B	FWY
I-880 - north of 7th St	3,390	6584	0.51	3	C	3,800	6584	0.58	3	C	FWY
I-880 - south of 7th St	3,783	6584	0.57	3	C	3,825	6584	0.58	3	C	FWY
I-880 - south of I-980	7,535	8978	0.84	4	E	6,416	8978	0.71	4	D	FWY
I-880 - north of I-238	7,967	8978	0.89	4	E	7,845	8978	0.87	4	E	FWY
I-238 - east of I-880	2,616	6584	0.40	3	B	5,466	6584	0.83	3	E	FWY
I-580 - east of I-980	4,827	8978	0.54	4	C	7,861	8978	0.88	4	E	FWY
I-580 - west of I-980	7,518	11225	0.67	5	D	8,764	11225	0.78	5	D	FWY
I-980 - north of 12th St	2,472	6584	0.38	3	B	4,798	6584	0.73	3	D	FWY
SR 24 - east of I-580	3,674	8978	0.41	4	B	7,502	8978	0.84	4	E	Class 1A
SR 260 - at Posey/Webster Tubes	2,584	1890	1.37	2	F	2,222	1890	1.18	2	F	Class 1A
Arterials											
5th St - east of Market	181	1810	0.10	2	B	0	#N/A	#N/A	0	A	Class 2
7th St - east of I-880	175	1810	0.10	2	B	183	1810	0.10	2	B	Class 2
8th St - east of Castro	0	#N/A	#N/A	0	A	265	3350	0.08	4	B	Class 2
14th St - east of Mandela Parkway	109	1810	0.06	2	B	232	1810	0.13	2	B	Class 2
Broadway - north of 7th St	138	2730	0.05	3	B	99	2730	0.04	3	B	Class 2
Harrison St - north of 7th St	1,448	2730	0.53	3	C	0	#N/A	#N/A	0	A	Class 2
Castro St - south of 12th St	248	2730	0.09	3	B	0	#N/A	#N/A	0	A	Class 2
Brush St - south of 12th St	0	#N/A	#N/A	0	A	1,720	2730	0.63	3	C	Class 2
Embarcadero - west of Broadway	116	1810	0.06	2	B	105	1810	0.06	2	B	Class 2
Middle Harbor Rd - south of 3rd St	21	1810	0.01	2	B	234	1810	0.13	2	B	Class 2
W. Grand Av - east of I-880	515	1810	0.28	2	C	251	1810	0.14	2	C	Class 2
Maritime St - South of W. Grand Av	129	1810	0.07	2	B	244	1810	0.13	2	B	Class 2
MacArthur Bl - east of Adeline St	1,559	2730	0.57	3	C	336	2730	0.12	3	B	Class 2
Adeline St - north of MacArthur Bl	159	1810	0.09	2	B	501	1810	0.28	2	C	Class 2
M L King Jr Way - north of W. Grand Av	102	1810	0.06	2	B	148	1810	0.08	2	B	Class 2
Powell St - east of I-80	475	1810	0.26	2	C	206	1810	0.11	2	B	Class 2
San Pablo Av - north of MacArthur Bl	1,559	1810	0.86	2	D	1,177	1810	0.65	2	C	Class 2
Ashby Av - east of I-80	1,139	1810	0.63	2	C	968	1810	0.53	2	C	Class 2
Sum	***74,217***					***89,622***					

Table A2:
Project: Oakland Army Base - MTS Segment Evaluation for CMP Analysis
2005 PM Peak Hour
No-Project

Link Location	NB/EB Volume	Capacity	V/C	Lanes	LOS	SB/WB Volume	Capacity	V/C	Lanes	LOS	Facility Type
Interstate/State Highways											
I-80 - at Bay Bridge	11,849	11225	1.06	5	F	11,568	11225	1.03	5	F	FWY
I-80 - east of I-80/I-580	8,909	11225	0.79	5	D	8,907	11225	0.79	5	D	FWY
I-880 - connector to I-80 east	2,761	4295	0.64	2	D	2,797	4295	0.65	2	D	FWY
I-880 - connector to I-80 west	1,958	4295	0.46	2	C	1,994	4295	0.46	2	C	FWY
I-880 - north of 7th St	4,286	6584	0.65	3	D	4,520	6584	0.69	3	D	FWY
I-880 - south of 7th St	4,356	6584	0.66	3	D	4,598	6584	0.70	3	D	FWY
I-880 - south of I-980	6,704	8978	0.75	4	D	8,226	8978	0.92	4	E	FWY
I-880 - north of I-238	7,735	8978	0.86	4	E	8,732	8978	0.97	4	E	FWY
I-238 - east of I-880	4,803	6584	0.73	3	D	3,326	6584	0.51	3	C	FWY
I-580 - east of I-980	8,778	8978	0.98	4	E	5,526	8978	0.62	4	C	FWY
I-580 - west of I-980	9,394	11225	0.84	5	E	8,385	11225	0.75	5	D	FWY
I-980 - north of 12th St	5,163	6584	0.78	3	D	2,620	6584	0.40	3	B	FWY
SR 24 - east of I-580	7,452	8978	0.83	4	E	4,558	8978	0.51	4	C	Class 1A
SR 260 - at Posey/Webster Tubes	2,293	1890	1.21	2	F	2,977	1890	1.58	2	F	Class 1A
Arterials											
5th St - east of Market	361	1810	0.20	2	C	0	#N/A	#N/A	0	A	Class 2
7th St - east of I-880	236	1810	0.13	2	B	114	1810	0.06	2	B	Class 2
8th St - east of Castro	0	#N/A	#N/A	0	A	298	3350	0.09	4	B	Class 2
14th St - east of Mandela Parkway	175	1810	0.10	2	B	120	1810	0.07	2	B	Class 2
Broadway - north of 7th St	140	2730	0.05	3	B	338	2730	0.12	3	B	Class 2
Harrison St - north of 7th St	1,194	2730	0.44	3	C	0	#N/A	#N/A	0	A	Class 2
Castro St - south of 12th St	663	2730	0.24	3	C	0	#N/A	#N/A	0	A	Class 2
Brush St - south of 12th St	0	#N/A	#N/A	0	A	1,193	2730	0.44	3	C	Class 2
Embarcadero - west of Broadway	280	1810	0.15	2	C	663	1810	0.37	2	C	Class 2
Middle Harbor Rd - south of 3rd St	312	1810	0.17	2	C	35	1810	0.02	2	B	Class 2
W. Grand Av - east of I-880	472	1810	0.26	2	C	952	1810	0.53	2	C	Class 2
Maritime St - South of W. Grand Av	332	1810	0.18	2	C	113	1810	0.06	2	B	Class 2
MacArthur Bl - east of Adeline St	1,119	2730	0.41	3	C	425	2730	0.16	3	C	Class 2
Adeline St - north of MacArthur Bl	241	1810	0.13	2	B	1,094	1810	0.60	2	C	Class 2
M L King Jr Way - north of W. Grand Av	118	1810	0.07	2	B	159	1810	0.09	2	B	Class 2
Powell St - east of I-80	495	1810	0.27	2	C	583	1810	0.32	2	C	Class 2
San Pablo Av - north of MacArthur Bl	1,578	1810	0.87	2	D	1,776	1810	0.98	2	E	Class 2
Ashby Av - east of I-80	1,315	1810	0.73	2	D	1,297	1810	0.72	2	D	Class 2
Sum	***95,472***					***87,894***					

Table A3:
Project: Oakland Army Base - MTS Segment Evaluation for CMP Analysis
2005 AM Peak Hour
Project

Link Location	NB/EB Volume	Capacity	V/C	Lanes	LOS	SB/WB Volume	Capacity	V/C	Lanes	LOS	Facility Type
Interstate/State Highways											
I-80 - at Bay Bridge	8,639	11225	0.77	5	D	11,293	11225	1.01	5	F	FWY
I-80 - east of I-80/I-580	7,761	11225	0.69	5	D	9,155	11225	0.82	5	E	FWY
I-880 - connector to I-80 east	2,095	4295	0.49	2	C	2,728	4295	0.64	2	D	FWY
I-880 - connector to I-80 west	1,495	4295	0.35	2	B	1,379	4295	0.32	2	B	FWY
I-880 - north of 7th St	3,394	6584	0.52	3	C	3,800	6584	0.58	3	C	FWY
I-880 - south of 7th St	3,821	6584	0.58	3	C	3,853	6584	0.59	3	C	FWY
I-880 - south of I-980	7,652	8978	0.85	4	E	6,477	8978	0.72	4	D	FWY
I-880 - north of I-238	8,004	8978	0.89	4	E	7,885	8978	0.88	4	E	FWY
I-238 - east of I-880	2,619	6584	0.40	3	B	5,470	6584	0.83	3	E	FWY
I-580 - east of I-980	4,879	8978	0.54	4	C	7,958	8978	0.89	4	E	FWY
I-580 - west of I-980	7,575	11225	0.67	5	D	8,785	11225	0.78	5	D	FWY
I-980 - north of 12th St	2,472	6584	0.38	3	B	4,799	6584	0.73	3	D	FWY
SR 24 - east of I-580	3,700	8978	0.41	4	B	7,581	8978	0.84	4	E	Class 1A
SR 260 - at Posey/Webster Tubes	2,612	1890	1.38	2	F	2,238	1890	1.18	2	F	Class 1A
Arterials											
5th St - east of Market	183	1810	0.10	2	B	0	#N/A	#N/A	0	A	Class 2
7th St - east of I-880	221	1810	0.12	2	B	203	1810	0.11	2	B	Class 2
8th St - east of Castro	0	#N/A	#N/A	0	A	291	3350	0.09	4	B	Class 2
14th St - east of Mandela Parkway	127	1810	0.07	2	B	387	1810	0.21	2	C	Class 2
Broadway - north of 7th St	139	2730	0.05	3	B	99	2730	0.04	3	B	Class 2
Harrison St - north of 7th St	1,473	2730	0.54	3	C	0	#N/A	#N/A	0	A	Class 2
Castro St - south of 12th St	248	2730	0.09	3	B	0	#N/A	#N/A	0	A	Class 2
Brush St - south of 12th St	0	#N/A	#N/A	0	A	1,720	2730	0.63	3	C	Class 2
Embarcadero - west of Broadway	126	1810	0.07	2	B	109	1810	0.06	2	B	Class 2
Middle Harbor Rd - south of 3rd St	21	1810	0.01	2	B	234	1810	0.13	2	B	Class 2
W. Grand Av - east of I-880	595	1810	0.33	2	C	313	1810	0.17	2	C	Class 2
Maritime St - South of W. Grand Av	277	1810	0.15	2	C	321	1810	0.18	2	C	Class 2
MacArthur Bl - east of Adeline St	1,606	2730	0.59	3	C	354	2730	0.13	3	C	Class 2
Adeline St - north of MacArthur Bl	163	1810	0.09	2	B	517	1810	0.29	2	C	Class 2
M L King Jr Way - north of W. Grand Av	102	1810	0.06	2	B	149	1810	0.08	2	B	Class 2
Powell St - east of I-80	476	1810	0.26	2	C	207	1810	0.11	2	B	Class 2
San Pablo Av - north of MacArthur Bl	1,561	1810	0.86	2	D	1,178	1810	0.65	2	C	Class 2
Ashby Av - east of I-80	1,157	1810	0.64	2	C	973	1810	0.54	2	C	Class 2
Sum	*75,193*					*90,436*					

Table A4:
Project: Oakland Army Base - MTS Segment Evaluation for CMP Analysis
2005 PM Peak Hour
Project

Link Location	NB/EB Volume	Capacity	V/C	Lanes	LOS	SB/WB Volume	Capacity	V/C	Lanes	LOS	Facility Type
Interstate/State Highways											
I-80 - at Bay Bridge	11,887	11225	1.06	5	F	11,646	11225	1.04	5	F	FWY
I-80 - east of I-80/I-580	9,006	11225	0.80	5	D	8,961	11225	0.80	5	D	FWY
I-880 - connector to I-80 east	2,858	4295	0.67	2	D	2,627	4295	0.66	2	D	FWY
I-880 - connector to I-80 west	1,958	4295	0.46	2	C	1,994	4295	0.46	2	C	FWY
I-880 - north of 7th St	4,286	6584	0.65	3	D	4,520	6584	0.69	3	D	FWY
I-880 - south of 7th St	4,389	6584	0.67	3	D	4,609	6584	0.70	3	D	FWY
I-880 - south of I-980	6,762	8978	0.75	4	D	8,331	8978	0.93	4	E	FWY
I-880 - north of I-238	7,754	8978	0.86	4	E	8,767	8978	0.98	4	E	FWY
I-238 - east of I-880	4,810	6584	0.73	3	D	3,328	6584	0.51	3	C	FWY
I-580 - east of I-980	8,864	8978	0.99	4	E	5,569	8978	0.62	4	C	FWY
I-580 - west of I-980	9,416	11225	0.84	5	E	8,414	11225	0.75	5	D	FWY
I-980 - north of 12th St	5,163	6584	0.78	3	D	2,620	6584	0.40	3	B	FWY
SR 24 - east of I-580	7,531	8978	0.84	4	E	4,586	8978	0.51	4	C	Class 1A
SR 260 - at Posey/Webster Tubes	2,307	1890	1.22	2	F	3,005	1890	1.59	2	F	Class 1A
Arterials											
5th St - east of Market	374	1810	0.21	2	C	0	#N/A	#N/A	0	A	Class 2
7th St - east of I-880	254	1810	0.14	2	C	142	1810	0.08	2	B	Class 2
8th St - east of Castro	0	#N/A	#N/A	0	A	316	3350	0.09	4	B	Class 2
14th St - east of Mandela Parkway	198	1810	0.11	2	B	204	1810	0.11	2	B	Class 2
Broadway - north of 7th St	141	2730	0.05	3	B	338	2730	0.12	3	B	Class 2
Harrison St - north of 7th St	1,204	2730	0.44	3	C	0	#N/A	#N/A	0	A	Class 2
Castro St - south of 12th St	663	2730	0.24	3	C	0	#N/A	#N/A	0	A	Class 2
Brush St - south of 12th St	0	#N/A	#N/A	0	A	1,193	2730	0.44	3	C	Class 2
Embarcadero - west of Broadway	290	1810	0.16	2	C	673	1810	0.37	2	C	Class 2
Middle Harbor Rd - south of 3rd St	312	1810	0.17	2	C	35	1810	0.02	2	B	Class 2
W. Grand Av - east of I-880	528	1810	0.29	2	C	1,102	1810	0.61	2	C	Class 2
Maritime St - South of W. Grand Av	405	1810	0.22	2	C	226	1810	0.12	2	B	Class 2
MacArthur Bl - east of Adeline St	1,135	2730	0.42	3	C	456	2730	0.17	3	C	Class 2
Adeline St - north of MacArthur Bl	245	1810	0.14	2	B	1,104	1810	0.61	2	C	Class 2
M L King Jr Way - north of W. Grand Av	118	1810	0.07	2	B	159	1810	0.09	2	B	Class 2
Powell St - east of I-80	495	1810	0.27	2	C	589	1810	0.33	2	C	Class 2
San Pablo Av - north of MacArthur Bl	1,578	1810	0.87	2	D	1,780	1810	0.98	2	E	Class 2
Ashby Av - east of I-80	1,323	1810	0.73	2	D	1,309	1810	0.72	2	D	Class 2
Sum	***96,254***					***88,803***					

Table A5:
Project: Oakland Army Base - MTS Segment Evaluation for CMP Analysis
2025 AM Peak Hour
No-Project

Link Location	NB/EB Volume	Capacity	V/C	Lanes	LOS	SB/WB Volume	Capacity	V/C	Lanes	LOS	Facility Type
Interstate/State Highways											
I-80 - at Bay Bridge	8,671	11225	0.77	5	D	11,672	11225	1.04	5	F	FWY
I-80 - east of I-80/I-580	8,191	11225	0.73	5	D	8,537	11225	0.76	5	D	FWY
I-880 - connector to I-80 east	2,448	4295	0.57	2	C	2,355	4295	0.55	2	C	FWY
I-880 - connector to I-80 west	1,550	4295	0.36	2	B	1,463	4295	0.34	2	B	FWY
I-880 - north of 7th St	3,883	6584	0.59	3	C	3,585	6584	0.54	3	C	FWY
I-880 - south of 7th St	4,263	6584	0.65	3	D	3,610	6584	0.55	3	C	FWY
I-880 - south of I-980	7,809	8978	0.87	4	E	6,298	8978	0.70	4	D	FWY
I-880 - north of I-238	8,075	8978	0.90	4	E	8,107	8978	0.90	4	E	FWY
I-238 - east of I-880	3,005	6584	0.46	3	C	5,598	6584	0.85	3	E	FWY
I-580 - east of I-980	4,533	8978	0.50	4	C	8,130	8978	0.91	4	E	FWY
I-580 - west of I-980	7,416	11225	0.66	5	D	9,124	11225	0.81	5	E	FWY
I-980 - north of 12th St	2,653	6584	0.40	3	B	5,177	6584	0.79	3	D	FWY
SR 24 - east of I-580	4,104	8978	0.46	4	C	7,652	8978	0.85	4	E	Class 1A
SR 260 - at Posey/Webster Tubes	3,225	1890	1.71	2	F	3,868	1890	1.94	2	F	Class 1A
Arterials											
5th St - east of Market	80	1810	0.04	2	B	0	#N/A	#N/A	0	A	Class 2
7th St - east of I-880	142	1810	0.08	2	B	195	1810	0.11	2	B	Class 2
8th St - east of Castro	0	#N/A	#N/A	0	A	381	3350	0.11	4	B	Class 2
14th St - east of Mandela Parkway	113	1810	0.06	2	B	275	1810	0.15	2	C	Class 2
Broadway - north of 7th St	143	2730	0.05	3	B	107	2730	0.04	3	B	Class 2
Harrison St - north of 7th St	1,803	2730	0.66	3	C	0	#N/A	#N/A	0	A	Class 2
Castro St - south of 12th St	286	2730	0.10	3	B	0	#N/A	#N/A	0	A	Class 2
Brush St - south of 12th St	0	#N/A	#N/A	0	A	1,913	2730	0.70	3	D	Class 2
Embarcadero - west of Broadway	139	1810	0.08	2	B	204	1810	0.11	2	B	Class 2
Middle Harbor Rd - south of 3rd St	25	1810	0.01	2	B	321	1810	0.18	2	C	Class 2
W. Grand Av - east of I-880	438	1810	0.24	2	C	317	1810	0.18	2	C	Class 2
Maritime St - South of W. Grand Av	139	1810	0.08	2	B	295	1810	0.16	2	C	Class 2
MacArthur Bl - east of Adeline St	1,775	2730	0.65	3	C	339	2730	0.12	3	B	Class 2
Adeline St - north of MacArthur Bl	245	1810	0.14	2	B	616	1810	0.34	2	C	Class 2
M L King Jr Way - north of W. Grand Av	99	1810	0.05	2	B	201	1810	0.11	2	B	Class 2
Powell St - east of I-80	597	1810	0.33	2	C	378	1810	0.21	2	C	Class 2
San Pablo Av - north of MacArthur Bl	1,818	1810	1.00	2	F	1,399	1810	0.77	2	D	Class 2
Ashby Av - east of I-80	810	1810	0.45	2	C	537	1810	0.30	2	C	Class 2
Sum	*78,478*					*92,454*					

Table A6:
Project: Oakland Army Base - MTS Segment Evaluation for CMP Analysis
2025 PM Peak Hour
No-Project

Link Location	NB/EB Volume	Capacity	V/C	Lanes	LOS	SB/WB Volume	Capacity	V/C	Lanes	LOS	Facility Type
Interstate/State Highways											
I-80 - at Bay Bridge	12,078	11225	1.08	5	F	11,756	11225	1.05	5	F	FWY
I-80 - east of I-80/I-580	8,967	11225	0.80	5	D	8,835	11225	0.79	5	D	FWY
I-880 - connector to I-80 east	2,915	4295	0.68	2	D	2,638	4295	0.61	2	C	FWY
I-880 - connector to I-80 west	2,069	4295	0.48	2	C	2,110	4295	0.49	2	C	FWY
I-880 - north of 7th St	4,486	6584	0.68	3	D	4,472	6584	0.68	3	D	FWY
I-880 - south of 7th St	4,548	6584	0.69	3	D	4,550	6584	0.69	3	D	FWY
I-880 - south of I-980	6,973	8978	0.78	4	D	8,175	8978	0.91	4	E	FWY
I-880 - north of I-238	8,014	8978	0.89	4	E	8,804	8978	0.98	4	E	FWY
I-238 - east of I-880	5,090	6584	0.77	3	D	3,516	6584	0.53	3	C	FWY
I-580 - east of I-980	8,858	8978	0.99	4	E	5,770	8978	0.64	4	D	FWY
I-580 - west of I-980	9,490	11225	0.85	5	E	8,411	11225	0.75	5	D	FWY
I-980 - north of 12th St	5,530	6584	0.84	3	E	2,587	6584	0.39	3	B	FWY
SR 24 - east of I-580	7,660	8978	0.85	4	E	4,342	8978	0.48	4	C	Class 1A
SR 260 - at Posey/Webster Tubes	3,843	1890	2.03	2	F	3,511	1890	1.86	2	F	Class 1A
Arterials											
5th St - east of Market	90	1810	0.05	2	B	0	#N/A	#N/A	0	A	Class 2
7th St - east of I-880	234	1810	0.13	2	B	124	1810	0.07	2	B	Class 2
8th St - east of Castro	0	#N/A	#N/A	0	A	418	3350	0.12	4	B	Class 2
14th St - east of Mandela Parkway	201	1810	0.11	2	B	145	1810	0.08	2	B	Class 2
Broadway - north of 7th St	164	2730	0.06	3	B	362	2730	0.13	3	C	Class 2
Harrison St - north of 7th St	2,224	2730	0.81	3	D	0	#N/A	#N/A	0	A	Class 2
Castro St - south of 12th St	713	2730	0.26	3	C	0	#N/A	#N/A	0	A	Class 2
Brush St - south of 12th St	0	#N/A	#N/A	0	A	1,262	2730	0.46	3	C	Class 2
Embarcadero - west of Broadway	321	1810	0.18	2	C	817	1810	0.45	2	C	Class 2
Middle Harbor Rd - south of 3rd St	373	1810	0.21	2	C	47	1810	0.03	2	B	Class 2
W. Grand Av - east of I-880	487	1810	0.27	2	C	1,019	1810	0.56	2	C	Class 2
Maritime St - South of W. Grand Av	433	1810	0.24	2	C	120	1810	0.07	2	B	Class 2
MacArthur Bl - east of Adeline St	1,233	2730	0.45	3	C	432	2730	0.16	3	C	Class 2
Adeline St - north of MacArthur Bl	273	1810	0.15	2	C	1,147	1810	0.63	2	C	Class 2
M L King Jr Way - north of W. Grand Av	127	1810	0.07	2	B	177	1810	0.10	2	B	Class 2
Powell St - east of I-80	596	1810	0.33	2	C	706	1810	0.39	2	C	Class 2
San Pablo Av - north of MacArthur Bl	1,784	1810	0.99	2	E	1,902	1810	1.05	2	F	Class 2
Ashby Av - east of I-80	899	1810	0.50	2	C	641	1810	0.35	2	C	Class 2
Sum	***100,673***					***88,796***					

Table A7:
Project: Oakland Army Base - MTS Segment Evaluation for CMP Analysis
2025 AM Peak Hour
Project

Link Location	NB/EB Volume	Capacity	V/C	Lanes	LOS	SB/WB Volume	Capacity	V/C	Lanes	LOS	Facility Type
Interstate/State Highways											
I-80 - at Bay Bridge	8,753	11225	0.78	5	D	11,583	11225	1.03	5	F	FWY
I-80 - east of I-80/I-580	8,138	11225	0.73	5	D	8,723	11225	0.78	5	D	FWY
I-880 - connector to I-80 east	2,415	4295	0.56	2	C	2,449	4295	0.57	2	C	FWY
I-880 - connector to I-80 west	1,555	4295	0.36	2	B	1,421	4295	0.33	2	B	FWY
I-880 - north of 7th St	3,782	6584	0.57	3	C	3,633	6584	0.55	3	C	FWY
I-880 - south of 7th St	4,354	6584	0.66	3	D	3,661	6584	0.56	3	C	FWY
I-880 - south of I-980	7,920	8978	0.88	4	E	6,271	8978	0.70	4	D	FWY
I-880 - north of I-238	8,164	8978	0.91	4	E	8,046	8978	0.90	4	E	FWY
I-238 - east of I-880	2,974	6584	0.45	3	C	5,562	6584	0.84	3	E	FWY
I-580 - east of I-980	4,533	8978	0.50	4	C	8,240	8978	0.92	4	E	FWY
I-580 - west of I-980	7,364	11225	0.66	5	D	9,167	11225	0.82	5	E	FWY
I-980 - north of 12th St	2,644	6584	0.40	3	B	5,146	6584	0.78	3	D	FWY
SR 24 - east of I-580	4,065	8978	0.45	4	C	7,733	8978	0.86	4	E	Class 1A
SR 260 - at Posey/Webster Tubes	3,288	1890	1.74	2	F	3,666	1890	1.94	2	F	Class 1A
Arterials											
5th St - east of Market	50	1810	0.03	2	B	0	#N/A	#N/A	0	A	Class 2
7th St - east of I-880	127	1810	0.07	2	B	255	1810	0.14	2	C	Class 2
8th St - east of Castro	0	#N/A	#N/A	0	A	452	3350	0.13	4	C	Class 2
14th St - east of Mandela Parkway	117	1810	0.06	2	B	380	1810	0.21	2	C	Class 2
Broadway - north of 7th St	143	2730	0.05	3	B	106	2730	0.04	3	B	Class 2
Harrison St - north of 7th St	1,886	2730	0.69	3	D	0	#N/A	#N/A	0	A	Class 2
Castro St - south of 12th St	286	2730	0.10	3	B	0	#N/A	#N/A	0	A	Class 2
Brush St - south of 12th St	0	#N/A	#N/A	0	A	1,893	2730	0.69	3	D	Class 2
Embarcadero - west of Broadway	141	1810	0.08	2	B	238	1810	0.13	2	B	Class 2
Middle Harbor Rd - south of 3rd St	54	1810	0.03	2	B	506	1810	0.28	2	C	Class 2
W. Grand Av - east of I-880	521	1810	0.29	2	C	335	1810	0.19	2	C	Class 2
Maritime St - South of W. Grand Av	193	1810	0.11	2	B	661	1810	0.37	2	C	Class 2
MacArthur Bl - east of Adeline St	1,840	2730	0.67	3	C	342	2730	0.13	3	B	Class 2
Adeline St - north of MacArthur Bl	259	1810	0.14	2	C	681	1810	0.38	2	C	Class 2
M L King Jr Way - north of W. Grand Av	98	1810	0.05	2	B	195	1810	0.11	2	B	Class 2
Powell St - east of I-80	607	1810	0.34	2	C	387	1810	0.21	2	C	Class 2
San Pablo Av - north of MacArthur Bl	1,786	1810	0.99	2	E	1,377	1810	0.76	2	D	Class 2
Ashby Av - east of I-80	824	1810	0.46	2	C	533	1810	0.29	2	C	Class 2
Sum	***78,881***					***93,642***					

Table A8:
Project: Oakland Army Base - MTS Segment Evaluation for CMP Analysis
2025 PM Peak Hour
Project

Link Location	NB/EB Volume	Capacity	V/C	Lanes	LOS	SB/WB Volume	Capacity	V/C	Lanes	LOS	Facility Type
Interstate/State Highways											
I-80 - at Bay Bridge	11,997	11225	1.07	5	F	11,839	11225	1.05	5	F	FWY
I-80 - east of I-80/I-580	9,293	11225	0.83	5	E	8,809	11225	0.78	5	D	FWY
I-880 - connector to I-80 east	3,251	4295	0.76	2	D	2,626	4295	0.61	2	C	FWY
I-880 - connector to I-80 west	2,064	4295	0.48	2	C	2,105	4295	0.49	2	C	FWY
I-880 - north of 7th St	4,594	6584	0.70	3	D	4,448	6584	0.68	3	D	FWY
I-880 - south of 7th St	4,711	6584	0.72	3	D	4,583	6584	0.70	3	D	FWY
I-880 - south of I-980	6,964	8978	0.78	4	D	8,280	8978	0.92	4	E	FWY
I-880 - north of I-238	7,988	8978	0.89	4	E	8,863	8978	0.99	4	E	FWY
I-238 - east of I-880	5,106	6584	0.78	3	D	3,497	6584	0.53	3	C	FWY
I-580 - east of I-980	8,940	8978	1.00	4	E	5,780	8978	0.64	4	D	FWY
I-580 - west of I-980	9,526	11225	0.85	5	E	8,468	11225	0.75	5	D	FWY
I-980 - north of 12th St	5,372	6584	0.82	3	E	2,570	6584	0.39	3	B	FWY
SR 24 - east of I-580	7,728	8978	0.86	4	E	4,319	8978	0.48	4	C	Class 1A
SR 260 - at Posey/Webster Tubes	3,844	1890	2.03	2	F	3,564	1890	1.89	2	F	Class 1A
Arterials											
5th St - east of Market	70	1810	0.04	2	B	0	#N/A	#N/A	0	A	Class 2
7th St - east of I-880	336	1810	0.19	2	C	167	1810	0.09	2	B	Class 2
8th St - east of Castro	0	#N/A	#N/A	0	A	445	3350	0.13	4	B	Class 2
14th St - east of Mandela Parkway	262	1810	0.14	2	C	179	1810	0.10	2	B	Class 2
Broadway - north of 7th St	166	2730	0.06	3	B	353	2730	0.13	3	C	Class 2
Harrison St - north of 7th St	2,241	2730	0.82	3	D	0	#N/A	#N/A	0	A	Class 2
Castro St - south of 12th St	781	2730	0.29	3	C	0	#N/A	#N/A	0	A	Class 2
Brush St - south of 12th St	0	#N/A	#N/A	0	A	1,247	2730	0.46	3	C	Class 2
Embarcadero - west of Broadway	412	1810	0.23	2	C	820	1810	0.45	2	C	Class 2
Middle Harbor Rd - south of 3rd St	705	1810	0.39	2	C	95	1810	0.05	2	B	Class 2
W. Grand Av - east of I-880	521	1810	0.29	2	C	1,142	1810	0.63	2	C	Class 2
Maritime St - South of W. Grand Av	893	1810	0.49	2	C	213	1810	0.12	2	B	Class 2
MacArthur Bl - east of Adeline St	1,240	2730	0.45	3	C	496	2730	0.18	3	C	Class 2
Adeline St - north of MacArthur Bl	320	1810	0.18	2	C	1,124	1810	0.62	2	C	Class 2
M L King Jr Way - north of W. Grand Av	126	1810	0.07	2	B	173	1810	0.10	2	B	Class 2
Powell St - east of I-80	618	1810	0.34	2	C	721	1810	0.40	2	C	Class 2
San Pablo Av - north of MacArthur Bl	1,760	1810	0.97	2	E	1,951	1810	1.08	2	F	Class 2
Ashby Av - east of I-80	927	1810	0.51	2	C	663	1810	0.37	2	C	Class 2
Sum	***102,756***					***89,540***					

Appendix 4.4
Air Quality

4.4A Emissions Calculations Spreadsheets

4.4B Ship and Tugboat Emissions Calculation Methodology

4.4C Proposed Mitigation Measures from the Berths 55-58 EIR

4.4A Emissions Calculations Spreadsheets

TRUCK AND PASSENGER CAR EMISSIONS - OARB PROJECT

Distance traveled within the SF Air Basin by Over-the-Road Trucks: 80 miles one-way to Gilroy
45 miles one-way to Tracy

PROJECT

			Emission Factors (g/mi)				Emissions (lb/day)				Emissions (tons/year)			
	Daily One-Way Trips	One-Way Trip Distance (mi)	ROG	CO	NO_x	PM_{10}	ROG	CO	NO_x	PM_{10}	ROG	CO	NO_x	PM_{10}
Port Area														
Intermodal Trucks	3180	0.5	1.27	11.91	7.66	0.37	8.9	83.5	53.7	2.6	1	11	7	0
Over-the-Road Trucks	1438	62.5	1.27	11.91	7.66	0.37	503.3	4719.6	3035.5	146.6	65	614	395	19
Passenger Light Duty Autos	2662	18	0.37	2.24	0.22	0.04	78.2	473.2	46.5	8.5	10	62	6	1
Passenger Light Duty Trucks	887	18	0.68	3.51	0.33	0.04	47.9	247.2	23.2	2.8	6	32	3	0
Gateway Development Area														
Passenger Light Duty Autos	14874	18	0.37	2.24	0.22	0.04	436.8	2644.3	259.7	47.2	57	344	34	6
Passenger Light Duty Trucks	4958	18	0.68	3.51	0.33	0.04	267.6	1381.2	129.9	15.7	35	180	17	2
16th and Wood Area														
Passenger Light Duty Autos	10916	18	0.37	2.24	0.22	0.04	320.5	1940.5	190.6	34.7	42	252	25	5
Passenger Light Duty Trucks	3639	18	0.68	3.51	0.33	0.04	196.4	1013.6	95.3	11.6	26	132	12	2
TOTAL TRUCKS:							**512.2**	**4803.1**	**3089.2**	**149.2**	**67**	**624**	**402**	**19**
TOTAL CARS:							**1347.3**	**7699.9**	**745.2**	**120.4**	**175**	**1001**	**97**	**16**

1. assumption for vehicle mix for passenger cars: 75% Light Duty Auto, 25% Light Duty Truck

CARGO HANDLING EQUIPMENT EMISSIONS ESTIMATES

Container Throughput in 2010 (metric tons per year): **21.8**
Container Throughput in 2020 (metric tons per year): **25.5**

Year 2010 Emissions (lbs/day) from Berths 55-58 EIR

	CO	ROG	NO_x	SO_2	PM
Top-Picks	197	70	484	21	29
Side-Picks	30	11	73	3	4
Hostling Tractor	187	58	599	16	37
Rubber-Tired Gantry	22	5	36	5	2.0
Fork Lifts	10	2	15	1	2.0
TOTAL:	446	146	1207	46	74

Year 2010 Emissions (tons/year) from Berths 55-58 EIR

CO	ROG	NO_x	SO_2	PM
36	13	88	4	5
5	2	13	1	1
34	11	109	3	7
4	1	6	1	0
2	0	3	0	0
81	27	219	9	13

Year 2020 Emissions (lbs/day)*

	CO	ROG	NO_x	SO_2	PM
Top-Picks	230	82	566	25	34
Side-Picks	35	13	85	4	5
Hostling Tractor	219	68	701	19	43
Rubber-Tired Gantry	26	6	42	6	2.3
Fork Lifts	12	2	18	1	2.3
TOTAL:	522	171	1412	54	87

**** Berths 55-58 EIR emissions x yr 2020/yr 2010 container throughput ratio***

Year 2020 Emissions (tons/year)*

CO	ROG	NO_x	SO_2	PM
42	15	103	5	6
6	2	15	1	1
40	13	128	4	8
5	1	7	1	0
2	0	4	0	0
95	32	256	11	15

Year 2020 Project Emissions (Year 2020 - Berths 55-58 yr 2010) - lbs/day

	CO	ROG	NO_x	SO_2	PM
Top-Picks	33	12	82	4	5
Side-Picks	5	2	12	1	1
Hostling Tractor	32	10	102	3	6
Rubber-Tired Gantry	4	1	6	1	0
Fork Lifts	2	0	3	0	0
TOTAL:	76	25	205	8	13

Year 2020 Project Emissions (Year 2020 - Berths 55-58 yr

CO	ROG	NO_x	SO_2	PM
6	2	15	1	1
1	0	2	0	0
6	2	19	1	1
1	0	1	0	0
0	0	1	0	0
14	5	37	2	2

Notes:
1. Year 2020 emissions based on year 2010 emissions multiplied by the ratio of year 2020 to year 2010 container throughput.
2. Source of year 2010 emissions: Berths 55-58 EIR, URS Greiner Woodward-Clyde 1998.
3. Source of year 2020 container throughput: SFBCDC 2000.
4. Source of year 2010 container throughput: URS Greiner Woodward-Clyde 1998.

JIT Line Haul and Switch Engine Emissions Associated with the OARB Project

PROJECT

Number of Trains per Day: [a] 2
Daily fuel use per train (gal): [b] 347.1
Annual fuel use per train (gal): [b] 126692

	Emission Factors (g/gal)[c]					Emissions (lb/day)					Emissions (tons/year)				
	ROG	CO	NO_x	SO_2[d]	PM_{10}	ROG	CO	NO_x	SO_2[d]	PM_{10}	ROG	CO	NO_x	SO_2[d]	PM_{10}
Line-Haul	5.4	26.6	103	16.33	3.6	8	41	158	25	6	2	7	29	5	1

[a] Source: Traffic analysis for the OARB EIR (Dowling Associates 2002).
[b] Source: JIT EIR (GAIA Consulting 1999).
[c] EPA 1997: Emission Factors for Locomotives (EPA420-F-97-051) - for engines manufactured after 2004 (Tier 2).
[d] From Berths 55-58 EIR (URS Greiner Woodward-Clyde 1998).

Railyard Equipment Emissions Estimates

Container Throughput in 2010 (metric tons per year): **21.8**
Container Throughput in 2020 (metric tons per year): **25.5**

Year 2010 Emissions (lbs/day) from the JIT EIR

	CO	ROG	NO_x	SO_2	PM
Rubber-Tired Gantry Crane	24.2	8.3	104.1	2.6	5
Side-Lift Piggy Packer	1.9	0.6	7.9	0.2	0.4
Hostling Tractor	25.2	7.9	80.8	2.2	5
IBC Tractor Lift	3.6	0.7	5.3	0.4	0.6
Mobile Car-Repair Crane	2.2	0.7	5.4	0.5	0.8
Mobile Car-Repair Truck	1	0	0	0	0.0
Supervisor Vehicle	0.8	0	0.1	0	0
Yard Van	1.7	0.1	0.2	0.1	0
Security Vehicle	2	0.1	0.1	0	0
Switch Engines	5	10	54	4	1.5
TOTAL:	68	28	258	10	13

Year 2010 Emissions (tons/year) from the JIT EIR

	CO	ROG	NO_x	SO_2	PM
Rubber-Tired Gantry Crane	4	2	19	0	1
Side-Lift Piggy Packer	0	0	1	0	0
Hostling Tractor	5	1	15	0	1
IBC Tractor Lift	1	0	1	0	0
Mobile Car-Repair Crane	0	0	1	0	0
Mobile Car-Repair Truck	0	0	0	0	0.00
Supervisor Vehicle	0.14	0	0.01	0	0
Yard Van	0.3	0.01	0.03	0.01	0
Security Vehicle	0.36	0.01	0.02	0	0
Switch Engines	1	2	10	1	0.27
TOTAL:	12	5	47	2	2

Year 2020 Emissions (lbs/day)*

	CO	ROG	NO_x	SO_2	PM
Rubber-Tired Gantry Crane	28	10	122	3	6
Side-Lift Piggy Packer	2	1	9	0	0
Hostling Tractor	29	9	95	3	6
IBC Tractor Lift	4	1	6	0	0.7
Mobile Car-Repair Crane	3	1	6	1	0.9
Mobile Car-Repair Truck	1	0	0	0	0.0
Supervisor Vehicle	1	0	0	0	0.0
Yard Van	2	0	0	0	0.0
Security Vehicle	2	0	0	0	0.0
Switch Engines	6	11	63	5	1.8
TOTAL:	80	33	301	12	16

Year 2020 Emissions (tons/year)*

	CO	ROG	NO_x	SO_2	PM
Rubber-Tired Gantry Crane	5	2	22	1	1
Side-Lift Piggy Packer	0	0	2	0	0
Hostling Tractor	5	2	17	0	1
IBC Tractor Lift	1	0	1	0	0
Mobile Car-Repair Crane	0	0	1	0	0
Mobile Car-Repair Truck	0	0	0	0	0.00
Supervisor Vehicle	0	0	0	0	0.00
Yard Van	0	0	0	0	0.00
Security Vehicle	0	0	0	0	0.00
Switch Engines	1	2	11	1	0.32
TOTAL:	15	6	55	2	3

**** JIT EIR emissions x yr 2020/yr 2010 container throughput ratio***

Year 2020 Project Emissions (Year 2020 - JIT yr 2010) - lbs/day

	CO	ROG	NO_x	SO_2	PM
Rubber-Tired Gantry Crane	4	1	18	0	1
Side-Lift Piggy Packer	0	0	1	0	0
Hostling Tractor	4	1	14	0	1
IBC Tractor Lift	1	0	1	0	0
Mobile Car-Repair Crane	0	0	1	0	0
Mobile Car-Repair Truck	0	0	0	0	0
Supervisor Vehicle	0	0	0	0	0
Yard Van	0	0	0	0	0
Security Vehicle	0	0	0	0	0
Switch Engines	1	2	9	1	0
TOTAL:	12	5	44	2	2

Year 2020 Project Emissions (Year 2020 - JIT yr 2010

	CO	ROG	NO_x	SO_2	PM
Rubber-Tired Gantry Crane	1	0	3	0	0
Side-Lift Piggy Packer	0	0	0	0	0
Hostling Tractor	1	0	3	0	0
IBC Tractor Lift	0	0	0	0	0
Mobile Car-Repair Crane	0	0	0	0	0
Mobile Car-Repair Truck	0	0	0	0	0
Supervisor Vehicle	0	0	0	0	0
Yard Van	0	0	0	0	0
Security Vehicle	0	0	0	0	0
Switch Engines	0	0	2	0	0
TOTAL:	2	1	8	0	0

OARB Area Redevelopment EIR

Calculation of Ship Emmissions

Emission Unit	Mode	Emissions (tons / yr)				
		CO	ROG	NOx	SOx	PM
Container Ships	Cruising	55	17	648	366	55
Container Ships	Manuevering	15	5	170	96	14
Container Ships	Hoteling	31	43	247	118	9
Tugs	Assist	5	1	33	6	1
	Totals	**106**	**67**	**1099**	**586**	**79**

OARB Area Redevelopment EIR

Calculation of Ship Emmissions

Year	Ship Visits / Year	Tug Emissions (tons / yr)					Tug Emissions (lbs. / day)				
		CO	ROG	NOx	SOx	PM	CO	ROG	NOx	SOx	PM
2020	645	4.5	1.4	33.1	5.9	0.7	24.7	7.9	181.5	32.5	3.8

Notes:

1 Fuel usage calculations for tugboats based on 0.05 gallons / hp-hr.

2 Tugboat manuevering fuel usage based on 0.8 hours at 0.3 load factor for half speed assistance and 1.2 hours at 0.75 load factor for slow speed manuevering assistance.

3 Tugboats are assumed to be 4,300 hp ocean going tugs operating during the manuevering phase of container ship operation. On tugboat is assumed to assist each container ship arriving at and leaving from the Port.

OARB Area Redevelopment EIR

Calculation of Ship Emmissions: Totals

Emission Unit	Mode	Emissions (tons / yr)				
		CO	ROG	NOx	SOx	PM
Container Ships	Cruising	55	17	648	366	55
Container Ships	Manuevering	15	5	170	96	14
Container Ships	Hoteling	31	43	247	118	9
Tugs	Assist	5	1	33	6	1
	Totals	**106**	**67**	**1099**	**586**	**79**

OARB Area Redevelopment EIR

Calculation of Ship Emmissions: Totals

Emission Unit	Mode	Emissions (tons / yr)				
		CO	ROG	NOx	SOx	PM
Container Ships	Cruising	55.4	17.4	648.1	365.9	55.1
Container Ships	Manuevering	15.1	4.8	170.1	96.0	14.5
Container Ships	Hoteling	30.5	43.0	247.2	118.3	8.9
Tugs	Assist	4.5	1.4	33.1	5.9	0.7
	Totals	**105.6**	**66.7**	**1,098.5**	**586.2**	**79.2**

OARB Area Redevelopment EIR

Calculation of Ship Emmissions: Tugs

Year	Ship Visits / Year	Tug Emissions (tons / yr)					Tug Emissions (lbs. / day)				
		CO	ROG	NOx	SOx	PM	CO	ROG	NOx	SOx	PM
2020	645	4.5	1.4	33.1	5.9	0.7	24.7	7.9	181.5	32.5	3.8

Notes:

1 Fuel usage calculations for tugboats based on 0.05 gallons / hp-hr.

2 Tugboat manuevering fuel usage based on 0.8 hours at 0.3 load factor for half speed assistance and 1.2 hours at 0.75 load factor for slow speed manuevering assistance.

3 Tugboats are assumed to be 4,300 hp ocean going tugs operating during the manuevering phase of container ship operation. On tugboat is assumed to assist each container ship arriving at and leaving from the Port.

OARB Area Redevelopment EIR

Calculation of Ship Emmissions: Container Vessels

Year	Ship Visits / Year	Ship type	Ship Size (DWT)	HP	Cruise Fuel Usage (gallons / ship visit)	Maneuvering Fuel Usage (gallons / ship visit)	Hoteling Fuel Usage (gallons / ship visit)	Hoteling Emissions (Tons / Year) CO	ROG	NOx	SOx	PM10	Hoteling Emissions (lbs. / day) CO	ROG	NOx	SOx	PM10
2020	290	Motorship	66220	42533	3403	893	1609	13.0	18.3	105.4	50.4	3.8	71.3	100.5	577.3	276.3	20.8
2020	145	Motorship	63750	38739	3099	814	1542	6.2	8.8	50.5	24.2	1.8	34.2	48.2	276.6	132.4	10.0
2020	116	Motorship	51920	30116	2409	632	1475	4.8	6.7	38.6	18.5	1.4	26.2	36.8	211.7	101.3	7.6
2020	29	Motorship	39060	26117	2089	548	1341	1.1	1.5	8.8	4.2	0.3	5.9	8.4	48.1	23.0	1.7
2020	0	Motorship	26280	25499	2040	535	1207	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2020	65	Steamship	37342	32000	3686	968	2995	5.4	7.7	44.0	21.0	1.6	29.8	41.9	240.8	115.3	8.7
2020	645	Total All Ships					**Totals**	**30.5**	**43.0**	**247.2**	**118.3**	**8.9**	**167.4**	**235.8**	**1354.5**	**648.3**	**48.9**

Notes:

1 Fuel usage calculations for motorships based on 0.05 gallons / hp-hr. (ARB 1984).

2 Fuel usage calculations for steamships based on 0.072 gallons / hp-hr (ARB 1984)

3 Cruising fuel usage based on a load factor of 0.8 and a 2 hour round trip cruise duration in a 3 mile zone.

4 Motorship manuevering fuel usage based on 0.8 hours round trip and a 0.3 load factor for half speed and 1.2 hours round trip and a 0.15 load factor for slow speed manuevering.

5 Steamship manuevering fuel usage based on 0.8 hours round trip and a 0.3 load factor for half speed and 1.2 hours round trip and a 0.15 load factor for slow speed manuevering.

6 Hoteling fuel usage based on 1000 kW of electricity (1341 hp) and ship durations for motorships based on ship size as follows:

Ship size	Duration (Hrs)
66220	24
63750	23
51920	22
39060	20
26280	18

7 Steamship hoteling fuel usage based on a load factor of 0.1 and a duration of 13.0 hrs.

OARB Area Red pment EIR

Calculation of Ship Emmissions: Container Vessels

Year	Ship Visits / Year	Ship type	Ship Size (DWT)	HP	Cruise Fuel Usage (gallons / ship visit)	Maneuvering Fuel Usage (gallons / ship visit)	Hoteling Fuel Usage (gallons / ship visit)	Cruising Emissions (Tons / Year) CO	ROG	NOx	SOx	PM10	Cruising Emissions (lbs. / day) CO	ROG	NOx	SOx	PM10
2020	290	Motorship	66220	42533	3403	893	1609	27.1	8.5	317.2	179.1	27.0	148.7	46.8	1738.3	981.4	147.9
2020	145	Motorship	63750	38739	3099	814	1542	12.4	3.9	144.5	81.6	12.3	67.7	21.3	791.6	446.9	67.3
2020	116	Motorship	51920	30116	2409	632	1475	7.7	2.4	89.9	50.7	7.6	42.1	13.2	492.3	277.9	41.9
2020	29	Motorship	39060	26117	2089	548	1341	1.7	0.5	19.5	11.0	1.7	9.1	2.9	106.7	60.3	9.1
2020	0	Motorship	26280	25499	2040	535	1207	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2020	65	Steamship	37342	32000	3686	968	2995	6.6	2.1	77.0	43.5	6.6	36.1	11.4	422.1	238.3	35.9
2020	645	Total All Ships					**Totals**	**55.4**	**17.4**	**648.1**	**365.9**	**55.1**	**303.8**	**95.5**	**3551.2**	**2004.8**	**302.1**

Notes:

1 Fuel usage calculations for motorships based on 0.05 gallons / hp-hr. (ARB 1984).

2 Fuel usage calculations for steamships based on 0.072 gallons / hp-hr (ARB 1984)

3 Cruising fuel usage based on a load factor of 0.8 and a 2 hour round trip cruise duration in a 3 mile zone.

4 Motorship manuevering fuel usage based on 0.8 hours round trip and a 0.3 load factor for half speed and 1.2 hours round trip and a 0.15 load factor for slow speed manuevering.

5 Steamship manuevering fuel usage based on 0.8 hours round trip and a 0.3 load factor for half speed and 1.2 hours round trip and a 0.15 load factor for slow speed manuevering.

6 Hoteling fuel usage based on 1000 kW of electricity (1341 hp) and ship durations for motorships based on ship size as follows:

Ship size	Duration (Hrs)
66220	24
63750	23
51920	22
39060	20
26280	18

7 Steamship hoteling fuel usage based on a load factor of 0.1 and a duration of 13.0 hrs.

OARB Area Redevelopment EIR

Calculation of Ship Emmissions: Container Vessels

Year	Ship Visits / Year	Ship type	Ship Size (DWT)	HP	Cruise Fuel Usage (gallons / ship visit)	Maneuvering Fuel Usage (gallons / ship visit)	Hoteling Fuel Usage (gallons / ship visit)	Maneuvering Emissions (Tons / Year) CO	ROG	NOx	SOx	PM10	Maneuvering Emissions (lbs. / day) CO	ROG	NOx	SOx	PM10
2020	290	Motorship	66220	42533	3403	893	1609	7.4	2.4	83.3	47.0	7.1	40.5	12.9	456.3	257.6	38.8
2020	145	Motorship	63750	38739	3099	814	1542	3.4	1.1	37.9	21.4	3.2	18.4	5.9	207.8	117.3	17.7
2020	116	Motorship	51920	30116	2409	632	1475	2.1	0.7	23.6	13.3	2.0	11.5	3.7	129.2	73.0	11.0
2020	29	Motorship	39060	26117	2089	548	1341	0.5	0.1	5.1	2.9	0.4	2.5	0.8	28.0	15.8	2.4
2020	0	Motorship	26280	25499	2040	535	1207	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2020	65	Steamship	37342	32000	3686	968	2995	1.8	0.6	20.2	11.4	1.7	9.8	3.1	110.8	62.6	9.4
2020	645	Total All Ships					**Totals**	**15.1**	**4.8**	**170.1**	**96.0**	**14.5**	**82.6**	**26.4**	**932.2**	**526.3**	**79.3**

Notes:

1 Fuel usage calculations for motorships based on 0.05 gallons / hp-hr. (ARB 1984).

2 Fuel usage calculations for steamships based on 0.072 gallons / hp-hr (ARB 1984)

3 Cruising fuel usage based on a load factor of 0.8 and a 2 hour round trip cruise duration in a 3 mile zone.

4 Motorship manuevering fuel usage based on 0.8 hours round trip and a 0.3 load factor for half speed and 1.2 hours round trip and a 0.15 load factor for slow speed manuevering.

5 Steamship manuevering fuel usage based on 0.8 hours round trip and a 0.3 load factor for half speed and 1.2 hours round trip and a 0.15 load factor for slow speed manuevering.

6 Hoteling fuel usage based on 1000 kW of electricity (1341 hp) and ship durations for motorships based on ship size as follows:

Ship size	Duration (Hrs)
66220	24
63750	23
51920	22
39060	20
26280	18

7 Steamship hoteling fuel usage based on a load factor of 0.1 and a duration of 13.0 hrs.

4.4B Ship and Tugboat Emissions Calculation Methodology

Marine Operations Calculation Methodology

Ships produce air emissions when burning fuel for propulsion or for electrical or steam generation. Three modes of ship operations occur in the Bay Area air basin: cruising, maneuvering, and hoteling. The first mode of operation is the "straight line" movement of the ships toward the Port in the ocean-shipping lane. The second mode is the maneuvering of the ship once it is in the San Francisco Bay. The last mode is the operation of auxiliary boilers or generators to supply power, etc., to the ship while it is berthed. Tugboat emissions from burning fuel while assisting ships to Port facilities are also considered here.

Emissions from ships transiting the Port will change as a result of the implementation of the OARB redevelopment plan. Specifically, development of the maritime and OARB sub-areas will result in changes to the number of ships entering the Port. The PORT performed an analysis of the effect of the OARB redevelopment plan on ship transit data. Ship visit data is based on ship sizes entering the Port and is dependent on the size and availability of berths, container demand, and channel depth. The information on ship visits was provided to URS for this EIR by the Port and is described below.

Ship Visit Analysis

The Port provided the estimate of ships visiting Port facilities in the year 2020. The Port estimated the number of ships visiting the Port in 2020 that would be associated with redevelopment at 645 ships. The size profile of ships visiting the Port in 2020 was assumed similar to the profile of ships used in the Berths 55-58 EIR and includes the assumption that the channel deepening project occurs prior to the time of analysis.

Emission Factors for Marine Operations

Justification of Emission Factors Used. The emission factors used for Marine Vessel emissions are the same as those used in previous Vision 2000 documents including the "-50-Foot Channel Deepening Project EIS" and the "Berths 55-58 EIS". These emission factors were determined to be the most representative for the type of ships using the Port and provide a measure of consistency between the various Port environmental reports. Only the tug emission factors have changed since the EIS work done previously. The new tug emission factors are based on emission factors used by the Port as provided by CARB. The emission factors were used by the Port for baseline emission level estimates as part of air emission mitigation measures enacted by the Port and included in CARB's Carl Moyer Program

Ship and Tug Emission Factors Used in this Study

Ship Type	Operating Mode	Emission Factors (lbs/1,000 gal)						
		TOGs	ROGs	CO	NO_x	SO_2	PM	PM_{10}
Motor	Cruise	18.0	17.3	55.0	643.0	363.0	57.0	54.7
	Maneuvering	19.0	18.2	57.0	643.0	363.0	57.0	54.7
	Hoteling	81.9	78.6	55.8	451.5	216.1	17.0	16.3
Steam	Cruise	2.0	1.9	7.0	64.0	363.0	57.0	54.7
	Maneuvering	0.7	0.7	3.5	56.0	363.0	20.0	19.2
	Hoteling	3.0	2.9	4.0	22.2	71.0	15.0	14.4
Tugs	Maneuvering	19.0	18.2	57.0	419.0	75.0	9.0	8.8

The cruise and maneuvering emission factors for motor and steam ships were taken from a study done by Acurex Environmental (1996) for SCAQMD's. The motor ship hoteling emission factors for CO, NO_x, and SO_2 are from a study done by TRC (1989), and the remaining emission factors are from AP-42, Volume II (EPA, 1995). The steam ship hoteling factors are from a study done by Booz-Allen & Hamilton (1991) for emissions from steam ships in the California area.

Operational Data for Ship Transit

The operational data used for the analysis of emissions from marine vessels is based on previous Vision 2000 EIR data. Fuel use for all ships are based on average transit times from a location 25 miles from the entrance to the San Francisco Bay as used in the Berths 55-58 EIR. Transit times are divided into the transit modes as described above. The time attributed to ship transit includes 2 hours of roundtrip travel per ship for cruise operations. Maneuvering operations include 0.8 hours of half speed maneuvering, and 1.2 hours of slow speed maneuvering roundtrip per ship. Hoteling times are based on ship size as provided in the Berths 55-58 EIR. Conversion of hours of operation to gallons of fuel use is based on ship horsepower data and 0.05 gallons of fuel per horsepower-hour of operation. (ARB report to the CA State Legislature, 1984).

Load factors for cruising and maneuvering modes are recommended by the EPA in their report "Analysis of Commercial Marine Vessels Emissions and Fuel Consumption Data (EPA420R-R-00-002)" (EPA, 2000). The load factors used are 80 % for cruising, 30 % for half speed maneuvering, and 15 % for slow speed maneuvering. Hoteling loads are based on an average auxiliary load of 1,000 kilowatts (1,341 hp).

Horsepower information for ships transiting the Port is based on the information on transit data provided by the Port and general horsepower classification used in the Berths 55-58 EIR.

Emissions Calculations

Emissions were calculated using the following equation:

$$E = Activity * FuelUse * LoadFactor * hp * hr * EF / 1000 / 2000$$

Where E = Pollutant Specific Emissions (tons/year)
Activity = # ships visiting the Port (Ships / year)
FuelUse = An engine specific conversion constant (gallons/hp-hr)
Loadfactor = Average percentage of bulk power used by vessel under certain conditions (%)
Hp = Engine horsepower rating (hp)
Hr = Hours of activity (hours)
EF = Pollutant Specific Emission Factors (lbs. / 1,000 gallons)

Marine vessel emissions were calculated using this equation and the data presented in the paragraphs above. The marine vessel data used to calculate emissions is summarized for each category of ship in the table below:

Year	Ship Visits / Year	Ship type	Ship Size (DWT)	HP	Cruise	Maneuvering	Hoteling
					Fuel Usage (gallons / ship visit)	Fuel Usage (gallons / ship visit)	Fuel Usage (gallons / ship visit)
2020	290	Motorship	66220	42533	3403	893	1609
2020	145	Motorship	63750	38739	3099	814	1542
2020	116	Motorship	51920	30116	2409	632	1475
2020	29	Motorship	39060	26117	2089	548	1341
2020	0	Motorship	26280	25499	2040	535	1207
2020	65	Steamship	37342	32000	3686	968	2995
2020	**645**	**Total Number of Ships**					

Notes:

1 Fuel usage calculations for motorships based on 0.05 gallons / hp-hr. (ARB 1984).
2 Fuel usage calculations for steamships based on 0.072 gallons / hp-hr (ARB 1984)
3 Cruising fuel usage based on a load factor of 0.8 and a 2-hour round trip cruise duration in a 3 mile zone.
4 Motorship maneuvering fuel usage based on 0.8 hours round trip and a 0.3 load factor for half speed and 1.2 hour's round trip and a 0.15 load factor for slow speed maneuvering.
5 Steamship maneuvering fuel usage based on 0.8 hours round trip and a 0.3 load factor for half speed and 1.2 hour's round trip and a 0.15 load factor for slow speed maneuvering.

6 Hoteling fuel usage based on 1000 kW of electricity (1341 hp) and ship duration for motorships based on ship size as follows:

Ship size	Duration (Hrs)
66220	24
63750	23
51920	22
39060	20
26280	18

7 Steamship Hoteling fuel usage based on a load factor of 0.1 and a duration of 13.0 hrs.

Using this data and the data for tugboats, the emissions for marine vessels and tugboats were calculated. The results of these calculations are shown in the table below:

Vessel Type	Operating Mode	Emissions (tons / yr)				
		CO	ROG	NOx	SOx	PM10
Container Ships	Cruising	55.4	17.4	648.1	365.9	55.1
Container Ships	Maneuvering	15.1	4.8	170.1	96.0	14.5
Container Ships	Hoteling	30.5	43.0	247.2	118.3	8.9
Tugs	Assist	4.5	1.4	33.1	5.9	0.7
	Totals	**105.6**	**66.7**	**1,098.5**	**586.2**	**79.2**

Marine Operations Calculation Methodology

Ships produce air emissions when burning fuel for propulsion or for electrical or steam generation. Three modes of ship operations occur in the Bay Area air basin: cruising, maneuvering, and hoteling. The first mode of operation is the "straight line" movement of the ships toward the Port in the ocean-shipping lane. The second mode is the maneuvering of the ship once it is in the San Francisco Bay. The last mode is the operation of auxiliary boilers or generators to supply power, etc., to the ship while it is berthed. Tugboat emissions from burning fuel while assisting ships to Port facilities are also considered here.

Emissions from ships transiting the Port will change as a result of the implementation of the OARB redevelopment plan. Specifically, development of the maritime and OARB sub-areas will result in changes to the number of ships entering the Port. The PORT performed an analysis of the effect of the OARB redevelopment plan on ship transit data. Ship visit data is based on ship sizes entering the Port and is dependent on the size and availability of berths, container demand, and channel depth. The information on ship visits was provided to URS for this EIR by the Port and is described below.

Ship Visit Analysis

The Port provided the estimate of ships visiting Port facilities in the year 2020. The Port estimated the number of ships visiting the Port in 2020 that would be associated with redevelopment at 645 ships. The size profile of ships visiting the Port in 2020 was assumed similar to the profile of ships used in the Berths 55-58 EIR and includes the assumption that the channel deepening project occurs prior to the time of analysis.

Emission Factors for Marine Operations

Justification of Emission Factors Used. The emission factors used for Marine Vessel emissions are the same as those used in previous Vision 2000 documents including the "-50-Foot Channel Deepening Project EIS" and the "Berths 55-58 EIS". These emission factors were determined to be the most representative for the type of ships using the Port and provide a measure of consistency between the various Port environmental reports. Only the tug emission factors have changed since the EIS work done previously. The new tug emission factors are based on emission factors used by the Port as provided by CARB. The emission factors were used by the Port for baseline emission level estimates as part of air emission mitigation measures enacted by the Port and included in CARB's Carl Moyer Program

Ship and Tug Emission Factors Used in this Study

Ship Type	Operating Mode	Emission Factors (lbs/1,000 gal)						
		TOGs	ROGs	CO	NO_x	SO_2	PM	PM_{10}
Motor	Cruise	18.0	17.3	55.0	643.0	363.0	57.0	54.7
	Maneuvering	19.0	18.2	57.0	643.0	363.0	57.0	54.7
	Hoteling	81.9	78.6	55.8	451.5	216.1	17.0	16.3
Steam	Cruise	2.0	1.9	7.0	64.0	363.0	57.0	54.7
	Maneuvering	0.7	0.7	3.5	56.0	363.0	20.0	19.2
	Hoteling	3.0	2.9	4.0	22.2	71.0	15.0	14.4
Tugs	Maneuvering	19.0	18.2	57.0	419.0	75.0	9.0	8.8

The cruise and maneuvering emission factors for motor and steam ships were taken from a study done by Acurex Environmental (1996) for SCAQMD's. The motor ship hoteling emission factors for CO, NO_x, and SO_2 are from a study done by TRC (1989), and the remaining emission factors are from AP-42, Volume II (EPA, 1995). The steam ship hoteling factors are from a study done by Booz-Allen & Hamilton (1991) for emissions from steam ships in the California area.

Operational Data for Ship Transit

The operational data used for the analysis of emissions from marine vessels is based on previous Vision 2000 EIR data. Fuel use for all ships are based on average transit times from a location 25 miles from the entrance to the San Francisco Bay as used in the Berths 55-58 EIR. Transit times are divided into the transit modes as described above. The time attributed to ship transit includes 2 hours of roundtrip travel per ship for cruise operations. Maneuvering operations include 0.8 hours of half speed maneuvering, and 1.2 hours of slow speed maneuvering roundtrip per ship. Hoteling times are based on ship size as provided in the Berths 55-58 EIR. Conversion of hours of operation to gallons of fuel use is based on ship horsepower data and 0.05 gallons of fuel per horsepower-hour of operation. (ARB report to the CA State Legislature, 1984).

Load factors for cruising and maneuvering modes are recommended by the EPA in their report "Analysis of Commercial Marine Vessels Emissions and Fuel Consumption Data (EPA420R-R-00-002)" (EPA, 2000). The load factors used are 80 % for cruising, 30 % for half speed maneuvering, and 15 % for slow speed maneuvering. Hoteling loads are based on an average auxiliary load of 1,000 kilowatts (1,341 hp).

Horsepower information for ships transiting the Port is based on the information on transit data provided by the Port and general horsepower classification used in the Berths 55-58 EIR.

Emissions Calculations

Emissions were calculated using the following equation:

$$E = Activity * FuelUse * LoadFactor * hp * hr * EF / 1000 / 2000$$

Where E = Pollutant Specific Emissions (tons/year)
Activity = # ships visiting the Port (Ships / year)
FuelUse = An engine specific conversion constant (gallons/hp-hr)
Loadfactor = Average percentage of bulk power used by vessel under certain conditions (%)
Hp = Engine horsepower rating (hp)
Hr = Hours of activity (hours)
EF = Pollutant Specific Emission Factors (lbs. / 1,000 gallons)

Marine vessel emissions were calculated using this equation and the data presented in the paragraphs above. The marine vessel data used to calculate emissions is summarized for each category of ship in the table below:

Year	Ship Visits / Year	Ship type	Ship Size (DWT)	HP	Cruise	Maneuvering	Hoteling
					Fuel Usage (gallons / ship visit)	Fuel Usage (gallons / ship visit)	Fuel Usage (gallons / ship visit)
2020	290	Motorship	66220	42533	3403	893	1609
2020	145	Motorship	63750	38739	3099	814	1542
2020	116	Motorship	51920	30116	2409	632	1475
2020	29	Motorship	39060	26117	2089	548	1341
2020	0	Motorship	26280	25499	2040	535	1207
2020	65	Steamship	37342	32000	3686	968	2995
2020	**645**	**Total Number of Ships**					

Notes:

1 Fuel usage calculations for motorships based on 0.05 gallons / hp-hr. (ARB 1984).
2 Fuel usage calculations for steamships based on 0.072 gallons / hp-hr (ARB 1984)
3 Cruising fuel usage based on a load factor of 0.8 and a 2-hour round trip cruise duration in a 3 mile zone.
4 Motorship maneuvering fuel usage based on 0.8 hours round trip and a 0.3 load factor for half speed and 1.2 hour's round trip and a 0.15 load factor for slow speed maneuvering.
5 Steamship maneuvering fuel usage based on 0.8 hours round trip and a 0.3 load factor for half speed and 1.2 hour's round trip and a 0.15 load factor for slow speed maneuvering.

6 Hoteling fuel usage based on 1000 kW of electricity (1341 hp) and ship duration for motorships based on ship size as follows:

Ship size	Duration (Hrs)
66220	24
63750	23
51920	22
39060	20
26280	18

7 Steamship Hoteling fuel usage based on a load factor of 0.1 and a duration of 13.0 hrs.

Using this data and the data for tugboats, the emissions for marine vessels and tugboats were calculated. The results of these calculations are shown in the table below:

Vessel Type	Operating Mode	Emissions (tons / yr)				
		CO	ROG	NOx	SOx	PM10
Container Ships	Cruising	55.4	17.4	648.1	365.9	55.1
Container Ships	Maneuvering	15.1	4.8	170.1	96.0	14.5
Container Ships	Hoteling	30.5	43.0	247.2	118.3	8.9
Tugs	Assist	4.5	1.4	33.1	5.9	0.7
	Totals	**105.6**	**66.7**	**1,098.5**	**586.2**	**79.2**

4.4C Proposed Mitigation Measures from the Berths 55-58 EIR

Proposed Mitigation Measures from the Berths 55-58 EIR

The following mitigation measures were proposed in the Berths 55-58 EIR to mitigate the air quality impacts of Vision 2000 Program.

Proposed Mitigation Package

ID Measure	Capital Cost		Other Funding Sources	Emission Reduction Potential *(tons/year)*		
	% Budget	$1,000		ROG	PM_{10}	NO_x
M1-Subsidize retrofit/repower diesel truck engines	20%	1,485	Yes	11	6	28
M2-Subsidize retrofit/repower cargo handling equipment	65%	4,900	Yes	49	31	397
M3-Subsidize retrofit or repower one diesel tug as pilot program (a)	6.7%	500	Yes	6	3	0
M4-Subsidize repower AC Transit buses	7.1%	535	Yes	<1	<1	4.6
M5-Encourage retrofit of switch engines	<1%	10	Yes	<1	<1	12.4
M6-Design/operational measures (e)	<1%	10(b)	Yes (c)	(d)	(d)	(d)
M7-Study Red Star Yeast ROG control	<1%	25	No	(f)	(d)	(d)
M8- Study and implement ROG control at Precision Cast	<1%	30	No	(f)	(d)	(d)
M9-Study heavy duty truck test station	<1%	5	Yes	(d)	(d)	`(d)`
Totals	100%	7,500		66	40	442

(a) The estimate of benefits is for retrofitting a tug with exhaust after-treatment; repowering with new diesel engines would reduce ROG by 0.5 tons, NO_x by 4.5 tons, PM_{10} by 0.3 tons

(b) Operating costs will be in the range of $45-50,000 per year.

(c) Not all components are eligible for alternative funding

(d) Benefits not quantified due to insufficient information

(e) Measures are described under description of M6

(f) Firm estimates of benefits not available but generally expected to be up to 45 tons/yr for Red Star Yeast and about 6 tons/yr for Precision Cast Products

The nine proposed mitigation measures listed above reflect the Port's emphasis on a balanced but cost-effective approach. Approximately 65 percent of the $7.5 million air quality mitigation budget is proposed to be allocated to subsidize the retrofit and repowering of diesel-powered cargo-handling equipment (M2). Available information indicates that M2 is the most cost-effective measure, produces greater emissions reduction benefit than other measures and, geographically, will produce substantial mitigation in the Near-Port/West Oakland area. Proposed measure M1, which is allocated 20 percent of the budget, will be directed to retrofit and repower cargo trucks that serve the Port extensively and operate primarily in the San Francisco Bay Area. In combination, proposed measures M1 and M2 are expected to yield at least 90 percent of the ROG, PM_{10} and NO_x reductions of the full mitigation package. The remaining 15 percent of the budget is allocated to a series of smaller measures that address sources and operations that are highly visible and of concern to Port neighbors. Reductions cannot be estimated for proposed measures M6 to M9. In the case of M6, benefits will depend primarily on voluntary action by truckers, employees, and tenants. Measures M7 and M9 are studies. Potential benefits depend on the outcome of each study. Whenever feasible, the Port will supplement its mitigation budget with other sources of funding and thereby further increase mitigation benefits.

Proposed Mitigation Measure 1: Emission Reductions from Transport Trucks

The Port proposes to implement actions to reduce the impact of diesel-powered truck emissions on the surrounding area.

Measure: Subsidize the cost of repowering diesel trucks with new engines meeting California emission standards for new diesel engines, or add-on exhaust treatment devices such as soot traps and catalytic converters. This subsidy would be prioritized for those pieces of equipment that have the largest remaining period of useful life.

Available to: Port-owned trucks and owners of trucks primarily using Port facilities and fleet owners in the West Oakland neighborhood. Preference will be given to fleet owners in West Oakland that serve the Port, and operate primarily in the Bay Area, eg., Lodi Truck Service and Roadway Express identified through the field analysis.

Other elements of measure: This measure will be supplemented by other funding sources described in Table C2-1 (e.g., the "Carl Moyer Program," and research and development projects).

Funding: Approximately $1,485,000 This amount will subsidize retrofit of approximately 110 trucks with new, cleaner engines. If truck owners use these funds to add exhaust treatment to existing engines, a larger number of trucks can be retrofitted.

Potential emission reductions:[1]

[1] Potential emission reductions assume that the Port subsidizes 75 percent of the cost of repowering/retrofitting the stated number of engines.

Emission Reduction (tons/year)		
NO_X	PM_{10}	ROGs
28	6	11

Proposed Mitigation Measure 2: Emission Reductions from Cargo-Handling Equipment

The Port proposes to implement actions to reduce the impact of diesel-powered cargo-handling equipment emissions on air quality.

Measure: Subsidize the cost of repowering diesel cargo-handling equipment engines at the marine terminals with new engines meeting California emission standards for new diesel engines or add-on exhaust treatment devices including soot traps and catalytic converters. This measure would apply to cargo-handling equipment at existing container yards (the assumption is that the new container yards would be equipped with newer, clean burning equipment).

Available to: Tenants and equipment operators at Port facilities.

Other elements of measure: This subsidy will be supplemented to the extent possible by other funding sources described in Table C2-1.

Funding: Approximately $4,900,000. This funding would allow repowering/retrofit of about 350 pieces of cargo-handling equipment.

Potential emission reductions:

Emission Reduction (tons/year)		
NO_X	PM_{10}	ROGs
397	31	49

Proposed Mitigation Measure 3: Emission Reductions from Tugboats

The Port proposes to implement actions to reduce the impact of tugboat emissions on the surrounding area.

Measure: 1) Subsidize the retrofit of one diesel tugboat as a demonstration project with new engines meeting California emission standards for new diesel engines, or add-on exhaust treatment devices including soot traps and catalytic converters, or with a new diesel engine.

Available to: Owners of tugboats operating from Port-based facilities.

Other elements of measure: This subsidy will be supplemented to the extent possible by other funding sources described in Table C2-1.

Funding: Approximately $500,000

Potential emission reductions:

Emission Reduction (tons/year)			
NO_X	PM_{10}	ROGs	
4.5	0.3	0.5	(for new diesel engines)
0	3	6	(for add-on exhaust treatment)

Proposed Mitigation Measure 4: Emission Reductions from AC Transit Buses

The Port proposes to implement actions to reduce the impact of diesel-powered bus emissions on the West Oakland area.

Measure: Subsidize the repowering of diesel bus engines with new engines meeting California emission standards for new diesel engines, or with alternative fuel engines. This measure is targeted to those buses that operate in the West Oakland, Emeryville, and Alameda area.

Available to: AC Transit

Funding: Approximately $535,000 (funding for approximately 27 buses)

Emission reductions:

Emission Reduction (tons/year)		
NO_X	PM_{10}	ROGs
4.6	<1	<1

Proposed Mitigation Measure 5: Emission Reductions from Train Switching Operations

The Port proposes to implement actions to reduce the impact of diesel-powered locomotive emissions on West Oakland area.

Measure: When the new JIT is built, the Port intends to request the operator of switch engines operating at the terminal to use engines that meet the requirements of the recently promulgated federal regulation limiting locomotive emissions.

Other elements of measure: Implementation of this measure will encourage that the allocation of switching locomotives with new or rebuilt engines take into account the desire of the Port to minimize emissions related to switching activities.

Funding: Approximately $10,000 for the Port. This will be used to assist the operator to seek supplemental funding.

Emission reductions:

Emission Reduction (tons/year)		
NO_X	PM_{10}	ROGs
12.4	<1	<1

Proposed Mitigation Measure 6: Emission Reductions from Operational Features of Port Facilities

The Port proposes to include features in the design and operation of new facilities that will tend to minimize emissions.

Measure: The following features will be a part of the design of new Port facilities:

6.1 Provisions for cold ironing tugboats while berthed (This is included in the Berths 55-58 Project. The new tugboat berth will be fitted to provide shoreside power to moored tugs.)

6.2 Port-subsidized 24-hour truck parking facilities in the maritime area to minimize truck idling on neighborhood streets (This is included in the Berths 55-58 Project. Subsidized parking will be provided at Berth 59 and other locations nearby.)

6.3 Configure parking to minimize traffic. The Port will design parking at future facilities so that traffic is minimized.

6.4 Synchronize traffic signals. The Port will work with the City of Oakland to synchronize traffic signal timing in West Oakland on routes leading to the Port so that as traffic volumes increase with the implementation of Vision 2000 projects, traffic signal timing is adjusted to handle the increase in volumes. The Port will allocate approximately $10,000 to this effort.

The following practices will be a part of future operations at the Port (and in some cases, these are already in place):

6.5 Participate in "Spare the Air Days." The Port will also work with its tenants through newsletters and other communications to encourage tenant employees to use carpool or alternate modes of transport on Spare the Air days. The Port will contribute approximately $5,000 annually to this program.

6.6 Work trip reduction program for maritime employees. The Port will set aside $25,000 each year to provide mass transit subsidies. These will be offered to Port employees first, and any remaining money would be offered to employees of Port tenants.

6.7 Establishment of an employee cashout policy at the marine terminals. The Port will contribute approximately $2,500 annually to implement this program.

6.8 Restrictions on the supply of parking for tenant vehicles.

6.9 Engine maintenance of Port and tenant vehicles. The Port will inform its maintenance staff and its tenants of the importance of regular maintenance on vehicles in order to reduce emissions, through regular workshop and training sessions. The Port plans to contribute approximately $10,000 annually to this training program.

6.10 Truck driver training program. The Port will develop its truck driver training program and use it to inform truckers of the need to reduce emissions from truck idling. Approximately $5,000 will be contributed annually to this program.

Other elements of measure: Implementation of this group of measures will require that design of planned Port facilities incorporate the specific mitigation provisions listed. In addition, it will be necessary to develop operational plans to ensure that future operations properly use the constructed facilities. The operational measures that are listed above will require ongoing commitment of Port resources. The measures will require communications with and cooperation of Port tenants to make this measure most effective. The measure will also rely on continued operation of government sponsored transportation programs.

Funding: The constructed portions of this measure can be completed through the design of new Port facilities. Operational components of this measure will require Port personnel resources on an ongoing basis to coordinate program elements. It is likely that a person year of additional effort will be required.

Emission reductions: This measure will reduce Port-related emissions; however, the magnitude of emissions reduction is not quantifiable.

Proposed Mitigation Measure 7: Engineering Study

The Port proposes to examine the potential to reduce emissions from a stationary source in West Oakland.

Measure: Conduct an engineering study to determine whether cost-effective measures exist to reduce ROG emissions from Red Star Yeast facility in West Oakland.

Other elements of measure: It is unknown at this time whether the facility owner would be amenable to this study or controls.

Funding: $25,000

Potential emission reductions: Up to 45 tons/year of ROGs.

Proposed Mitigation Measure 8: Engineering Study/Controls

The Port proposes to assist a West Oakland business with implementing emission controls.

Measure: Conduct an engineering study and subsidize implementation of controls (such as ducting and venting) to control emissions of ROGs.

Other elements of measure: It is unknown at this time whether the facility owner would be amenable to this study or controls.

Funding: $30,000

Potential emission reduction: Up to 6.3 tons/year of ROGs

Proposed Mitigation Measure 9: Testing Station

The Port proposes to further reduce diesel truck emissions in the Port area.

Measure: The Port will contact CARB and work with that agency to determine the feasibility and potential benefits of establishing a heavy-duty diesel truck emission testing station in the Port area.

Other elements of measure: None

Funding: $5,000

Potential emission reductions: Unknown

Mitigation Package - Port-Related Operational Emissions

The nine mitigation measures identified above will form an effective program to mitigate the impact of potential emissions increases associated with implementation of the Vision 2000 Program. The measures will:

- Significantly decrease emissions
  - decrease NO_X emissions by up to 442 tons per year
  - decrease PM_{10} emissions by up to 40 tons per year
  - decrease ROG emissions by up to 66 tons per year

- Cost $7,500,000 in capital costs

- Provide direct benefits to the West Oakland, Emeryville, and Alameda communities by targeting local emission reductions

- Provide regional air quality benefits by reducing overall emissions

- Form the basis for a continuing program at the Port to minimize emissions

The Port's overriding policy goal is a mitigation package that is both balanced and highly cost-effective. The Port intends to invest its air quality mitigation resources in a way that yields the maximum reduction in pollutants of concern in the Bay Area. At this stage in the decision process, the goal of cost-effectiveness can best be served by retaining an appropriate level of flexibility. The following considerations underscore the desirability of retaining flexibility:

- Control technology is evolving rapidly. A number of emission reduction options that are not commercially available today, and may be more cost-effective than those measures that are available, are expected to come on line in the next 1-3 years. The Port is, for example, funding a study of the future viability of using alternative fuel cargo handling equipment. At present, this technology is not commercially available, but the situation could change in the next 2-3 years.

- Additional funding sources of mitigation measures will become available in the near future. The CARB, for example, is developing governing regulations and eligibility criteria for the "Carl Moyer Program," which will provide $25,000,000 statewide to subsidize the early introduction of clean technology engines and retrofit hardware for many of the sources that operate at the Port. The Port intends to make extensive use of this program to supplement its $7,500,000, but until program awards are announced in the spring of 1999, the Port will not know how to coordinate its funding choices and mitigation implementation strategy with the state program.

- Both of the above factors will affect the ultimate cost of mitigation measures as well as their emission reduction benefits.

Appendix 4.5
Noise Data

4.5A Long-Term Measurement Data Summary

4.5B Short-Term Measurement Data Summary

Appendix 4.5A
Long-Term Measurement Data Summary

		One-Hour L_{eq} (dBA) at Site	
Date 2001	**Time**	**LT-1**	**LT-2**
April 17	1:00 p.m.	64	61
	2:00 p.m.	65	61
	3:00 p.m.	67	61
	4:00 p.m.	65	60
	5:00 p.m.	67	64
	6:00 p.m.	67	68
	7:00 p.m.	66	64
	8:00 p.m.	64	57
	9:00 p.m.	62	58
	10:00 p.m.	60	56
	11:00 p.m.	60	54
April 18	12:00 a.m.	58	52
	1:00 a.m.	54	51
	2:00 a.m.	54	50
	3:00 a.m.	55	49
	4:00 a.m.	56	53
	5:00 a.m.	61	55
	6:00 a.m.	64	57
	7:00 a.m.	65	61
	8:00 a.m.	63	59
	9:00 a.m.	65	61
	10:00 a.m.	64	60
	11:00 a.m.	67	61
	12:00 p.m.	67	62
Daytime L_{eq} (dBA)			
	MAX	67	68
	MIN	63	59
Evening L_{eq} (dBA)			
	MAX	66	64
	MIN	62	57
Nightime L_{eq} (dBA)			
	MAX	64	57
	MIN	54	49
		CNEL (dBA)	
		LT-1	LT-2
		68	**64**

Appendix 4.5B
Short-Term Noise Measurement Data Summary

Measurement Site		Measurement Period				Measurement Results, dBA					
ID	Brief Description	Date 2001	Start time	Duration (mins)	Predominant Noise Sources	L_{eq}	L_{max}	L_{min}	L_{90}	L_{50}	L_{10}
ST-1	Pine/Goss Streets by WEAP car park (Near LT-1)	17-Apr	14:08	6.5	Traffic, BART, distant aircraft	61	71	56	58	60	63
ST-1b			14:15	15		63	74	56	58	61	66
ST-2	Pine Street, adjacent to backyard of 1798 8th Street		14:48	15	Traffic, birds, BART, one distant freight train	63	69	49	61	62	66
ST-3	9th Street, adjacent to backyard of 903 Pine Street		15:12	15	Traffic, BART, distant aircraft	61	69	56	58	60	63
ST-4	Between 1208 and 1220 Wood Street		15:38	30	Traffic (including buses and trucks on Wood Street), industrial, aircraft	65	88	51	53	56	66
ST-5	West side of Raimondi Park		16:18	15	Traffic, aircraft	63	74	59	61	63	65
ST-6	Playground at Raimondi Park, 18th Street		16:40	15	Traffic, truck movement at property opposite park	60	73	56	57	58	61
ST-7	1416 17th Street		17:11	15	Traffic, birds, aircraft	56	73	49	51	54	59
ST-8	407 Martin Luther King Jr. Way	18-Apr	10:07	15	Traffic, BART, birds	71	88	60	66	68	75
ST-9	402 Brush Street		10:48	15	Traffic, BART, distant aircraft	67	78	59	62	64	70
ST-10	1018 Pine Street		11:19	15	Traffic, aircraft, industrial	62	78	51	53	56	64
ST-11a	1741 14th Street		11:58	15	Traffic, birds, distant aircraft, distant sawing	61	76	52	54	57	64
ST-12[b]	Entrance to 220 Burma Road		12:31	12	Distant traffic, distant aircraft	59	74	54	56	58	61

Notes:

a. Winds increased from 0 to 4 mph to 4 to 8 mph with gusts to 11 mph.
However, based on field observations, there was no effect on the measurement accuracy.

b. Winds increased further, to 8 to 12 mph with gusts to 17 mph.
However, based on field observations, the effect on the measurement was minor.

Appendix 4.6
Cultural Resources

Memorandum of Agreement Between the U.S. Army and State Historic Preservation Officer (SHPO) Regarding the OARB

MEMORANDUM OF AGREEMENT
BETWEEN THE DEPARTMENT OF THE ARMY
AND THE CALIFORNIA STATE HISTORIC PRESERVATION OFFICER
REGARDING THE CLOSURE AND REUSE OF THE FORMER OAKLAND ARMY BASE, CALIFORNIA

WHEREAS, the United States Army (Army) is responsible for implementation of applicable provisions of the Defense Base Closure and Realignment Act of 1990 (P.L. 101-510) as amended and is proceeding with the closure of the Oakland Army Base (OARB), California and subsequent disposal of excess property in a manner consistent with the requirements of the applicable Defense Base Closure and Realignment (BRAC) Commission recommendation; and

WHEREAS, the Army has determined that leasing, licensing and/or disposal of lands at the Oakland Army Base, California (undertaking) may have an adverse effect on properties that are eligible for inclusion in the National Register of Historic Places, and has consulted with the California State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (Council) pursuant to 36 C.F.R. Part 800, regulations implementing Section 106 of the National Historic Preservation Act (16 U.S.C. Section 470(f), Section 110(f) of the same Act (16 U.S.C. Section 470-2[f]; and

WHEREAS, the Federal Highways Administration in consultation with SHPO and the Army conducted a historic buildings survey in 1990 in preparation for the I-880/Cypress Street Viaduct Replacement project and determined that Buildings 1, 4, 60, 85, 88, 90, 99, 151, 152, 153, 802, 803, 804, 805, 806, 807, 808, 812, 821, 822, 823, 991, and Knight Rail Yard were eligible for listing the National Register of Historic Places (NRHP) as contributing elements of a historic district (Figure 1) known as the Oakland Army Base Historic District and not individually eligible; and

WHEREAS, the Army in consultation with SHPO conducted a re-evaluation of the National Register eligibility of the OARB Historic District to support a BRAC disposal of OARB lands and determined in 2000 that Buildings 1, 4, 60, 85, 88, 90, 99, 151, 152, 153, 802, 803, 804, 805, 806, 807, 808, 812, 821, 822, 823, 991 were still eligible for the National Register, but that the Knight Rail Yard had been severely altered and is no longer a contributing element to the OARB Historic District; and

WHEREAS, the Army in consultation with SHPO completed an inventory and evaluation of Cold War-era buildings and structures to support disposal of OARB lands and have concluded that no other buildings or structures outside the OARB Historic District qualify for listing in the National Register of Historic Places and in addition, has produced a documentary video recounting the history of the Oakland Army Base; and

WHEREAS, the 1995 Memorandum of Agreement among the Military Traffic Management Command, the Council, and SHPO implemented prior to BRAC, determined that future development plans for OARB may have an effect upon properties included in OARB Historic District, and allowed for alterations and demolition of all historic properties at OARB upon completion of a Historic American Building Survey/Historic American Engineering Record (HABS/HAER) and the HABS/HAER recordation was completed according to guidance issued by the National Park Service (NPS) and subsequently, submitted to and accepted by NPS as a completed recordation of the OARB Historic District; and

WHEREAS, the Army in consultation with SHPO determined that Buildings 4, 85, 90, 802, 803, 804, 805, 806, 807, 808, 821, 822, 823, and 991 were constructed as World War II temporary structures and are in compliance with recordation measures set forth in the 1986 Programmatic Agreement between the Department of Defense, Council, and the National Conference of State Historic Preservation Officers regarding the demolition of World War II-era temporary wooden buildings, and as such, has removed these buildings from further consideration in the Section 106 process; and

WHEREAS, interested members of the public, including the Oakland Landmarks Advisory Board, and the Oakland Heritage Alliance, have been provided opportunities to comment on this Memorandum of Agreement (MOA) and the effects this base closure may have on historic properties at the Oakland Army Base Historic District; and

WHEREAS, the Oakland Base Reuse Authority (OBRA) as the Local Reuse Authority responsible for the reuse planning of closing military facilities at OARB is to receive surplus historic properties within the OARB Historic District from the Army and after completion of the transfer of surplus historic properties by the Army to OBRA, a portion of the historic properties will be transferred by OBRA to the Port of Oakland (Port); and

WHEREAS, among the options contemplated by the reuse plan for OARB, OBRA and the Port may implement the alternative of removing OARB historic properties, following compliance with California Public Resources Code Division 13 Environmental Quality, and with all provisions of Section 15094 of the California Code of Regulations, Title 14, Chapter 3 (CEQA) , in order to support economic development plans for the City of Oakland, employment, employment training for local residents, improved public access and transit service and to satisfy the San Francisco Bay Conservation and Development Commission's (BCDC) requirements and legislative mandates to achieve cargo throughput capacity requirements through the year 2020 while minimizing fill in the San Francisco Bay; and

WHEREAS OBRA and the Port participated in the consultation and have been invited to concur in this MOA; and

WHEREAS, the Advisory Council on Historic Preservation was notified of the undertaking in accordance with 36 CFR Part 800.6(a)(1), and determined that it would not participate in the consultation; and

WHEREAS this MOA supercedes the 1995 Memorandum of Agreement among the Army, Council, and SHPO, concerning the disposition of the OARB Historic District;

NOW THEREFORE, the Army and SHPO agree that the undertaking shall be implemented in accordance with the following stipulations to take into account the effect of the undertaking on historic properties.

Stipulations

The Army, with the cooperation of OBRA, will ensure that the following stipulations are carried out:

I. Disposal of OARB Historic Properties

A. In order for OBRA and the Port to redevelop OARB lands most efficiently and to their fullest extent, OBRA and the Port may implement the alternative of removing OARB historic properties as part of their long range redevelopment plan following compliance with CEQA

B. The Army has completed mitigation measures for the removal of all OARB historic properties as part of the 1995 Memorandum of Agreement. These mitigation measures were accepted by the National Park Service and the SHPO. Following execution of this MOA and its submittal to the Council by the Army pursuant to 36 CFR § 800.6(b)(1)(iv), the Army may transfer OARB historic properties to OBRA without preservation covenants in order to allow the local community the greatest flexibility to utilize and develop the OARB property for the economic benefit of the community and state. Until such time as the OARB Historic District properties have been transferred out of Army ownership, the Army will ensure to the greatest reasonable extent that OARB historic properties are not adversely affected by the actions of any party to this MOA. 36 CFR § 800.5(a)(1-2) shall be used by the Army to determine whether an action may be adverse.

II. Anti-Deficiency Act

The stipulations of this MOA are subject to the provisions of the Anti-Deficiency Act. If compliance with the Anti-Deficiency Act alters or impairs the Army's ability to implement these stipulations of this MOA, the Army will consult in accordance with the amendment and termination procedures found at Sections IV and V of this agreement.

III. Dispute Resolution

A. Should any party object at any time to the manner in which the terms of this MOA are implemented the Army shall immediately notify all other parties of the objection, request their comments on the objection within 14 days following receipt of the Army's notification, and then proceed to consult with the objecting party for no more than 30 days to resolve the objection. If the objection is not resolved within this consultation period, the Army shall forward all documentation relevant to the objection to the Council pursuant to 36 CFR § 800.2(b)(2). Any comment provided by the Council, and all comments from the parties to this MOA, will be taken into account by the Army in reaching a final decision regarding the objection. The Army will promptly notify the Council and the other parties to this MOA in writing of its final decision regarding the objection.

B. The Army's responsibility to carry out all actions under this MOA that are not the subject of the objection will remain unchanged.

C. At any time during the implementation of the measures stipulated in this MOA, should an objection to such implementation be raised by a member of the public, the Army shall take the objection into account and consult with the objecting party and the parties to this MOA for no more than 14 days to resolve the objection. If the objection is resolved within this time frame, the Army shall notify all parties to the consultation in writing of the resolution and proceed in accordance with the terms of such resolution. If the objection is not resolved within this time frame, the Army shall render a final decision regarding the objection and shall promptly notify all parties to the consultation in writing of its final decision regarding the objection.

IV. Amendments

Any party to this MOA may propose that the MOA be amended, whereupon the parties will consult in accordance with 36 CFR Part 800.6(c)(7) to consider such amendment. This MOA may be amended only upon consent of the Army and SHPO. If the MOA is not amended, the Army or the SHPO may terminate this MOA in accordance with Stipulation V., below.

V. Termination of Agreement

The Army or the SHPO may terminate this MOA by providing thirty (30) days notice to the other parties, provided that the parties will consult during the period prior to termination to seek agreement on amendments or other actions that will avoid termination. In the event of termination, the Army will proceed in accordance with 36 CFR §800.6(c)(8).

The stipulations of this MOA will remain in effect for five years from the date of ratification or a lesser period if the Oakland Army Base historic properties have been transferred to OBRA before the five year period has expired.

Execution of the Memorandum of Agreement, its transmittal to the Council and subsequent implementation of its terms evidence that the Army has afforded the Advisory Council on Historic Preservation an opportunity to comment on the disposal of Oakland Army Base lands and on the effects such disposal will have on historic properties, and that the Army has taken into account the effects of the disposal of Oakland Army Base lands on historic properties.

SIGNATORY PARTIES:

By: William R. Lucas Date: 4 DEC '01
William R. Lucas, Deputy Commander, Headquarters, Military Traffic Management Command

By: Knox Mellon Date: 12/11/01
Dr. Knox Mellon, California State Historic Preservation Officer

CONCURRING PARTIES:

By: Aliza Gallo Date: 12/5/01
Ms. Aliza Gallo, Executive Director, Oakland Base Reuse Authority

By: [signature] Date: 12/5/01
Mr. Tay Yoshitani, Executive Director, Port of Oakland

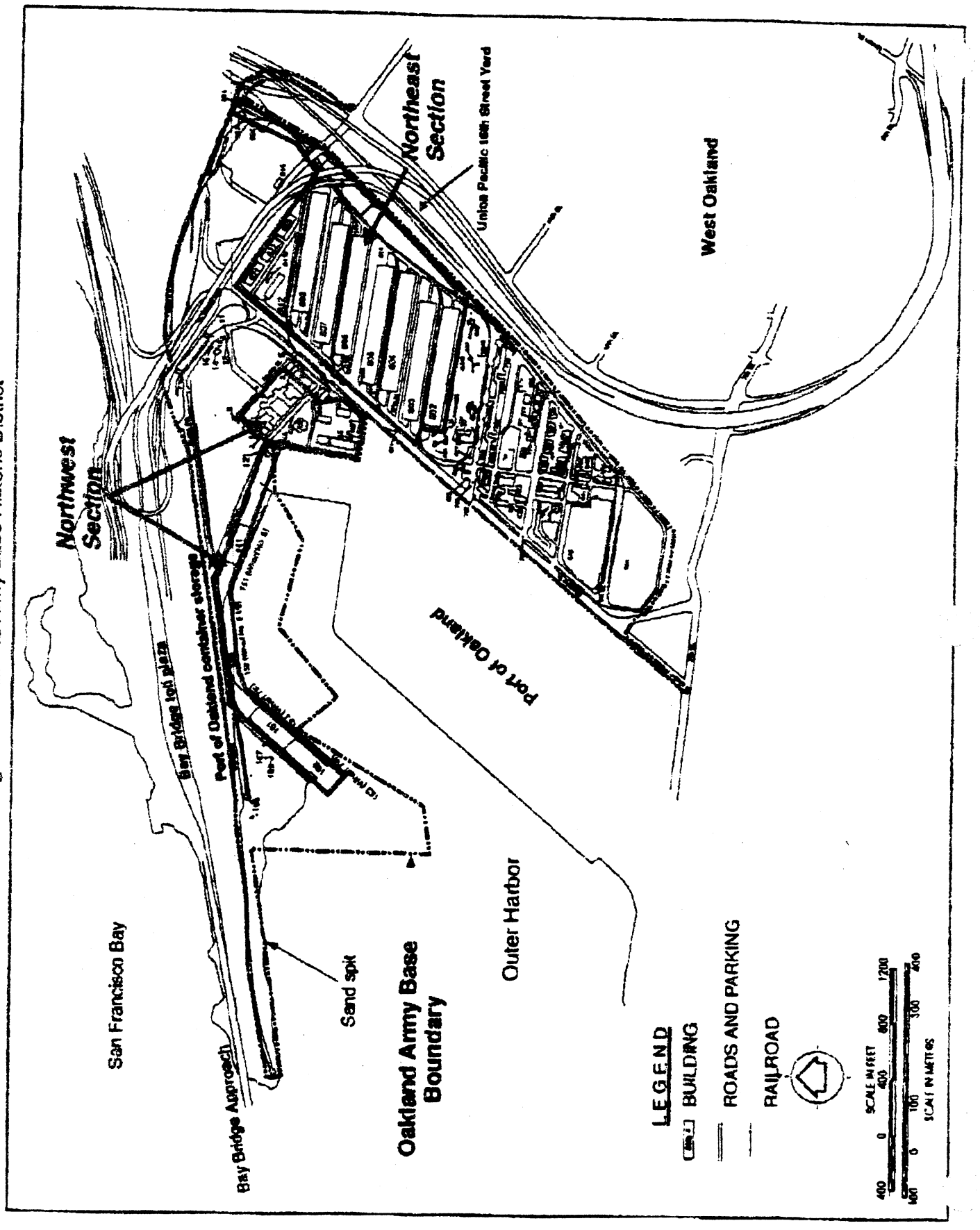


Figure 1. Oakland Army Base Historic District

Appendix 4.7
Hazardous Materials

4.7A Comparative Analysis of Remedial Alternatives, RAP Sites

4.7B Comparative Analysis of Remedial Alternatives, RMP Implementation Areas

4.7C Summary of Previous Investigations, Studies, and Activities Regarding Remediation at the OARB

4.7A Comparative Analysis of Remedial Alternatives, RAP Sites

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RAP SITE 1: FORMER ORP/BUILDING 1 AREA

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate, Immobilize Soil, and Dispose of Soil Off-Site and Monitor Groundwater	
			2a. Reuse Some Overburden On-site	2b. Disposal All Soil Off-Site
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs, provided a Land Disposal Restrictions ("LDRs") variance is received from regulatory agencies if waste is subject to LDRs.	Alternative is anticipated to comply with ARARs, provided a LDRs variance is received from regulatory agencies if waste is subject to LDRs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans receptors to chemicals of concern ("COCs") in soil or groundwater.	Alternative is anticipated to offer long-term effectiveness as impacted soil will be removed. Groundwater monitoring will verify long-term effectiveness.	Alternative is anticipated to offer long-term effectiveness as impacted soil will be removed. Groundwater monitoring will verify long-term effectiveness.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of soil or waste.	Alternative may reduce toxicity of COCs in soil by treatment, but will increase volume of waste by the addition of chemicals. Alternative will decrease on-site volume and mobility of COCs in soil by removal to a permitted off-site disposal facility.	Alternative will reduce toxicity of COCs in soil by stabilization, but will increase volume of waste by the addition of chemicals. Alternative will decrease on-site volume and mobility of COCs in soil by removal to a permitted off-site disposal facility.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative involves excavation and treatment of impacted soil. Normal construction health and safety practices and OSHA standards would be employed to protect remedial construction workers and the general public. Dust, vapor, and odor control would also be implemented to protect the public.	Alternative involves excavation and treatment of impacted soil. Normal construction health and safety practices and OSHA standards would be employed to protect remedial construction workers and the general public. Dust, vapor, and odor control would also be implemented to protect the public.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative requires a LDR variance; segregation and testing of overburden may be difficult to implement.	Alternative requires a LDR variance, but earthwork is easily implemented.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $8,700,000 $39,000 $8,900,000	 $10,000,000 $39,000 $10,000,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and the environment, and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and the environment, and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") or the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** COC concentrations in soil are greater than applicable site-specific remedial goals and pose unacceptable risks to human health and the environment. Alternative does not meet ARARs for unrestricted use.	**Alternative is Not Selected.** Soil and waste with COC concentrations greater than applicable site-specific remedial goals will be removed. However, stockpile and reuse of existing site soils is not anticipated to be feasible due to potential chemical impacts, difficulties segregating soil during excavation activities, and geotechnical requirements for backfill.	**Selected Alternative.** Soil and waste with COC concentrations greater than applicable site-specific remedial goals will be removed, treated, and disposed off-site in a permitted facility. Groundwater monitoring will be implemented to verify remedial action effectiveness.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RAP SITE 2: VOCs IN GROUNDWATER AT THE EASTERN END OF BUILDING 807

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Monitor Groundwater	Alternative 3 Perform In-situ Chemical Oxidation/ Reduction and Monitor Groundwater
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative may comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil or groundwater.	Alternative does not offer long-term effectiveness as chemical concentrations may continue to remain elevated or increase over time. Alternative assumes 15 years of groundwater monitoring.	Alternative is anticipated to offer long-term effectiveness as COCs will be chemically oxidized in the subsurface. Five years of groundwater monitoring will verify long-term effectiveness.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted groundwater.	Alternative will not reduce toxicity, mobility, or volume of impacted groundwater.	Alternative will likely reduce toxicity, mobility, and volume of impacted groundwater through treatment.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative can be implemented, as it involves standard well installation and monitoring procedures.	Alternative can be implemented, as it involves standard well installation and chemical injection procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $82,000 $46,000 $620,000	 $220,000 $46,000 $430,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC may accept remedial action because alternative is protective of human health and the environment, may comply with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and the environment, and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative may comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** COC concentrations in groundwater are greater than screening levels for unrestricted use; no institutional controls are included in this alternative.	**Alternative is Not Selected.** Ongoing monitoring for groundwater with elevated concentrations of COCs that may continue to rise does not provide a long-term solution.	**Selected Alternative.** Elevated COCs in groundwater will be treated. Groundwater monitoring will demonstrate effectiveness.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RAP SITE 3: VOCs IN GROUNDWATER NEAR BUILDINGS 808 AND 823

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Monitor Groundwater	Alternative 3 Perform In-situ Biodegradation and Monitor Groundwater
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health or the environment.	Alternative may be protective of human health and environment.	Alternative is anticipated to be protective of human health and environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is expected to comply with ARARs.	Alternative is expected to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans and ecological receptors to chemicals of concern ("COCs") in groundwater.	Alternative does not offer long-term effectiveness as chemical concentrations may continue to remain elevated or increase over time. Alternative assumes 15 years of groundwater monitoring.	Alternative is anticipated to offer long-term effectiveness as COCs will be biologically degraded in the subsurface. Five years of groundwater monitoring will verify long-term effectiveness.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of COCs.	Alternative will not reduce toxicity, mobility, or volume of COCs.	Alternative could reduce toxicity, mobility, and volume of COCs by treatment that degrades COCs in groundwater.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community.
Balancing Criteria	• Implementability	Alternative can be easily implemented.	Alternative can be implemented, as it involves standard groundwater monitoring procedures.	Alternative can be implemented, as it involves standard chemical injection procedures and monitoring.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $83,000 $39,000 $540,000	 $340,000 $39,000 $520,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC may not accept remedial action if exposure to volatile COCs could potentially occur in future land use scenarios.	It is expected that DTSC will consider this alternative to be acceptable.
Modifying Criteria	• Community Acceptance	Alternative is not anticipated to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	RAB and community may not accept remedial action if exposure to volatile COCs could potentially occur in future land use scenarios.	Alternative is likely to be an acceptable alternative to the RAB and community.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** Alternative does not limit potential exposure to volatile COCs in potential future land use.	**Selected Alternative.** COCs in groundwater are actively remediated. Groundwater treatment could effectively reduce potential human health impacts. Remedial action is anticipated to be complete in 5 years.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES:
RAP SITE 3: VOCs IN GROUNDWATER NEAR BUILDINGS 808 AND 823

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 4 Install Vapor Barrier Beneath Building and Monitor Groundwater	Alternative 5 Install Vapor Barrier with Sub-slab Depressurization System, Monitor Groundwater
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is anticipated to be protective of human health and environment.	Alternative is anticipated to be protective of human health and environment.
	• Compliance with ARARs	Alternative is expected to comply with ARARs.	Alternative is expected to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Long-term effectiveness is a function of the effectiveness of the barrier beneath the building. Impacted groundwater remains in the subsurface and could potentially migrate. Fifteen years of groundwater monitoring will verify long-term effectiveness.	Long-term effectiveness is a function of the effectiveness of the barrier beneath the building and the ability of the depressurization system to limit migration into buildings. Impacted groundwater remains in the subsurface and could potentially migrate. Fifteen years of groundwater monitoring will verify long-term effectiveness.
	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity or volume of COCs in groundwater, but it may decrease mobility by volatilization pathways by providing subsurface containment.	Alternative will not reduce toxicity or volume of COCs in groundwater. Mobility of COCs is increased by transferring COCs from groundwater to air. Exhaust air treatment system is not anticipated to be required.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community. Vapor barrier would be installed during building construction.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community. Sub-slab depressurization system would be installed during building construction.
	• Implementability	This alternative can be easily implemented during building construction. Implementation post construction is difficult.	This alternative can be easily implemented during building construction. Implementation post construction is difficult.
	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	 $240,000 $39,000 $700,000	 $540,000 $56,000 $1,200,000
Modifying Criteria	• State Acceptance	It is expected that DTSC will consider this alternative to be acceptable.	It is expected that DTSC will consider this alternative to be acceptable.
	• Community Acceptance	Alternative is likely to be an acceptable alternative to the RAB and community.	Alternative is likely to be an acceptable alternative to the RAB and community.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Although alternative is likely to be protective of human health and the environment and may be acceptable to DTSC and the community, it is not the most cost-effective alternative. The COCs remain in place, and ongoing monitoring to verify protection of human health is estimated to extend 15 years.	**Alternative is Not Selected.** Although alternative is likely to be protective of human health and the environment and may be acceptable to DTSC and the community, it is not the most cost-effective alternative. The COCs remain in place, and ongoing monitoring to verify protection of human health is estimated to extend 15 years.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RAP SITE 4: VOCs IN GROUNDWATER NEAR BUILDING 99

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Monitor Groundwater	Alternative 3 Perform In-situ Biodegradation and Monitor Groundwater
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health or the environment.	Alternative may be protective of human health and environment.	Alternative is anticipated to be protective of human health and environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is expected to comply with ARARs.	Alternative is expected to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans and ecological receptors to chemicals of concern ("COCs") in groundwater.	Alternative does not offer long-term effectiveness as chemical concentrations may continue to remain elevated or increase over time. Alternative assumes 15 years of groundwater monitoring.	Alternative is anticipated to offer long-term effectiveness as COCs will be biologically degraded in the subsurface. Five years of groundwater monitoring will verify long-term effectiveness.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of COCs.	Alternative will not reduce toxicity, mobility, or volume of COCs.	Alternative could reduce toxicity, mobility, and volume of COCs by treatment that degrades COCs in groundwater.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community.
Balancing Criteria	• Implementability	Alternative can be easily implemented.	Alternative can be implemented, as it involves standard groundwater monitoring procedures.	Alternative can be implemented, as it involves standard chemical injection procedures and monitoring.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $82,000 $39,000 $540,000	 $320,000 $39,000 $500,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC may not accept remedial action if exposure to volatile COCs could potentially occur in future land use scenarios.	It is expected that DTSC will consider this alternative to be acceptable.
Modifying Criteria	• Community Acceptance	Alternative is not anticipated to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	RAB and community may not accept remedial action if exposure to volatile COCs could potentially occur in future land use scenarios.	Alternative is likely to be an acceptable alternative to the RAB and community.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** Alternative does not limit potential exposure to volatile COCs in potential future land use.	**Selected Alternative.** COCs in groundwater are actively remediated. Groundwater treatment could effectively reduce potential human health impacts. Remedial action is anticipated to be complete in 5 years.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RAP SITE 4: VOCs IN GROUNDWATER NEAR BUILDING 99

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 4 Install Vapor Barrier Beneath Building and Monitor Groundwater	Alternative 5 Install Vapor Barrier with Sub-slab Depressurization System, Monitor Groundwater
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is anticipated to be protective of human health and environment.	Alternative is anticipated to be protective of human health and environment.
Threshold Criteria	• Compliance with ARARs	Alternative is expected to comply with ARARs.	Alternative is expected to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Long-term effectiveness is a function of the effectiveness of the barrier beneath the building. Impacted groundwater remains in the subsurface and could potentially migrate. Fifteen years of groundwater monitoring will verify long-term effectiveness.	Long-term effectiveness is a function of the effectiveness of the barrier beneath the building and the ability of the depressurization system to limit migration into buildings. Impacted groundwater remains in the subsurface and could potentially migrate. Fifteen years of groundwater monitoring will verify long-term effectiveness.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity or volume of COCs in groundwater, but it may decrease mobility by volatilization pathways by providing subsurface containment.	Alternative will not reduce toxicity or volume of COCs in groundwater. Mobility of COCs is increased by transferring COCs from groundwater to air. Exhaust air treatment system is not anticipated to be required.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community. Vapor barrier would be installed during building construction.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community. Sub-slab depressurization system would be installed during building construction.
Balancing Criteria	• Implementability	This alternative can be easily implemented during building construction. Implementation post construction is difficult.	This alternative can be easily implemented during building construction. Implementation post construction is difficult.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	 $230,000 $39,000 $690,000	 $480,000 $43,000 $1,000,000
Modifying Criteria	• State Acceptance	It is expected that DTSC will consider this alternative to be acceptable.	It is expected that DTSC will consider this alternative to be acceptable.
Modifying Criteria	• Community Acceptance	Alternative is likely to be an acceptable alternative to the RAB and community.	Alternative is likely to be an acceptable alternative to the RAB and community.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Although alternative is likely to be protective of human health and the environment and is acceptable to DTSC and the community, it is not the most cost-effective alternative. The COCs remain in place, and ongoing monitoring to verify protection of human health is estimated to extend 15 years.	**Alternative is Not Selected.** Although alternative is likely to be protective of human health and the environment and is acceptable to DTSC and the community, it is not the most cost-effective alternative. The COCs remain in place, and ongoing monitoring to verify protection of human health is estimated to extend 15 years.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RAP SITE 5: BENZENE AND MTBE IN GROUNDWATER NEAR FORMER USTs 11A/12A/13A

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate and Dispose Soil Off-site, and Monitor Groundwater	Alternative 3 Excavate and Dispose Soil Off-site, In-situ Groundwater Treatment, and Monitor Groundwater
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil or groundwater.	Alternative offers long-term effectiveness as soil with elevated concentrations of COCs will be disposed off-site. Alternative assumes 5 years of groundwater monitoring.	Alternative offers long-term effectiveness as soil with elevated concentrations of COCs will be removed, and residual COCs will be biologically degraded. subsurface. Alternative assumes 5 years of groundwater monitoring.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil or groundwater.	Alternative will not reduce toxicity of COCs in subsurface, but will reduce volume and mobility by removal to off-site permitted disposal facility.	Alternative will likely reduce toxicity, mobility, and volume of impacted soil and groundwater through removal and in-situ treatment.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative can be implemented, as it involves standard soil excavation procedures.	Alternative can be implemented, as it involves standard soil excavation and chemical injection procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $220,000 $42,000 $410,000	 $270,000 $42,000 $460,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** Although excavation will remove COCs in removed, COCs would likely remain in groundwater.	**Selected Alternative.** COCs in soil and groundwater greater than applicable site-specific remedial goals will be removed or treated.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RAP SITE 6: BUILDING 991 AREA

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate and Dispose Soil Off-site, and Monitor Groundwater	Alternative 3 Excavate and Dispose Soil Off-site, In-situ Groundwater Treatment, and Monitor Groundwater
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil or groundwater.	Alternative offers long-term effectiveness as soil with elevated concentrations of COCs will be disposed off-site. Alternative assumes 5 years of groundwater monitoring.	Alternative offers long-term effectiveness as soil with elevated concentrations of COCs will be removed, and residual COCs will be biologically degraded. subsurface. Alternative assumes 5 years of groundwater monitoring.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil or groundwater.	Alternative will not reduce toxicity of COCs in subsurface, but will reduce volume and mobility by removal to off-site permitted disposal facility.	Alternative will likely reduce toxicity, mobility, and volume of impacted soil and groundwater through removal and in-situ treatment.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative can be implemented, as it involves standard soil excavation procedures.	Alternative can be implemented, as it involves standard soil excavation and chemical injection procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $270,000 $38,000 $440,000	 $470,000 $47,000 $680,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** Although excavation will remove COCs in removed, COCs would likely remain in groundwater.	**Selected Alternative.** COCs in soil and groundwater greater than applicable site-specific remedial goals will be removed or treated.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RAP SITE 7: BUILDING 99

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate and Dispose Soil Off-site, and Monitor Groundwater As Needed	
			2a. No Impacted Soil or Groundwater Identified	2b. Excavate and Dispose Impacted Soil Off-site
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil.	Alternative may offer long-term effectiveness.	Alternative offers long-term effectiveness as impacted soil will be excavated and disposed off-site. Removal also reduces potential for future groundwater impact.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil.	Alternative assumes no COCs greater than applicable remedial goals remain in the subsurface.	Alternative will not reduce toxicity of COCs in soil, if present, but will decrease on-site volume and mobility of COCs in soil by removal to a permitted off-site disposal facility.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative is easily implemented.	Alternative can be implemented, as it involves standard soil excavation procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $70,000 $0 $70,000	 $230,000 $0 $230,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** If no COCs are detected at concentrations greater than site-specific remedial goals, this alternative may be appropriate.	**Selected Alternative.** COCs identified above site-specific remedial goals soil would be removed.

4.7B Comparative Analysis of Remedial Alternatives, RMP Implementation Areas

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RMP IMPLEMENTATION AREA GROUP 1: WASHRACKS, SUMPS, OIL/WATER SEPARATORS, AND MISCELLANEOUS SITES

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate and Dispose Soil Off-site, and Monitor Groundwater As Needed	
			2a. No Impacted Soil or Groundwater Identified	2b. Excavate and Dispose Impacted Soil Off-site
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative may not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil, if present.	Alternative may offer long-term effectiveness.	Alternative offers long-term effectiveness as impacted soil will be excavated and disposed off-site. Removal also reduces potential for future groundwater impact.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil, if present.	Alternative assumes no COCs greater than applicable remedial goals remain in the subsurface.	Alternative will not reduce toxicity of COCs in soil, if present, but will decrease on-site volume and mobility of COCs in soil by removal to a permitted off-site disposal facility.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative is easily implemented.	Alternative is easily implemented with standard excavation procedures.
Balancing Criteria	• Cost (a) Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $720,000 $0 $720,000	 $1,800,000 $0 $1,800,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** If no COCs are detected at concentrations greater than site-specific remedial goals, this alternative may be appropriate.	**Selected Alternative.** COCs identified above site-specific remedial goals soil would be removed.

Notes:

(a) Costs listed are cumulative expenditures to address approximately 81 washracks, sumps, oil/water separators, and miscellaneous items at approximately 53 locations on the OARB.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RMP IMPLEMENTATION AREA GROUP 2: TANKS

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Monitor Groundwater	Alternative 3 Excavate and Dispose Soil Off-site, and Monitor Groundwater As Needed
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil.	Alternative may offer long-term effectiveness.	Alternative offers long-term effectiveness as impacted soil will be excavated and disposed off-site. Removal also reduces potential for future groundwater impact. Alternative assumes 5 years of groundwater monitoring for some sites.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil, if present.	Alternative assumes no COCs greater than applicable remedial goals remain in the subsurface.	Alternative will not reduce toxicity of COCs in soil, if present, but will decrease on-site volume and mobility of COCs in soil by removal to a permitted off-site disposal facility.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative is easily implemented.	Alternative can be implemented, as it involves standard soil excavation procedures.
Balancing Criteria	• Cost (a) Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	$1,200,000 included with capital cost $1,200,000	$1,900,000 included with capital cost $1,900,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** If no COCs are detected at concentrations greater than site-specific remedial goals, this alternative may be appropriate at some locations.	**Selected Alternative.** COCs identified above site-specific remedial goals soil would be removed. Groundwater monitoring will be conducted at some sites to verify remedial objectives attained.

Notes:

(a) Costs listed are cumulative expenditures to address approximately 77 underground storage tanks and aboveground storage tanks at approximately 57 locations on the OARB.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RMP IMPLEMENTATION AREA GROUP 3: HISTORIC SPILLS AND STAINS

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate and Dispose Soil Off-site, and Monitor Groundwater As Needed	
			2a. No Impacted Soil or Groundwater Identified	2b. Excavate and Dispose Impacted Soil Off-site
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil.	Alternative may offer long-term effectiveness.	Alternative offers long-term effectiveness as impacted soil will be excavated and disposed off-site.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil.	Alternative assumes no COCs greater than applicable remedial goals remain in the subsurface.	Alternative will not reduce toxicity of COCs in soil, if present, but will decrease on-site volume and mobility of COCs in soil by removal to a permitted off-site disposal facility.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative is easily implemented.	Alternative is easily implemented with standard excavation procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	$140,000 $0 $140,000	$560,000 $0 $560,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** If no COCs are detected at concentrations greater than site-specific remedial goals, this alternative may be appropriate.	**Selected Alternative.** COCs identified above site-specific remedial goals soil would be removed.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RMP IMPLEMENTATION AREA GROUP 4: LEAD IN SOIL AROUND BUILDINGS

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate and Dispose Soil Off-site, and Monitor Groundwater As Needed	
			2a. No Impacted Soil or Groundwater Identified	2b. Excavate and Dispose Impacted Soil Off-site
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to lead in soil.	Alternative may offer long-term effectiveness.	Alternative offers long-term effectiveness as impacted soil will be excavated and disposed off-site.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil.	Alternative assumes no lead greater than applicable remedial goals remain in the subsurface.	Alternative will not reduce toxicity of lead in soil, if present, but will decrease on-site volume and mobility of lead in soil by removal to a permitted off-site disposal facility.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative is easily implemented.	Alternative is easily implemented with standard excavation procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $47,000 $0 $47,000	 $460,000 $0 $460,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** If lead is not detected at concentrations greater than site- specific remedial goals, this alternative may be appropriate.	**Selected Alternative.** Lead identified above site-specific remedial goals soil would be removed.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RMP IMPLEMENTATION AREA GROUP 5: FORMER PCB-CONTAINING EQUIPMENT SITES

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Equipment, Soil, or Groundwater	Alternative 2 Remove and Dispose of Waste Off-site, and Monitor Groundwater As Needed
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to polychlorinated biphenyls ("PCBs") in equipment, soil, or groundwater.	Alternative offers long-term effectiveness as PCB-containing equipment will be removed and properly disposed. No groundwater monitoring is anticipated.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of PCBs in equipment, soil, or groundwater.	Alternative will not reduce toxicity of PCBs in electrical components or soil, if present, but will decrease on-site volume and mobility of PCBs by removal and disposal at a permitted off-site disposal facility.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor equipment removal activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative can be implemented, as it involves standard equipment replacement procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $260,000 $0 $260,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Selected Alternative.** PCBs identified in electrical equipment and other materials would be removed and disposed of at a permitted off-site disposal facility.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RMP IMPLEMENTATION AREA GROUP 6: BOILER DEBRIS NEAR BUILDING 99

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate and Dispose Soil Off-site, and Monitor Groundwater As Needed	
			2a. No Impacted Soil or Groundwater Identified	2b. Excavate and Dispose Impacted Soil Off-site
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil.	Alternative may offer long-term effectiveness.	Alternative offers long-term effectiveness as impacted soil will be excavated and disposed off-site.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil.	Alternative assumes no COCs greater than applicable remedial goals remain in the subsurface.	Alternative will not reduce toxicity of COCs in soil, if present, but will decrease on-site volume and mobility of COCs in soil by removal to a permitted off-site disposal facility.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative is easily implemented.	Alternative is easily implemented with standard excavation procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $56,000 $0 $56,000	 $170,000 $0 $170,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** If no COCs are detected at concentrations greater than site-specific remedial goals, this alternative may be appropriate.	**Selected Alternative.** COCs identified above site-specific remedial goals soil would be removed.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RMP IMPLEMENTATION GROUP 6: BUILDING 85

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate and Dispose Soil Off-site, and Monitor Groundwater As Needed	
			2a. No Impacted Soil or Groundwater Identified	2b. Excavate and Dispose Impacted Soil Off-site
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil.	Alternative may offer long-term effectiveness.	Alternative offers long-term effectiveness as impacted soil will be excavated and disposed off-site.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil.	Alternative assumes no COCs greater than applicable remedial goals remain in the subsurface.	Alternative will not reduce toxicity of COCs in soil, if present, but will decrease on-site volume and mobility of COCs in soil by removal to a permitted off-site disposal facility.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative is easily implemented.	Alternative is easily implemented with standard excavation procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $56,000 $0 $56,000	 $140,000 $0 $140,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** If no COCs are detected at concentrations greater than site-specific remedial goals, this alternative may be appropriate.	**Selected Alternative.** COCs identified above site-specific remedial goals soil would be removed.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RMP IMPLEMENTATION AREA GROUP 6: BUILDING 812

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate and Dispose Soil Off-site, and Monitor Groundwater As Needed	
			2a. No Impacted Soil or Groundwater Identified	2b. Excavate and Dispose Impacted Soil Off-site
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil.	Alternative may offer long-term effectiveness.	Alternative offers long-term effectiveness as impacted soil will be excavated and disposed off-site.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil.	Alternative assumes no COCs greater than applicable remedial goals remain in the subsurface.	Alternative will not reduce toxicity of COCs in soil, if present, but will decrease on-site volume and mobility of COCs in soil by removal to a permitted off-site disposal facility.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative is easily implemented.	Alternative is easily implemented with standard excavation procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $60,000 $0 $60,000	 $150,000 $0 $150,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** If no COCs are detected at concentrations greater than site-specific remedial goals, this alternative may be appropriate.	**Selected Alternative.** COCs identified above site-specific remedial goals soil would be removed.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RMP IMPLEMENTATION AREA GROUP 6: BUILDING 823

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate and Dispose Soil Off-site, and Monitor Groundwater As Needed	
			2a. No Impacted Soil or Groundwater Identified	2b. Excavate and Dispose Impacted Soil Off-site
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil.	Alternative may offer long-term effectiveness.	Alternative offers long-term effectiveness as impacted soil will be excavated and disposed off-site.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil.	Alternative assumes no COCs greater than applicable remedial goals remain in the subsurface.	Alternative will not reduce toxicity of COCs in soil, if present, but will decrease on-site volume and mobility of COCs in soil by removal to a permitted off-site disposal facility.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative is easily implemented.	Alternative is easily implemented with standard excavation procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $60,000 $0 $60,000	 $170,000 $0 $170,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** If no COCs are detected at concentrations greater than site-specific remedial goals, this alternative may be appropriate.	**Selected Alternative.** COCs identified above site-specific remedial goals soil would be removed.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RMP IMPLEMENTATION AREA GROUP 6: POTENTIAL DRUM DRAINAGE AREA EAST OF BUILDINGS 805 AND 806

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate and Dispose Soil Off-site, In-Situ Groundwater Treatment, and Monitor Groundwater As Needed	
			2a. No Impacted Soil or Groundwater Identified	2b. Excavate and Dispose Impacted Soil Off-site, Groundwater Treatment
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil or groundwater.	Alternative offers long-term effectiveness as no impacted soil is identified.	Alternative offers long-term effectiveness as soil with elevated concentrations of COCs will be removed, and residual COCs will be treated in-situ. Alternative assumes 5 years of groundwater monitoring.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil.	Alternative assumes no COCs greater than applicable remedial goals remain in the subsurface.	Alternative will likely reduce toxicity, mobility, and volume of impacted soil and groundwater through removal and in-situ treatment.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative is easily implemented.	Alternative can be implemented, as it involves standard soil excavation and chemical injection procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $69,000 $0 $69,000	 $300,000 $17,000 $380,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** If no COCs are detected at concentrations above remedial goals, this alternative may be appropriate.	**Selected Alternative.** COCs in soil and groundwater greater than applicable site-specific remedial goals will be removed or treated.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RMP IMPLEMENTATION AREA GROUP 6: FORMER MOTOR POOL AND SALVAGE OPERATIONS AT BUILDING 640

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate and Dispose Soil Off-site, and Monitor Groundwater As Needed	Alternative 3 Excavate and Dispose Soil Off-site, In-situ Groundwater Treatment, and Monitor Groundwater
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil or groundwater.	Alternative offers long-term effectiveness as impacted soil, if present, will be excavated and disposed off-site.	Alternative offers long-term effectiveness as soil with elevated concentrations of COCs will be removed, and residual COCs will be treated in-situ. Alternative assumes 5 years of groundwater monitoring.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil.	Alternative will not reduce toxicity of COCs in soil, if present, but will decrease on-site volume and mobility of COCs in soil by removal to a permitted off-site disposal facility.	Alternative will likely reduce toxicity, mobility, and volume of impacted soil and groundwater through removal and in-situ treatment.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative is easily implemented.	Alternative can be implemented, as it involves standard soil excavation and chemical injection procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $180,000 $0 $180,000	 $440,000 $16,000 $510,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** COCs identified above site-specific remedial goals soil would be removed. If no impacts are found, this alternative may be appropriate.	**Selected Alternative.** COCs in soil and groundwater greater than applicable site-specific remedial goals will be removed or treated.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RMP IMPLEMENTATION AREA GROUP 6: BENZIDINE AT FORMER USED OIL TANK 21

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate and Dispose Soil Off-site, and Monitor Groundwater As Needed	
			2a. No Impacted Soil or Groundwater Identified	2b. Excavate and Dispose Impacted Soil Off-site
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil.	Alternative may offer long-term effectiveness.	Alternative offers long-term effectiveness as impacted soil will be excavated and disposed off-site.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil.	Alternative assumes no COCs greater than applicable remedial goals remain in the subsurface.	Alternative will not reduce toxicity of COCs in soil, if present, but will decrease on-site volume and mobility of COCs in soil by removal to a permitted off-site disposal facility.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative is easily implemented.	Alternative is easily implemented with standard excavation procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $40,000 $0 $40,000	 $130,000 $0 $130,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** If no COCs are detected at concentrations greater than site-specific remedial goals, this alternative may be appropriate.	**Selected Alternative.** COCs identified above site-specific remedial goals soil would be removed.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RMP IMPLEMENTATION AREA GROUP 7: STORM DRAINS AND SANITARY SEWERS

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate and Dispose Soil Off-site, and Monitor Groundwater As Needed	
			2a. No Impacted Soil or Groundwater Identified	2b. Excavate and Dispose Impacted Soil Off-site
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil.	Alternative may offer long-term effectiveness.	Alternative offers long-term effectiveness as impacted soil will be excavated and disposed off-site.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil.	Alternative assumes no COCs greater than applicable remedial goals remain in the subsurface.	Alternative will not reduce toxicity of COCs in soil, if present, but will decrease on-site volume and mobility of COCs in soil by removal to a permitted off-site disposal facility.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative will have minor disruptions to the community as the flushing and inspection activities will likely be in public rights of way.	Alternative will have minor disruptions to the community as the flushing, inspection, investigation, and source removal activities will likely be in public rights of way.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative can be implemented using standard drain inspection procedures.	Alternative can be implemented, as it involves standard drain inspection and soil excavation procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $990,000 $0 $990,000	 $3,600,000 $0 $3,600,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** If no structural defects are identified in the pipes which could transport COCs in the subsurface, this alternative may be appropriate.	**Selected Alternative.** COCs identified above site-specific remedial goals soil would be removed.

COMPARATIVE ANALYSIS OF REMEDIAL ALTERNATIVES
RMP IMPLEMENTATION AREA GROUP 8: RAILROAD TRACKS

Oakland Army Base, Oakland, California

	Evaluation Criteria	Alternative 1 No Action for Soil and Groundwater	Alternative 2 Excavate and Dispose Soil Off-site, and Monitor Groundwater As Needed	
			2a. No Impacted Soil or Groundwater Identified	2b. Excavate and Dispose Impacted Soil Off-site
Threshold Criteria	• Overall Protection of Human Health and the Environment	Alternative is not anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.	Alternative is anticipated to be protective of human health and the environment.
Threshold Criteria	• Compliance with ARARs	Alternative is not anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.	Alternative is anticipated to comply with ARARs.
Balancing Criteria	• Long-term Effectiveness and Permanence	Alternative will not offer long-term protection against exposure of humans to chemicals of concern ("COCs") in soil.	Alternative may offer long-term effectiveness.	Alternative offers long-term effectiveness as impacted subballast will be excavated and disposed off-site.
Balancing Criteria	• Reduction of Toxicity, Mobility, or Volume through Treatment	Alternative will not reduce toxicity, mobility, or volume of impacted soil.	Alternative assumes no COCs greater than applicable remedial goals remain in the subsurface.	Alternative will not reduce toxicity of COCs in soil, if present, but will decrease on-site volume and mobility of COCs in soil by removal to a permitted off-site disposal facility.
Balancing Criteria	• Short-term Effectiveness	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in any short-term disruptions or risks to workers and the community.	Alternative is not anticipated to result in significant short-term disruptions or risks to workers and the community, other than minor soil excavation activities.
Balancing Criteria	• Implementability	Alternative is easily implemented.	Alternative is easily implemented.	Alternative is easily implemented with standard excavation procedures.
Balancing Criteria	• Cost Estimated Capital Cost: Estimated Annual Cost: Estimated Present Worth:	Alternative has negligible costs associated with implementation.	 $430,000 $0 $430,000	 $1,700,000 $0 $1,700,000
Modifying Criteria	• State Acceptance	State of California Environmental Protection Agency, Department of Toxic Substances Control ("DTSC") is not anticipated to accept alternative.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.	DTSC is anticipated to accept remedial action because alternative is protective of human health and complies with ARARs.
Modifying Criteria	• Community Acceptance	Alternative is not likely to be accepted by community members of the Restoration Advisory Board ("RAB") and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.	Alternative is anticipated to be accepted by the RAB and the community at large.
	• Six Factors from State of California Health and Safety Code Section 25356.1	Alternative does not comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.	Alternative is believed to comply with State of California Health and Safety Code Criteria.
	• Summary of Evaluation Criteria	**Alternative is Not Selected.** Alternative is not protective of human health and the environment, and does not comply with ARARs.	**Alternative is Not Selected.** If no COCs are detected at concentrations greater than site-specific remedial goals, this alternative may be appropriate.	**Selected Alternative.** COCs identified above site-specific remedial goals soil would be removed.

4.7C Summary of Previous Investigations, Studies, and Activities Regarding Remediation at the OARB

Appendix 4.8
Population, Employment, and Housing

Employment Model

I. Employment Density by Land Use

Use Category	Job Density (1)	Comment
Warehouse and Distribution	0.8	(1)
Light Industrial/Manufacturing	2.5	(1)
R&D	2.5	(1)
Flex Industrial/Office (reuse)	2.4	(1)
Flex Industrial/Office (new)	2.6	(1)
General Office	3.75	(1)
Recreation	N/A	
Ancillary Retail	2.8	(1)
Commercial/Retail	2.5	(1)
Maritime	N/A	(2)
Wastewater Treatment	N/A	(3)
Job Training	2.0	(1)
Live/Work	1	(4)

(1) Per 1000 SF gross building space, adapted from U.S. Bureau of Labor statistics. Note that Labor Bureau multipliers are intended to conservatively (under) estimate jobs benefits, and their use will result in fewer jobs than traffic multipliers, which are intended to conservatively (over) estimate traffic impacts.

(2) Per Port of Oakland model, based on a combination of container throughput and rail operations

(3) Estimate of total employment based on EBMUD WWTF operation and maintenance experience

(4) Per live/work unit

II. Use Category: Occupation

	Percent Occupation Type by Use Category (1)										
Occupational Category	Warehouse and Distribution	Light Industrial/ Manufacturing	R&D	Flex Industrial/Office	General Office	Recreation	Ancillary Retail	Commercial/Retail	Hotel, Job Training, Community Services	Maritime	Wastewater Treatment
Executive, administrative, management	0	5	10	10	16	N/A	14	5	5	3	4
Professional, paraprofessional, technical	5	20	65	50	19	N/A	14	1	1	11	75
Sales and related	0	0	0	0	14	N/A	46	75	4	0	0
Clerical, administrative support	10	5	10	10	50	N/A	7	10	15	3	11
Public and private services	10	10	5	5	1	N/A	3	0	70	16	10
Production construction, materials handling	75	60	10	25	0	N/A	16	9	5	67	0
Total:	**100**	**100**	**100**	**100**	**100**	**0**	**100**	**100**	**100**	**100**	**100**

(1) Adapted from California Employment Development Department and U.S. Bureau of Labor statistics

III. Indirect Job Multipliers for Alameda County

Use Category	Industry Sector	Indirect Multiplier (1)
Warehouse and Distribution	Trucking/Warehousing	1.3
Light Industrial/Manufacturing	Misc Manufacturing	1.28
R&D	Pharmaceutical	1.82
Flex Industrial/Office (reuse)	Professional Services	1.26
Flex Industrial/Office (new)	Professional Services	1.26
General Office (new)	FIRE & Manufacturing	1.85
Recreation	N/A	N/A
Ancillary Retail	Retail Trade	0.56
Hotel	Services	1.18
Marine Terminal Ops	Water Transportation	2.53
Wastewater Treatment	N/A	N/A
Other: Job Training	Education Services	1.16
Community Services	Social Services	1.11

(1) Adapted from U.S. Department of Commerce, Bureau of Economic Analysis statistics

OARB Area Redevelopment EIR
Employment Model

Floor Area Account

Use Category	Square Feet, Each Sub-district: OARB	Maritime	16th/Wood	Total	% of Total SF
Warehouse and Distribution	300000	0	0	300000	7.3
Light Industrial/Manufacturing	444000	0	305000	749000	18.3
R&D	464000	0	0	464000	11.3
Flex Industrial/Office	464000	0	1437000	1901000	46.5
General Office	600000	0	0	600000	14.7
Recreation	N/A	0	N/A	N/A	N/A
Ancillary Retail	25000	0	1300	26300	0.6
Commercial/Retail	0	0	0	0	0.0
Maritime	0	N/A	0	0	0.0
Other: Job Training	50000	0	0	50000	1.2
Live/Work (375 units)	0	0	N/A	0	0.0
Total:	2347000		1743300	4090300	100.0

Jobs Generation Potential (Direct)

Use Category	Jobs Generated	% of Total Jobs
Warehouse and Distribution	240	1.5
Light Industrial/Manufacturing	1873	11.4
R&D	1160	7.1
Flex Industrial/Office	4943	30.1
General Office	2250	13.7
Recreation	N/A	N/A
Ancillary Retail	74	0.4
Commercial/Retail	0	0.0
Maritime	5400	32.9
Other: Job Training	100	0.6
Live/Work (375 units)	375	2.3
Total:	16414	100.0

Source: Maritime jobs from Port of Oakland 2002: spreadsheet dated March 15, 2002.

OARB Area Redevelopment EIR
Employment Model

Occupational Characteristics of Direct Employment

Occupational Category		Jobs Generated	% of Total Jobs
Executive, administrative, management		1241	7.6
Professional, paraprofessional, technical		5020	30.6
Sales and related		353	2.1
Clerical, administrative support		2035	12.4
Public and private services		1475	9.0
Production construction, materials handling		6290	38.3
Percent of jobs that are:			
Professional:	38.1		
Non-professional:	61.9		
Total:		16414	100.0

Jobs Generation Potential (Indirect)

Use Category	Jobs Generated	% of Total Jobs
Warehouse and Distribution	312	1.0
Light Industrial/Manufacturing	2397	8.1
R&D	2111	7.1
Flex Industrial/Office	6228	21.0
General Office	4163	14.0
Recreation	N/A	N/A
Ancillary Retail	41	0.1
Commercial/Retail	0	0.0
Maritime	13662	46.0
Other: Job Training	116	0.4
Live/Work	694	
Total:	29723	97.7

Jobs Generation Potential (Direct + Indirect)

Use Category	Jobs Generated	% of Total Jobs
Warehouse and Distribution	552	1.2
Light Industrial/Manufacturing	4269	9.3
R&D	3271	7.1
Flex Industrial/Office	11170	24.2
General Office	6413	13.9
Recreation	N/A	N/A
Ancillary Retail	115	0.2
Commercial/Retail	0	0.0
Maritime	19062	41.3
Other: Job Training	216	0.5
Live/Work	1069	2.3
Total:	46137	100.0

OARB Area Redevelopment EIR
Employment Model

Jobs Generation Potential (Direct)

	Jobs Generated, Each Sub-district			
Use Category	**OARB**	**Maritime**	**16th/Wood**	**Total**
Warehouse and Distribution	240	0	0	240
Light Industrial/Manufacturing	1110	0	763	1873
R&D	1160	0	0	1160
Flex Industrial/Office	1206	0	3736	4943
General Office	2250	0	0	2250
Recreation	N/A	0	N/A	0
Ancillary Retail	70	0	4	74
Commercial/Retail	0	0	0	0
Maritime	1330	4070	0	5400
Other: Job Training	100	0	0	100
Live/Work (375 units)	0	0	375	375
Total:	7466	4070	4877	16414

Jobs Generation Potential (Indirect)

	Jobs Generated, Each Sub-district			
Use Category	**OARB**	**Maritime**	**16th/Wood**	**Total**
Warehouse and Distribution	312	0	0	312
Light Industrial/Manufacturing	1421	0	976	2397
R&D	2111	0	0	2111
Flex Industrial/Office	1520	0	4708	6228
General Office	4163	0	0	4163
Recreation	N/A	N/A	N/A	0
Ancillary Retail	39	0	2	41
Commercial/Retail	0	0	0	0
Maritime	3365	10297	0	13662
Other: Job Training	116	0	0	116
Live/Work	0	0	694	694
Total:	13047	10297	6379	29723

Jobs Generation Potential (Direct + Indirect)

	Jobs Generated, Each Sub-district			
Use Category	**OARB**	**Maritime**	**16th/Wood**	**Total**
Warehouse and Distribution	552	0	0	552
Light Industrial/Manufacturing	2531	0	1739	4269
R&D	3271	0	0	3271
Flex Industrial/Office	2726	0	8444	11170
General Office	6413	0	0	6413
Recreation	N/A	N/A	N/A	N/A
Ancillary Retail	109	0	6	115
Commercial/Retail	0	0	0	0
Maritime	4695	14367	0	19062
Other: Job Training	216	0	0	216
Live/Work	0	0	1069	1069
Total:	20513	14367	11257	46137

OARB Area Redevelopment EIR
Employment Model

Local Jobs

	OARB Development Areas				
	Gateway	Port	Maritime	16th/Wood	Total
2000	890	440	1850	100	3280
2020	6150	188	2760	4820	13918
Difference	5260	-252	910	4720	10638

Source: HEG 2001.
Note: Local jobs are those jobs actually located within each redevelopment district.

Appendix 4.9
Public Services and Utilities

4.9A Water Demand and Supply

- Letter dated February 19, 2002 from the East Bay Municipal Utility District (EBMUD)
- Actual OARB Water Consumption, 1995 and 2001
- Baseline and Estimated 2020 Water Demand in the Redevelopment Project Area
- Current and Estimated 2020 Water Demand in the Redevelopment Project Area

4.9B Wastewater Demand

- Letter dated January 31, 2002 from the City of Oakland Public Works Agency
- Oakland Redevelopment Project Area Sewer Flows

4.9C Solid Waste Generation

4.9A Water Demand and Supply

Post-it® Fax Note 7671	Date 2-25-02	# of pages ▶ 4
To GAYLE KORCHARD	From CARLTON CHAN	
Co./Dept.	Co. EBMUD	
Phone # 655-1857	Phone # 287-1164	
Fax # 655-5831	Fax # 287-0790	

EAST BAY
MUNICIPAL UTILITY DISTRICT

February 19, 2002

Ms. Aliza Gallo, Executive Director
Oakland Base Reuse Authority
700 Murmansk Street, Suite 300
Oakland, CA 94607-5009

Dear Ms. Gallo:

Re: Water Supply Assessment – Oakland Army Base Redevelopment Plan Environmental Impact Report

This letter replies to your request of December 19, 2001 for water agency consultation concerning the Oakland Army Base (OARB) Redevelopment Plan (see enclosed). The East Bay Municipal Utility District (EBMUD) appreciates the opportunity to provide this response.

Pursuant to Chapter 643, Section 10910 of the California Water Code and Section 15083.5, California Environmental Quality Act Guidelines, the project meets the threshold requirement for an assessment of water supply availability based on the potential size of the development and the following criteria: the project includes more than four million square feet of light industry, office, research and development, retail, and warehouse/distribution; as part of project approval, an amendment to the City of Oakland's (City) General Plan will be prepared by the City which would result in a net increase in the stated population density; and the City is preparing an environmental impact report for the project.

Project Area and Service History

This project area is bordered on the north by the San Francisco Bay, on the west by the Oakland Outer Harbor and Middle Harbor, on the south by the Oakland Inner Harbor. The western boundary runs along the Cypress Freeway. The project is within the City and the County of Alameda. The City's redevelopment district, which is now under the charge of the Oakland Base Reuse Authority (OBRA) encompasses approximately 1,731 acres consisting of three sub-districts:

1) OARB - approximately 385 acres.
2) The Port of Oakland maritime and rail facilities - approximately 1,300 acres.
3) A portion of West Oakland immediately east of Interstate 880 (16th/Wood) - approximately 46 acres.

EBMUD has provided water service to the project site since 1941 and continues to provide water service to the project area. Water service to the OARB is currently provided through two master meter accounts via a local distribution system owned and

County and District-wide level for existing and projected water demand. A summary of EBMUD's demand and supply projections in five-year increments is provided in the table (Enclosure 3) from the UWMP. The data reflects the latest actual and forecast values.

EBMUD's evaluation of water supply availability accounts for the diversions of both upstream and downstream water right holders and fishery releases. Fishery releases are based on the requirements of a 1998 Joint Settlement Agreement (JSA) between EBMUD, US Fish and Wildlife Service, and the California Department of Fish and Game. The Federal Energy Regulatory Commission incorporated the JSA into the EBMUD hydropower license in 1989, and the California State Water Resources Control Board incorporated the flow provisions of the JSA into EBMUD's Mokelumne River water rights in 1999 through Decision 1641.

The available supply shown in the table (Enclosure 3) in years 1, 2 and 3 of a multiple year drought was determined by EBMUD's hydrologic model with the following assumptions:

EBMUD's Drought Planning Sequence is used for 1976, 1977, and 1978.
Total system storage is depleted by the end of the third year of the drought.
The diversions by Amador and Calaveras Counties upstream of Pardee Reservoir increase over time.
Releases are made to meet the requirements of senior downstream water right holders and fishery releases are made according to the JSA.

In the table, "Single Dry" year (or Year 1 of "Multiple Dry Years") is determined as a year that EBMUD would implement Drought Management Program elements at the "moderate" stage with the goal of achieving between 0 to 15 percent reduction in customer demand. Year 2 of Multiple Dry Years is determined as a year that EBMUD would implement Drought Management Program elements at the "severe" stage with the goal of achieving between 15 to 25 percent reduction in customer demand. In Year 3 of the multiple year drought, deficiencies from about 48 percent in year 2005 to about 67 percent in year 2020 are forecast to occur. Therefore, a supplemental supply is needed, which is defined by EBMUD as the additional amount of water necessary to limit customer deficiency to 25 percent in a multiple-year drought while continuing to meet the requirements of senior downstream water right holders and the provisions of the 1998 JSA.

Project Demand

Demand projections for the subject project area are included in the 2000 UWMP analysis (and were in the 1985, 1992, 1996 UWMP versions). The District projects the 2020 water demand to be approximately 1.8 mgd, which includes an estimated 0.15 mgd that can be satisfied by recycled water. The District's further refinement of OBRA's 1.5 mgd calculation includes the application of an infill development adjustment factor. The following paragraph outlines the plans that EBMUD has for acquiring additional water supply.

operated by the Army. In August 2001, the Army's two water accounts were transferred to OBRA. Since this area has a long history of being provided water service by EBMUD, it does not constitute a potential new area to be served.

Because the project is located entirely within the EBMUD service area, EBMUD is the service provider to the proposed development in accordance with state law (the Municipal Utility District Act) and EBMUD's regulations.

District-wide Water Demand Projections

The water consumption of EBMUD customers has remained relatively level in recent years in spite of population and account growth. Between 1987 and the present, consumption has ranged from a high of approximately 220 million gallons per day (mgd) in 1987 to a low of 170 mgd in 1989. Based on extensive forecasting in EBMUD's Water Supply Management Plan (WSMP) and recent land use based demand forecasting, the WSMP forecast 2020 water demand of 277 mgd can be reduced to 229 mgd with successful water recycling and conservation programs that are in place. The OARB project is not expected to change the District-wide demand 2020 projection.

EBMUD Water Supply and Water Rights

EBMUD has water rights and facilities to divert up to a maximum of 325 mgd from the Mokelumne River, subject to the availability of Mokelumne River runoff and the prior water rights of other users. EBMUD's position in the hierarchy of Mokelumne water users is determined by a variety of agreements between Mokelumne water rights holders, the appropriative water rights permits and licenses which have been issued by the State, pre-1914 rights, and riparian rights. Conditions which restrict EBMUD's ability to use its 325 mgd entitlement include:

Upstream water use by prior right holders.
Downstream water use by riparian and senior appropriators and other downstream obligations, including protection of public trust resources.
Drought, or less than normal rainfall for more than a year.
Emergency outage.

During periods of drought, runoff from the Mokelumne River is insufficient to supply the 325 mgd entitlement. EBMUD studies indicate that with our current water supply and the water demands expected in 2020, deficiencies in supply of up to 67 percent could occur during droughts.

EBMUD Urban Water Management Plan

The enclosed EBMUD's 2000 Urban Water Management Plan (UWMP), adopted by the Board of Directors in Resolution No. 33242-01, includes planning level analyses at the

Supplemental Water Supply and Demand Management

In EBMUD's 1993 WSMP, three main options to meet projected water needs and to increase water reliability were identified: development of the conveyance facilities necessary to take delivery of the EBMUD-Central Valley Project contract for delivery of an American River supplemental supply, groundwater conjunctive use, and/or additional surface water storage. More recently, EBMUD signed a Memorandum of Agreement with the City of Sacramento, the County of Sacramento, and the U.S. Bureau of Reclamation to study a joint regional water project on the Sacramento River near Freeport replacing an American River diversion. A Freeport project would allow for a future groundwater conjunctive use component and, along with planned water recycling and conservation efforts, would ensure a reliable water supply to meet projected demands for current and future EBMUD customers within the current service area. Without a supplemental water supply source, deficiencies in supply are projected as noted above.

EBMUD requests that OBRA continue to discuss options with EBMUD to reduce new water demand impacts through both conservation practices and the use of recycled water. Please contact Marie A. Valmores, Senior Civil Engineer at (510) 287-1084 for further information.

Sincerely,

WILLIAM R. KIRKPATRICK
Manager of Water Distribution Planning Division

WRK:CDC:sb
sb02_035.doc

Enclosures: 1. Letter dated December 19, 2001
2. EBMUD 2000 Urban Water Management Plan
3. EBMUD Projected Demand and Available Supply Table

cc: Board of Directors w/o Enclosure 2

OBRA

Oakland Base Reuse Authority
700 Murmansk Street, Suite 3
Oakland, CA 94607
(510) 238-7256 Facsimile (510) 238-2936

December 19, 2001

Mr. William R. Kirkpatrick, Manager, Water Distribution Planning
East Bay Municipal Utility District, M/S 701
P.O. Box 24055
Oakland, California 94623-1055

Re: **Oakland Army Base (OARB) Redevelopment Plan EIR**
Request for Water Consultation and a Water Supply Assessment

Dear Mr. Kirkpatrick:

This letter serves as a request from the Oakland Base Reuse Authority (OBRA), acting as Local Reuse Agency on behalf of the City of Oakland, to EBMUD for an assessment of water demand for the subject redevelopment plan, and of the supply of EBMUD water available to serve the proposed redevelopment district. The City is preparing a redevelopment environmental impact report (EIR) in accordance with requirements of the California Environmental Quality Act (CEQA, Public Resources Code [PRC] §21000 et seq) and the CEQA Guidelines (California Code of Regulations [CCR] § 15000 et seq). This request to EBMUD is made pursuant to CCR §15083.5, which requires consultation with the relevant water agency for actions of a certain magnitude.

The City of Oakland recognizes that economic and physical blight exists in West Oakland, and that such blight could worsen due to the closure of OARB by the U.S. Government (final decision enacted into law September 1995). Therefore, in July 2000, the City established a redevelopment district with OARB at its center. At the same time, the City adopted a redevelopment plan that defines a framework of agency powers, duties, and obligations to enable redevelopment within the district.

The redevelopment district encompasses approximately 1,731 acres, and three redevelopment sub-districts, as shown on Attachments A and B to this letter:

- OARB: approximately 385 acres, the land are of the base
- Maritime: approximately 1,300 acres of Port of Oakland maritime and rail facilities, as well as roadway rights-of-way and miscellaneous parcels; and
- 16th/Wood: approximately 46 acres of West Oakland, immediately east of I-880.

Currently, the developed portion of the district is overwhelmingly transportation-oriented industry. Redevelopment is envisioned to result in a more complex and rich land use. It should be understood, however, that plans for ultimate reuse are conceptual, and redevelopment information is limited to proposed land use classifications and development intensities that will be reflected in an amendment to the Oakland General Plan. Only a few specific component projects have been generally identified, and details regarding building locations, operational characteristics, etc. do not currently exist. Buildout is expected to occur by 2020, and is expected to result in the land uses and development intensities identified in Attachment C to this letter.

It is the City's understanding the current EBMUD water demand protocol is based on land use types and development intensities. Because this is the type of information that exists regarding the proposed plan for redevelopment, we are confident EBMUD can assess water demand and supply in accordance with the requirements of CEQA. Attachment D is an analysis of existing and future water demand (at buildout) for the redevelopment district. We hope this information may assist EBMUD.

OBRA and the City of Oakland appreciate EBMUD's attention to this request. Should you have questions, or require additional information, please do not hesitate to contact our EIR consultant, Gayle Borchard: 510/655-1854.

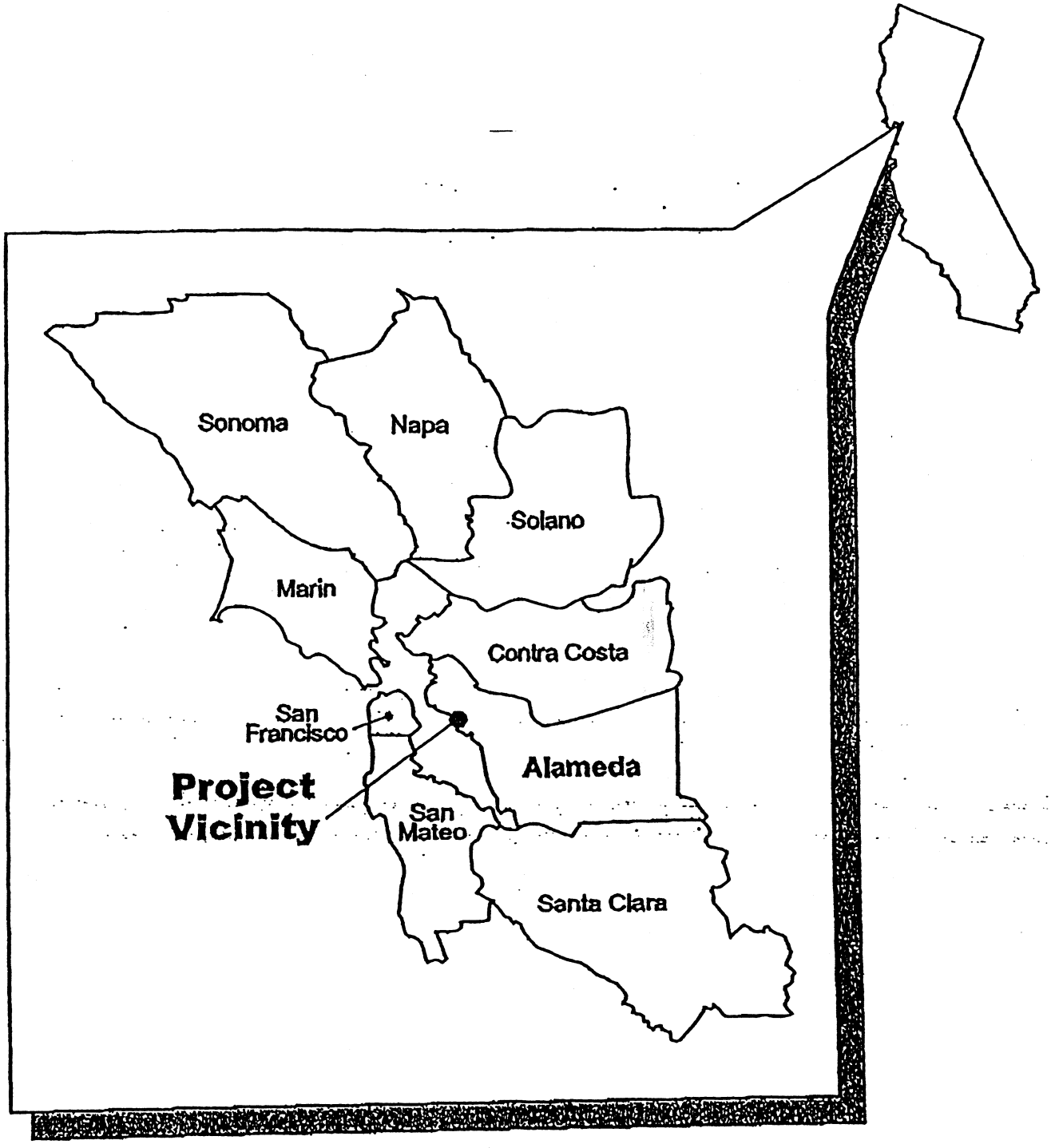
Thank you.

Sincerely,

Aliza Gallo
Executive Director

Attachments:
A: Graphic: Regional Location
B: Graphic: OARB Redevelopment District and Sub-districts
C: Table: Proposed Land Uses and Development Intensities
D: Spreadsheet: Current and 2020 Demand in the Redevelopment District

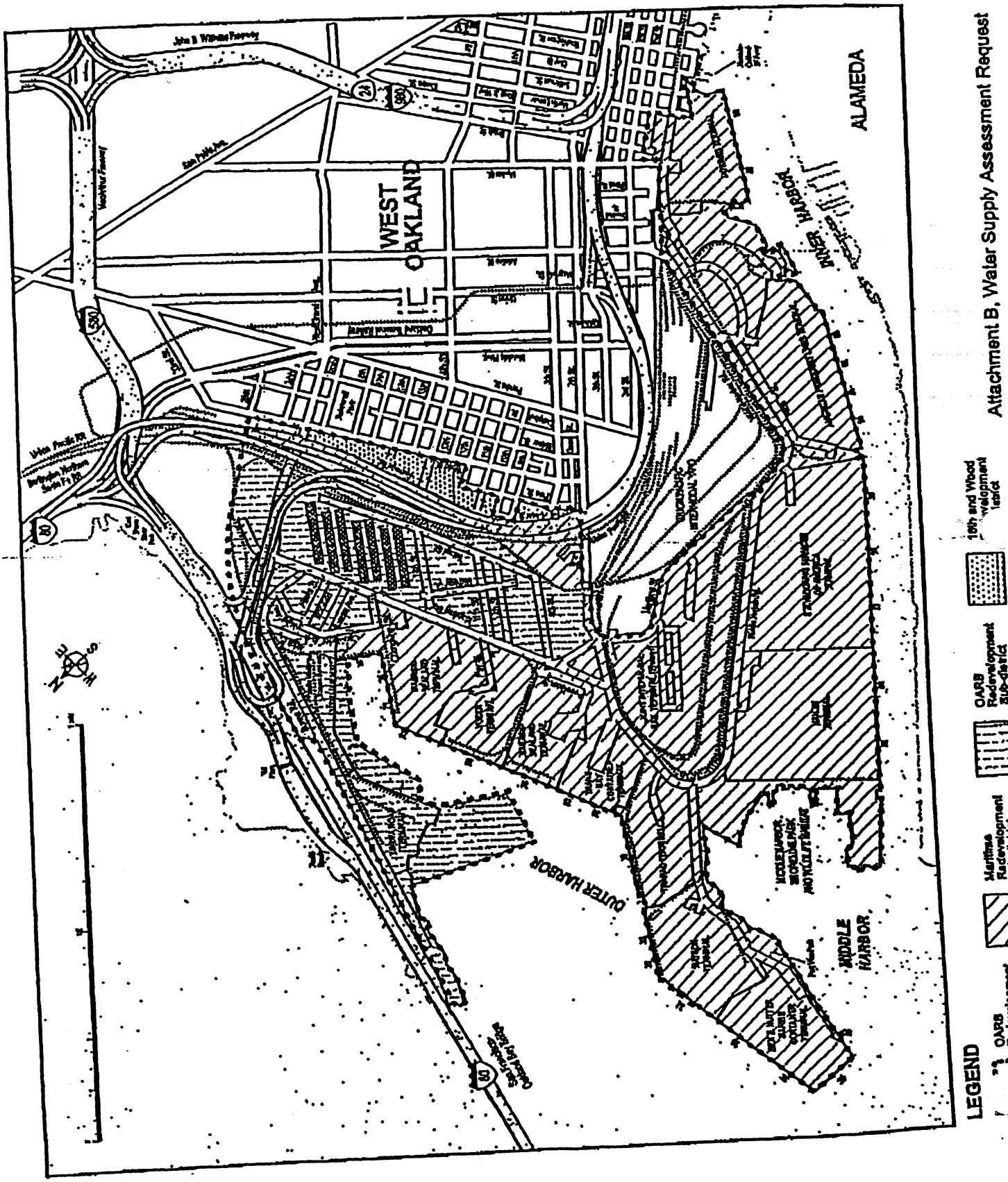
cc: E. Thornton, OBRA Project Manager
M. Wald, City Attorney
S. Gregory, Lamphier-Gregory, Consulting CEQA Manager
G. Borchard, Gayle Borchard & Associates, CEQA Consultant



Not to Scale

Attachment A, Water Supply Assessment Request
OARB Redevelopment District: Regional Location
November 2001

g. borchard & associates



Attachment B, Water Supply Assessment Request

Attachment C, Water Supply Assessment Request
OARB Redevelopment District Build-out through 2020
Proposed Land Uses and Development Intensities

Potential Land Uses	Units	Redevelopment Sub-district			Total
		OARB	Maritime	16th/Wood	
Light Industry	sq. ft.	444,000	0	300,000	1,044,000
Office, R&D	sq. ft.	1,528,000	0	1,000,000	2,528,000
Retail	sq. ft.	25,000	0	500,000	525,000
Warehouse/distribution	sq. ft.	300,000	0	0	300,000
Total square feet		2,297,000	0	1,800,000	4,397,000
From uses listed above	ac.	162	0	44	202
Community/civic	ac.	3	0	1	4
Park, Public Access	ac.	25	0	1	26
Maritime	ac.	52	166	0	1226
Maritime Support	ac.	15	90	0	105
Rail	ac.	128	0	0	120
Total acres to be redeveloped		385	256	46	687 (of 1,731)
Residential Total units	d.u.			400	400

Notes:
sq. ft. = square feet
ac. = acres
d.u. = dwelling units

Attachment D, Water Supply Assessment Request
OARB Redevelopment District: Current and 2020 Demand in the Redevelopment District

Redevelopment Sub-District	Current Water Demand, Gallons per Day (gpd) (1), (2) Land Use (3)	Acres	gpd/ac	Demand	Estimated 2020 Water Demand, Gallons per Day Land Use	Acres (4)	gpd/ac	Demand
OARB	EH	215		240,000	EO	33	1,748	57,684
	EIL	150	N/A (actual used)		EOH	107	3,889	416,123
	EV	20	N/A (actual used)		EC	5	1,695	8,475
		385		240,000	EIL	215	563	121,045
					EPI	25	426	10,650
						385		613,977
Maritime	EIL	1,275	583	717,825	EIL	1,326	583	746,538
	EC	25	1,695	42,375				
		1,300		760,200				
16th/Wood	EIL	46	583	25,898	ER4	8	8,330	66,640
					EOH	10	3,889	38,890
					EC	3	1,695	5,085
					EP	2	1,343	2,686
					EIL	23	583	12,949
						46		126,250
Total District		1,731		1,026,098		1,757		1,486,765
INCREASED DISTRICT-WIDE DEMAND DUE TO REDEVELOPMENT								460,667

Notes

1. Except for OARB, current demand is calculated from EBMUD "Average Land Use Demands by Location"
2. OARB current demand is actual demand in baseline year 1995, from EBMUD records for OARB
3. Land use codes are from "EBMUD Update to District-Wide Water Demands: Existing Land Use Categories"

EH	Specific high water users	EC	General commercial/industrial
EIL	Industrial low water use	EPI	Irrigated recreation
EV	Vacant land	ER4	Very high density residential
EO	Office/Light industrial	EP	Public/quasi-public lands
EOH	High density office		

4. Increase in acreage due to construction of appro[illegible]ly 26 net acres of new land by Bay fill in Maritime sub-district.

PROJECTED DEMAND AND AVAILABLE SUPPLY
EAST BAY MUNICIPAL UTILITY DISTRICT
(million gallons per day- mgd)

	2000	2005	2010	2015	2020
Customer Demand[1]	230	242	257	267	277
Adjusted for Conservation[2]	(8)	(14)	(20)	(27)	(34)
Adjusted for Recycled Water[3]	(6)	(9)	(11)	(12)	(14)
Planning Level of Demand	216	219	226	228	229
Available Supply & Need for Supplemental Supply					
Normal Year	>216	>219	>226	>228	>229
Supplemental Supply Need	*0*	*0*	*0*	*0*	*0*
Single Dry Year (Multiple Dry Years - Year 1) Moderate Stage (-7% deficiency)[4]	200	203	210	212	213
Supplemental Supply Need	*0*	*0*	*0*	*0*	*0*
Multiple Dry Years - Year 2 Severe Stage (25% deficiency)[4]	162	164	169	171	172
Supplemental Supply Need	*0*	*0*	*0*	*0*	*0*
Multiple Dry Years - Year 3					
Available Supply	125	114	95	84	77
Deficiency	42%	48%	58%	63%	67%
Supplemental Supply Need[5] (to limit deficiency to 25%)	*87*	*102*	*128*	*142*	*154*

1. *Demand taken from the 2000 Demand Study..*
2. *Conservation water savings goals from the WCMP 1999 Annual Report, 2 mgd in 1999 and 34 mgd for year 2020, linearly interpolated into five-year increments.*
3 *Chapter 5 of UWMP.*
   Note: Conservation and Reclamation savings reported are those attributed to programs which are a part of the 1993 WSMP. Reference Chapter 6 of UWMP.
4. *Drought conditions per Table 3-1, UWMP.*
5. *The supplemental supply need is calculated from modeling studies and is the amount of water needed to limit customer deficiency to 25 percent and to implement all provisions of the 1998 JSA.*

OARB Area Redevelopment EIR

Actual OARB Water Consumption, 1995 and 2001

Tap Code: A31539

Consumption, GPD

Month	Year →	15300715		15300795			Total
		12276106	12499400	8292071	83528561	83551500	
		1995					
1		14019	8566	31561	**32000**	30909	**117055**
2		12449	6839	30000	32164	29252	**110704**
3		13150	7577	30258	32719	29655	**113359**
4		17129	8976	38248	40891	37575	**142819**
5		6931	7745	57331	60612	56872	**189491**
6		72	2942	83800	78690	74426	**239930**
7		121	24	90508	88023	83752	**262428**
8		1596	72	90009	95020	90580	**277277**
9		9483	1321	70143	94597	90109	**265653**
10		14611	7190	49842	73714	69902	**215259**
11		9796	10497	34722	51784	49592	**156391**
12		9941	7070	30234	37255	34577	**119077**
				Actual GPD in Baseline Year (1995):			**184120**

Month	Year →	15300715		15300795			Total
		12276106	12499400	8292071	83528561	83551500	
		2000-2001					
6		19972	14486	83975	89860	73271	**281564**
7		16384	13971	42757	42853	56028	**171993**
8		22175	20413	266846	283999	215110	**808543**
9		21867	19647	59491	63804	**30000**	**194809**
10		18821	16094	45890	29317	22778	**132900**
11		10771	7649	15633	17827	13813	**65693**
12		13922	12282	21982	25625	19255	**93066**
1		23140	20003	36266	40320	31657	**151386**
2		17338	13998	24390	**32000**	20891	**108617**
3		17711	14550	24346	27411	20920	**104938**
4		22739	16730	38921	42437	34233	**155060**
5		32212	22295	47582	51660	41985	**195734**
				Actual GPD in Setting Year (2001):			**205359**

Notes:

GPD = gallons per day

Metered usage in certain months in **boldface** are estimates based on adjacent months (data missing)

OARB Redevelopment Project Area: Baseline and Estimated 2020 Water Demand in the Redevelopment Project Area
Analysis of Demand: 1995 v. 2020

	1995 Water Demand, Gallons per Day (gpd) (1), (2)				Estimated 2020 Water Demand, Gallons per Day			
Redevelopment Sub-District	**Land Use (3)**	**Acres**	**gpd/ac**	**Demand**	**Land Use**	**Acres (4)**	**gpd/ac**	**Demand**
OARB	EH	215		184,120	EO	33	1,748	57,684
	EIL	150		N/A (actual used)	EOH	107	3,889	416,123
	EV	20		N/A (actual used)	EC	5	1,695	8,475
		385		**184,120**	EIL	215	563	121,045
					EPI	25	426	10,650
						385		**613,977**
Maritime	EIL	1,275	563	717,825	EIL	**1,326**	563	**746,538**
	EC	25	1,695	42,375				
		1,300		**760,200**				
16th/Wood	EIL	**46**	563	**25,898**	ER4	8	8,330	66,640
					EOH	10	3,889	38,890
					EC	3	1,695	5,085
					EP	2	1,343	2,686
					EIL	23	563	12,949
						46		**126,250**
Total District		**1,731**		**970,218**		**1,757**		**1,486,765**
INCREASED DISTRICT-WIDE DEMAND DUE TO REDEVELOPMENT								**516,547**

Notes

1. Except for OARB, current demand is calculated from EBMUD "Average Land Use Demands by Location"
2. OARB current demand is actual demand in 2001 from EBMUD records for OARB
3. Land use codes are from "EBMUD Update to District-Wide Water Demands: Existing Land Use Categories"

EH	Specific high water users	EC	General commercial/industrial
EIL	Industrial low water use	EPI	Irrigated recreation
EV	Vacant land	ER4	Very high density residential
EO	Office/Light Industrial	EP	Public/quasi-public lands
EOH	High density office		

4. Increase in acreage due to construction of approximately 26 net acres of new land by Bay fill in Maritime sub-district.

OARB Redevelopment Project Area: Current and Estimated 2020 Water Demand in the Redevelopment Project Area
Analysis of Demand, 2001 v. 2020

Redevelopment Sub-District	2001 Water Demand, Gallons per Day (gpd) (1), (2) Land Use (3)	Acres	gpd/ac	Demand	Estimated 2020 Water Demand, Gallons per Day Land Use	Acres (4)	gpd/ac	Demand
OARB	EH	215		205,359	EO	33	1,748	57,684
	EIL	150	N/A (actual used)		EOH	107	3,889	416,123
	EV	20	N/A (actual used)		EC	5	1,695	8,475
		385		**205,359**	EIL	215	563	121,045
					EPI	25	426	10,650
						385		**613,977**
Maritime	EIL	1,275	563	717,825	EIL	**1,326**	563	**746,538**
	EC	25	1,695	42,375				
		1,300		**760,200**				
16th/Wood	EIL	**46**	563	**25,898**	ER4	8	8,330	66,640
					EOH	10	3,889	38,890
					EC	3	1,695	5,085
					EP	2	1,343	2,686
					EIL	23	563	12,949
						46		**126,250**
Total District		**1,731**		**991,457**		**1,757**		**1,486,765**
INCREASED DISTRICT-WIDE DEMAND DUE TO REDEVELOPMENT								**495,308**

Notes

1. Except for OARB, current demand is calculated from EBMUD "Average Land Use Demands by Location"
2. OARB current demand is actual demand in 2001 from EBMUD records for OARB
3. Land use codes are from "EBMUD Update to District-Wide Water Demands: Existing Land Use Categories"

EH	Specific high water users	EC	General commercial/industrial
EIL	Industrial low water use	EPI	Irrigated recreation
EV	Vacant land	ER4	Very high density residential
EO	Office/Light Industrial	EP	Public/quasi-public lands
EOH	High density office		

4. Increase in acreage due to construction of approxir 'y 26 net acres of new land by Bay fill in Maritime sub-district.

TABLE 3-1
AVERAGE LAND USE DEMANDS by LOCATION

Land Use Symbol	Land Use Category	East of Hills Average LUD (gpd/acre)	West of Hills Average LUD (gpd/acre)	Comments
	Residential Uses			
FR1	Low Density Residential	682	480	
FR2	Medium Density Residential	1,413	1,423	
FR3	High Density Residential	2,932	3,834	
FR4	Very High Density Residential	5,721	8,330	
FR5	Special/High Density Residential	11,441	16,659	Average LUD is 2 times FR4 LUD.
	Commercial Uses			
FC	General Commercial/Industrial	1,641	1,695	
FIL	Industrial Low Water Use	264	563	
FMU	Mixed Use	2,199	2,875	Average LUD is 75% of Average LUD for FR3.
FO	Office/Industrial	1,463	1,748	
FOH	High Density Office	2,909	3,889	
FR	Petroleum Refineries	-	4,248	No refineries East of Hills
	Public Uses			
FP	Public/Quasi Public	794	1,343	
FPI	Irrigated Parks	648	426	
FS	Schools	872	1,032	
	Miscellaneous Uses			
FOS	Open Space	-	-	
FV	Vacant Lands	-	-	

4.9B Wastewater Demand

CITY OF OAKLAND

DALZIEL BUILDING • 250 FRANK H. OGAWA PLAZA, 4TH FLOOR • OAKLAND, CALIFORNIA 94612
Public Works Agency
(510) 238-3437
FAX (510) 238-7227
TTY (510) 238-7644

Jan. 31, 2002

Gayle Borchard
6026 Colby St.
Oakland, CA 94618

RE: OARB Redevelopment Program - Sewer Capacity Verifications

Dear Ms. Borchard:

Per our telephone conversations and your letter of request for sewer capacity of the proposed redevelopment program, a mitigation charge will not be required based on the amount of discharge per the calculations that you have provided the City. As noted, the new-engineered backbone sanitary sewer system will need to be reviewed by the respective agency. The current sewer system at the proposed connection points will be able to accommodate the anticipated flow.

If site conditions should differ, please advise us so we may prepare future analysis
If you have any questions, please call me at (510) 238-6939.

Sincerely,

A. Allen Law, P.E.

ALLEN LAW, PE
Civil Engineer

OARB REDEVELOPMENT PROJECT AREA

Sewer Flows

Sub-basin	Sub-district	Source	Unit Type	No. of Units	Gross Acres	Net Acres	Unit for ADW Calculation	ADWF Generation Rate gpd/unit	ADWF Flow gpd	Peaking Factor percent	Total Flow gpd	Total Flow PWWF mgd
64-5	Maritime	Maritime	ac	26	26		Gross acres	600	15,600	3.0	46,800	
64-5	Maritime	Maritime Support	ac	75	75		Gross acres	600	45,000	3.0	135,000	
64-5	PDA	Maritime	ac	47.5	47.5		Gross acres	600	28,500	3.0	85,500	
64-5	PDA	Rail	ac	124	124		Gross acres	600	74,400	3.0	223,200	
										Sub-basin total	490,500	
										I/I: 2 percent of system peak flow	500,310	0.5003
64-12	16th/Wood	Light Industrial	SF	125,000	6.5	2.9	Net acres	5,000	14,500	2.5	36,250	
										I/I: 2 percent of system peak flow	36,975	0.0370
64-13	16th/Wood	Light Industrial	SF	125,000	6.5	2.9	Net acres	5,000	14,500	2.5	36,250	
64-13	16th/Wood	Live-work	DU	200			DUs	180	36,000	2.0	72,000	
64-13	16th/Wood	Office, R&D	SF	500,000			SF	0.2	100,000	3.0	300,000	
64-13	16th/Wood	Park	ac	0.5	0.5		Gross acres	50	25	2.0	50	
64-13	16th/Wood	Retail	SF	250,000	5.0		Gross acres	2,000	10,000	2.5	25,000	
										Sub-basin total	433,300	
										I/I: 2 percent of system peak flow	441,966	0.4420
64-14	16th/Wood	Light Industrial	SF	50,000	3.5	1.2	Net acres	5,000	6,000	2.5	15,000	
64-14	16th/Wood	Live-work	DU	200			DUs	180	36,000	2.0	72,000	
64-14	16th/Wood	Office, R&D	SF	500,000			SF	0.2	100,000	3.0	300,000	
64-14	16th/Wood	Park	ac	0.5	0.5		Gross acres	50	25	2.0	50	
64-14	16th/Wood	Retail	SF	250,000	5.0		Gross acres	2,000	10,000	2.5	25,000	
										Sub-basin total	412,050	
										I/I: 2 percent of system peak flow	420,291	0.4203
64-15/64-X	GDA	Civic	ac	3	3.0	3.0	Net acres	1,000	3,000	2.5	7,500	
64-15/64-X	GDA	Light Industrial	SF	444,000	40.0	10.2	Net acres	5,000	51,000	2.5	127,500	
64-15/64-X	GDA	Office, R&D	SF	1,528,000	93.0		SF	0.2	305,600	3.0	916,800	
64-15/64-X	GDA	Open Space	ac	10	10.0		Gross acres	0	0	0.0	0	
64-15/64-X	GDA	Retail	SF	25,000	5.0	0.6	Net acres	2,000	1,200	2.5	3,000	
										Sub-basin total	1,054,800	
										I/I: 2 percent of system peak flow	1,075,896	1.0759
64-X	GDA	Maritime Support	ac	15	15.0		Gross acres	600	9,000	3.0	27,000	
64-X	GDA	Park	ac	15	15.0		Gross acres	50	750	2.0	1,500	
64-X	GDA	Warehouse/dist	SF	300,000	25.0		Gross acres	600	15,000	3.0	45,000	
64-X	Maritime	Maritime Support	ac	15	15		Gross acres	600	9,000	3.0	27,000	
64-X	Maritime	Rail	ac	21.5	21.5		Gross acres	600	12,900	3.0	38,700	
										Sub-basin total	139,200	
										I/I: 2 percent of system peak flow	141,984	0.1420
									898,000			2.6174

Notes:

Generation rates from *Land Development Handbook, Planning Engineering, and Surveying* (Dewberry & Davis1996), Table 11.2
Maritime and rail uses assumed as general warehouse generation rate
Light Industrial generation rate assumed at 50 percent of heavy manufacturing industrial
Live-work assumes 1.5 persons per unit, 1 worker per unit
Civic is JATC, assumes generation consistent with construction work
I/I calculated as 2 percent of total gpd consistent with EBMUD input and new systems

4.9C Solid Waste Generation

OARB Area Redevelopment EIR

Solid Waste Generation

Proposed Land Use	Square Feet, by Sub-District			Direct Jobs (employees), by Sub-District			lb/day	Unit	Solid Waste Generation, tons per year		
	OARB	Maritime	16th/Wood	OARB	Maritime	16th/Wood			OARB	Maritime	16th/Wood
Warehouse and Distribution	300000			240	0	0	13.82	employee	431.18	0.00	0.00
Light Industrial/Manufacturing	444000		305000	1110	0	763	41.64	employee	6008.65	0.00	4130.27
R&D	464000		0	1160	0	0	0.01	square foot	603.20	0.00	0.00
Flex Industrial/Office	464000		1437000	1206	0	3736	0.01	square foot	603.20	0.00	1868.10
General Office	600000		0	2250	0	0	0.084	square foot	6552.00	0.00	0.00
Recreation	N/A	N/A	N/A	N/A	N/A	N/A	50	flat rate	6.50	0.00	0.00
Ancillary Retail	25000		0	70	0	4	0.046	square foot	149.50	0.00	0.00
Commercial/Retail	0		1300	0	0	0	0.046	square foot	0.00	0.00	7.77
Maritime	0		0	1330	4070	0	9.2	employee	1590.68	4867.72	0.00
Job Training (JATC)	50000		0	100	0	0	41.64	employee	541.32	0.00	0.00
Live/work	0	0	375 d.u.	0	0	375	5.5	d.u.+ employees	0.00	0.00	268.13
Existing Land Use to be Replaced									**16486.24**	**4867.72**	**6274.27**
Warehouse and Distribution	2757900			500			13.82	employee	898.30	**Total generated:**	**27628.23**
Office/Administrative	762000			1300			0.084	square foot	8321.04		
Light Industrial	156500			250			41.64	employee	1353.30		
				2050					**10572.64**	**Less existing:**	10572.64
										Net total generated:	**17055.59**
Notes:										**Less Oakland's 50% diversion rate:**	8527.79
Rates from Estimated Solid Waste Generation Rates: Industrial, Commercial, Residential (IWMB 2001).									**Total net increase in disposal due to redevelopment (TPY):**		**8527.79**

Warehouse/Distribution as IWMB "Warehouse"
Light Industrial/Manufacturing and JATC as IWMB "Light industrial"
R&D and Flex Industrial/Office as IWMB "Office"
General Office as IWMB "Professional office"
Ancillary Retail and Commercial/Retail as IWMB "Commercial retail"
Maritime as IWMB "Transportation/communication/utilities"
Live/work is a composite of IWMB "Multi-family" (4 lb./d.u./day) and I employee of Office at 1.5lb./emp/day

Appendix 4.12
Biology

4.12A Plant Species Observed on the OARB

4.12B Plant Species Observed at the Gateway Peninsula

4.12C Wildlife Species Observed at the OARB

4.12D Summary of Wildlife Observations at the Gateway Peninsula

4.12E Bird Species Observed at the New Berth 21 Fill Area

4.12F Aquatic (Non-Mammal) Species Observed in the Outer Harbor

4.12G Information from U.S. Fish and Wildlife Service

4.12H Special-Status Wildlife Species Potentially Occurring within the OARB Redevelopment Project Area

4.12I Special-Status Plant Species Potentially Occurring within the OARB Redevelopment Project Area

4.12J Correspondence Between the U.S. Army and the USFWS, and Between the Army and the NMFS Regarding Federally-Protected Species

- October 11, 2000 letter of concurrence from USFWS to Army
- August 3, 2000 letter from Army to USFWS requesting concurrence with Army determination of no likely adverse effect
- January 11, 1996 letter of concurrence from USFWS to Army regarding suitability of OARB for fish and wildlife management
- September 30, 1999 letter from Army to USFWS requesting concurrence with Army determination of no likely adverse effect
- April 10, 2000 letter of concurrence from NMFS to Army of conditional concurrence
- September 30, 1999 letter from Army to NMFS requesting concurrence with Army determination of no likely adverse effect

4.12A Plant Species Observed on the OARB

Appendix 4.12A
Plant Species Observed on the OARB

Common Name	Scientific Name	Origin; Life History; Status
DICOTS		
FIG-MARIGOLD FAMILY	**AIZOACEAE**	
New Zealand spinach	*Tetragonia tetragonioides*	Introduced; annual
sea fig	*Carpobrotus edulis*	Introduced; perennial
CARROT FAMILY	**APIACEAE**	
fennel	*Foeniculum vulgare*	Introduced; perennial; FACU
SUNFLOWER FAMILY	**ASTERACEAE**	
Australian brass-buttons	*Cotula australis*	Introduced; annual
beach bur	*Ambrosia chamissonis*	Native; perennial
brass-buttons	*Cotula coronopifolia*	Introduced; perennial; FACW
bristly ox-tongue	*Picris echinoides*	Introduced; biennial; FAC
bristly tail-seed	*Urospermum picroides*	Introduced; annual, perennial
Canada horseweed	*Conyza canadensis*	Native; annual; FAC
cocklebur	*Xanthium strumarium*	Native; annual; FAC
common sow thistle	*Sonchus oleraceus*	Introduced; annual
common cudweed	*Gnaphalium luteo-album*	Introduced; annual; FACW
coyote brush	*Baccharis pilularis*	Native; shrub
fleshy jaumea	*Jaumea carnosa*	Native; perennial; OBL
Island marguerite	*Argyranthemum foeniculaceum Canary*	Introduced; subshrub
Italian thistle	*Carduus pycnocephalus*	Introduced; annual
marsh gum-plant	*Grindelia stricta* var. *angustifolla*	Native; subshrub; OBL; CNPS List 4
narrow-leaved wild-lettuce	*Lactuca saligna*	Introduced; annual
prickly lettuce	*Lactuca serriola*	Introduced; annual; FAC
poison wild-lettuce	*Lactuca virosa*	Introduced biennial
rough cat's ear	*Hypochaeris radicata*	Introduced; perennial
South American horseweed	*Conyza bonariensis*	Introduced; annual
telegraph weed	*Heterotheca grandiflora*	Native; annual, perennial
tocalote	*Centaurea melitensis*	Introduced; annual
weedy hawksbeard	*Crepis vesicaria* ssp. *taraxacifolia*	Introduced; annual, biennial
yellow star-thistle	*Centaurea solstitialis*	Introduced; annual
MUSTARD FAMILY	**BRASSICACEAE**	
black mustard	*Brassica nigra*	Introduced; annual
broad-leaved pepper-grass	*Lepidium latifolium*	Introduced; perennial; FACW
European sea rocket	*Cakile maritima*	Introduced; annual; FACW
lesser swine cress	*Coronopus didymus*	Introduced; annual, biennial
shortpod mustard	*Hirschfeldia incana*	Introduced; biennial, perennial
wild radish	*Raphanus sativus*	Introduced; annual, biennial

Appendix 4.12A
Plant Species Observed on the OARB

Common Name	Scientific Name	Origin; Life History; Status
PINK FAMILY	**CARYOPHYLLACEAE**	
four-leaved allseed	*Polycaxpon tetraphyllum*	Introduced; annual
salt sand-spurry	*Spergularia marina*	Native; annual; OBL
GOOSEFOOT FAMILY	**CHENOPODIACEAE**	
alkali Russian thistle	*Salsola soda*	Introduced; annual
Australian saltbush	*Atriplex semibaccata*	Introduced; perennial, subshrub; FAC
five-horni bassia	*Bassia hyssopifolia*	Introduced; annual; FAC
pickleweed	*Salicornia virginica*	Native; perennial; OBL
saltbush	*Atriplex* sp. *(prob. subspicata)*	Native; annual
tumbleweed	*Salsola tragus*	Introduced; annual; FACU
MORNING GLORY FAMILY	**CONVOLVULACEAE**	
field bindweed	*Convolvulus arvensis*	Introduced; perennial;
DODDER FAMILY	**CUSCUTACEAE**	
saltmarsh dodder	*Cuscuta salina*	Native; annual
SPURGE FAMILY	**EUPHORBIACEAE**	
prostrate spurge	*Chamaesyce prostrata*	Introduced; annual
PEA FAMILY	**FABACEAE**	
arroyo lupine	*Lupinus succulentus*	Native; annual
bird's-foot trefoil	*Lotus corniculatus*	Introduced; perennial; FAC
California burclover	*Medicago polymorpha*	Introduced; annual
golden wattle	*Acacia longifolia*	Introduced shrub
sourclover	*Melilotus indicus*	Introduced; annual; FACI
white clover	*Trifolium repens*	Introduced; perennial; FACU
white sweetclover	*Melilotus albus*	Introduced; annual, biennial; FACU
GERANIUM FAMILY	**GERANIACEAE**	
dove's-foot geranium	*Geranium molle*	Introduced; annual, biennial
red-stemmed filaree	*Erodium cicutarium*	Introduced; annual
MALLOW FAMILY	**MALVACEAE**	
bull mallow	*Malva nicaeensis*	Introduced; annual, biennial
MYOPORUM FAMILY	**MYOPORACEAE**	
ngaio tree	*Myoporum laetum*	Introduced shrub, tree
EVENING PRIMROSE FAMILY	**ONAGRACEAE**	
autumn willowweed	*Epilobium brachycarpum*	Native; annual; UPL
POPPY FAMILY	**PAPAVERACEAE**	
California poppy	*Eschscholzia californica*	Native; annual, perennial
PLANTAIN FAMILY	**PLANTAGINACEAE**	
cut-leaf plantain	*Plantago coronopus*	Introduced biennial; FAC
English plantain	*Plantago lanceolata*	Introduced; perennial; FAC

Appendix 4.12A
Plant Species Observed on the OARB

Common Name	Scientific Name	Origin; Life History; Status
BUCKWHEAT FAMILY	**POLYGONACEAE**	
common knotweed	*Polygonum arenastrum*	Introduced; annual, perennial; FAC
curly dock	*Rumex crispus*	Introduced; perennial; FACW
willow dock	*Rumex salicifolius* var. *transitorius*	Native; perennial
PRIMROSE FAMILY	**PRIMULACEAE**	
scarlet pimpernel	*Anagallis arvensis*	Introduced; annual; FAC
WILLOW FAMILY	**SALICACEAE**	
arroyo willow	*Salix lasiolepis*	Native; shrub; FACW
sandbar willow	*Salix exigua*	Native; shrub; OBL
NETTLE FAMILY	**URTICACEAE**	
spreading pellitory	*Parietaria judaica*	Introduced; perennial
VALERIAN FAMILY	**VALERIANACEAE**	
red valerian	*Centranthus ruber*	Introduced; perennial
MONOCOTS		
SEDGE FAMILY	**CYPERACEAE**	
prairie rush	*Scirpus maritimus*	Native; perennial; OBL
tall flatsedge	*Cyperus eragrostis*	Native; perennial; FACW
GRASS FAMILY	**POACEAE**	
beard grass	*Polypogon monspeliensis*	Introduced; annual; FACW
Bermuda grass	*Cynodon dactylon*	Ka, Introduced; perennial; FAC
broom-corn millet	*Panicum miliaceum*	Introduced; annual
Italian rye-grass	*Lolium multiflorum*	Introduced; annual
pacific bentgrass	*Agrostis avenacea*	Introduced; perennial; FACW
pampas grass	*Cortaderia* sp.	Introduced; perennial
purple needlegrass	*Nassella pulchra*	Native;.perennial
rattail fescue	*Vulpia myuros*	Introduced; annual; FACU*
red brome	*Bromus madritensis* ssp. *rubens*	Introduced; annual
ripgut brome	*Bromus diandrus*	Introduced; annual
saltgrass	*Distichlis spicata*	Native; perennial; FACW
slender wild oats	*Avena barbata*	Introduced; annual
smilo grass	*Piptathexum miliaceum*	Introduced; perennial
upright veldt grass	*Ehrharta erecta*	Introduced; perennial
CATTAIL FAMILY	**TYPHACEAE**	
narrow-leaf cattail	*Typha angustifolia*	Native; perennial; OBL

Source: Corps 1999
Notes:
CNPS = California Native Plant Society List 4: Plants of Limited Distribution
FAC = facultative plants with an estimated probability of 34-66% to occur in wetlands
FACU = facultative upland plants with an estimated probability of 1-33% to occur in wetlands
FAWC = facultative wetland plants with an estimated probability of 67-99% to occur in wetlands
OBL = obligate wetland plants with an estimated probability >99% to occur in wetlands

4.12B Plant Species Observed at the Gateway Peninsula

Appendix 4.12B

Plant Species Observed at the Gateway Peninsula

Common name	Scientific name *Genus species*	Plant Community[a]
DICOTS		
CARROT FAMILY	**APIACEAE**	**CS, UR**
Fennel	*Foeniculum vulgare**	
SUNFLOWER FAMILY	**ASTERACEAE**	
beachbur	*Ambrosia chamissonis*	CS
coyote brush	*Baccharis pilularis*	CS, UR
cultivated chrysanthemum	*Chrysanthemum frutescens**	CS, UR
little horseweed	*Conyza bonariensis**	UR
brass buttons	*Cotula coronopifolia**	SD
cardoon, artichoke thistle	*Cynara cardunculus**	UR
cudweed	*Gnaphalium luteo-album**	TR, UR
marsh gumplant	*Grindelia stricta angustifolia*[b]	CS
telegraph weed	*Heterotheca grandiflora*	TR
fleshy jaumea	*Jaumea carnosa*	IT
common sow thistle	*Sonchus oleraceus**	TR, UR
MUSTARD FAMILY	**BRASSICACEAE**	
wild radish	*Raphanus sativus**	UR
shiny pepper-grass	*Lepidium nitidum*	IT, SD
PINK FAMILY	**CARYOPHYLLACEAE**	
red sand spurry	*Spergularia rubra**	SD
four-leaved allseed	*Polycarpon tetraphyllum**	SD
GOOSEFOOT FAMILY	**CHENOPODIACEAE**	
spear oracle	*Atriplex p. patula*	IT, SD
Australian saltbush	*Atriplex semibaccata**	SD
common pickleweed	*Salicornia virginica*	IT
MORNING GLORY FAMILY	**CONVOLVULACEAE**	
cultivated bindweed	*Convolvulus* sp.*	UR
PEA FAMILY	**FABACEAE**	
birdfoot trefoil	*Lotus corniculatus**	UR
California bur-clover	*Medicago polymorpha**	UR
yellow sweet clover	*Melilotus indica**	UR
white clover	*Trifolium repens**	UR
common vetch	*Vicia sativa nigra**	UR
GERANIUM FAMILY	**GERANIACEAE**	
red-stemmed storksbill	*Erodium cicutarium**	UR
LOOSESTRIFE FAMILY	**LYTHRACEAE**	
hyssop-leaved lythrum	*Lythrum hyssopifolium**	TR, UR

Appendix 4.12B

Plant Species Observed at the Gateway Peninsula

Common name	Scientific name *Genus species*	Plant Community[a]
MALLOW FAMILY	**MALVACEAE**	
cheese weed	*Malva* sp.*	UR
EVENING PRIMROSE FAMILY	**ONAGRACEAE**	
willow herb	*Epilobium* sp.*	UR
OXALIS FAMILY	**OXALIDACEAE**	
Bermuda buttercup	*Oxalis pes-caprae**	UR
POPPY FAMILY	**PAPAVERACEAE**	
California poppy	*Eschscholzia californica*	UR
PLANTAIN FAMILY	**PLANTAGINACEAE**	
split-leaf plantain	*Plantago coronopus**	UR, SD
English plantain	*Plantago lanceolata**	TR, UR
BUCKWHEAT FAMILY	**POLYGONACEAE**	
curly dock	*Rumex crispus**	TR
PRIMROSE FAMILY	**PRIMULACEAE**	
scarlet pimpernel	*Anagallis arvensis**	UR
VALERIAN FAMILY	**VALERIANACEAE**	
red valerian	*Centranthus ruber**	UR
MONOCOTS		
RUSH FAMILY	**JUNCACEAE**	
toadrush	*Juncus bufonius*	FD
GRASS FAMILY	**POACEAE**	
wild oat	*Avena fatua**	UR
rip-gut brome	*Bromus diandrus**	UR
red brome	*Bromus madritensis rubens**	UR
swamp grass	*Crypsis scheonoides**	SD
Mediterranean barley	*Hordeum marinum gussoneanum**	SD
foxtail barley	*Hordeum marinum leporinum**	UR
kikuyu grass	*Pennisetum clandestinum**	UR
annual bluegrass	*Poa annua**	UR, PD
sheep fescue	*Vulpia myuros myuros**	UR

Appendix 4.12B

Plant Species Observed at the Gateway Peninsula

Source: Harding Lawson Associates 2001

Notes:

Observations from site survey conducted on April 16, 1998.

*Non-native

[a] Community:

CS	coastal scrub
IT	intertidal
PD	paved/developed
SD	seasonal depression
TR	transitional ruderal
UR	upland ruderal

[b] CNPS-4 Plant considered by the California Native Plant Society (CNPS) to have limited distribution – a watch list.

4.12C Wildlife Species Observed at the OARB

Appendix 4.12C

Wildlife Species Observed at the OARB

Common Name	Scientific Name	Habitat*
BIRDS		
American coot	*Fulica americana*	OW
American crow	*Corvus brachyrhynchos*	F
American goldfinch (flock)	*Carduelis tristis*	L
American kestrel	*Falco sparverius*	S
American robin	*Turdus migratorius*	L
Anna's hummingbird	*Calypte anna*	L
barn swallow	*Hirundo rustica*	F
belted kingfisher	*Ceryle alcyon*	S
black oystercatcher	*Haematopus bachmani*	SH
black phoebe	*Sayornis nigricanus*	S
black-bellied plover	*Pluvialis squatarola*	S
bufflehead	*Bucephala albeola*	OW
bushtit	*Psaltriparus minimus*	S
California brown pelican	*Pelecanus occidentalis californicus*	SH
California least tern	*Sterna antillarum browni*	OW
California towhee	*Pipilo crissalis*	L
Canada goose	*Branta canadensis*	S
Clark's grebe	*Aechmophorus occidentalis*	OW
cliff swallow	*Hirundo pyrrhonota*	L
common goldeneye	*Bucephala clanguld*	OW
common loon	*Gavia immer*	OW
common raven	*Corvus corax*	F
double-crested cormorant	*Phalacrocorax auritus*	OW
dunlin	*Calidris alpina*	SH, S
eared grebe	*Podiceps nigricollis*	OW
European starling	*Sturnus vulgaris*	L
Forster's tern	*Sterna forsteri*	OW
great blue heron	*Ardea herodias*	SH
greater scaup	*Aythya marila*	OW
herring gull	*Larus argentatus*	OW
horned grebe	*Podiceps auritus*	OW
house finch	*Carpodacus mexicanus*	L
house sparrow	*Passer domesticus*	L
killdeer	*Charadrius vociferus*	S, L
least sandpiper	*Calidris minutilla*	S
lesser scaup	*Aythya affinis*	OW
mallard	*Anas platyrhynchos*	F
mourning dove	*Zenaida macroura*	L, W, S
northern mockingbird	*Mimus polyglottos*	L
oldsquaw	*Clangula hyemalis*	OW
Pacific-slope flycatcher	*Empidonax difficilis*	S
pied-billed grebe	*Podilymbus podiceps*	OW
red-tailed hawk	*Buteo jamaicensis*	F
red-winged blackbird	*Agelaius phoeniceus*	W
ruddy duck	*Oxyura jamaicensis*	OW
sanderling	*Calidris alba*	S
semipalmated plover	*Charadrius semipalmatus*	S
spotted sandpiper	*Actitis macularia*	SH
surf scoter	*Melanitta perspicillata*	OW

Appendix 4.12C

Wildlife Species Observed at the OARB

Common Name	Scientific Name	Habitat*
wandering tattler	*Heteroscelus incanus*	S
western grebe	*Aechmophorus clarkii*	OW
western gull	*Larus occidentalis*	OW
western meadowlark	*Sturnella neglecta*	L
western sandpiper	*Calidris mauri*	S
western scrub jay	*Aphelocoma coerulescens*	L
whimbrel	*Numenius phaeopus*	SH
white-crowned sparrow	*Zonotrichia leucophrys*	L
white-winged scoter	*Melanitta fusca*	OW
willet	*Catoptrophorus semipalmatus*	SH
yellow-rumped warbler	*Dendroica coronata*	S
REPTILES		
western fence lizard	*Sceloporus occidentalis*	SH, S
MAMMALS		
Botta's pocket gopher (mounds)	*Thomomys bottae*	
California sea lion	*Zalophys californicus*	OW

Source: Corps 1999

Notes:

F	Flying over
L	Landscape
OW	Open water
*S	Land spit
SH	Shoreline
W	Wetland outside NE Boundary

4.12D Summary of Wildlife Observations at the Gateway Peninsula

Appendix 4.12D

Summary of Wildlife Observations at the Gateway Peninsula

Common name	*Scientific Name*	Status[a]	Habitat[b]
BIRDS			
American coot	*Fulica americana*		OW, S
black scoter	*Melanitta nigra*		OW
Canada goose	*Branita canadensis*		S, OW
Clark's grebe	*Aechmophorus clarkii*		OW
common goldeneye	*Bucephala clangula*		OW
double crested cormorant	*Phalacrocorax auritus*	CSC	OW
Forster's tern	*Sterna forsteri*		OW
greater scaup	*Aythya marila*		OW
horned grebe	*Podiceps curitus*		OW
mallard	*Anas* sp.		S, OW
peregrine falcon	*Falco peregrinus*	DE, SE	S
semi-palmated plover	*Charadrius semipalmatus*		S
surf scoter	*Melanitta perspicillata*		OW
unidentified scaup	*Aythya* sp.		OW
western grebe	*Aechmophorus occidentalis*		OW
western gull	*Larus occidentalis*		OW
western sandpiper	*Calidris mauri*		S
willet	*Catoptrophorus semipalmatus*		S
MAMMALS			
harbor seal	*Phoca vitulina*	MM	OW
INVERTEBRATES			
mussel	*Mytilus* sp.		S

Source: Harding Lawson Associates 2001

Notes:

Observations from site surveys conducted on January 22 and April 16, 1998.

[a] Federal listed status / State (California) listed status / Other designations:

- DE Delisted by the federal government
- FE Listed as endangered by the federal government
- SE Listed as endangered by the State of California
- FSC U.S. Fish and Wildlife Services designated "Species of Concern" (former Category 2 Candidate for listing)
- CSC California Department of Fish and Game designated "Species of Special Concern"
- MM Protected under the Marine Mammal Protection Act

[b] Wildlife Habitats:

S = shoreline, including sandy/rocky beach and intertidal riprap

OW = open water of Oakland Outer Harbor

4.12E Bird Species Observed at the New Berth 21 Fill Area

Appendix 4.12E
Bird Species Observed at the New Berth 21 Fill Area

Common Name	Scientific Name
American coot	*Fulica americana*
American crow	*Corvus brachyrhynchos*
American robin	*Turdus migratorius*
belted kingfisher	*Ceryle alcyon*
California gull	*Larus californicus*
Caspian tern	*Sterna caspia*
Clark's grebe	*Aechmophorus clarkii*
common loon	*Gavia immer*
double-crested cormorant	*Phalacrocorax auritus*
eared grebe	*Podiceps nigricollis*
Forster's tern	*Sterna forsteri*
glaucous-winged gull	*Larus glaucescens*
greater scaup	*Aythya marila*
horned grebe	*Podiceps auritus*
mallard	*Anus platyrhynchos*
mew gull	*Larus canus*
rock dove	*Columba livia*
ruddy duck	*Oxyura jamaicensis*
snowy egret	*Egretta thula*
surf scoter	*Melanitta perspicillata*
ring-billed gull	*Larus delawarensis*
western grebe	*Aechmophorus occidentalis*
western gull	*Larus occidentalis*
white-winged scoter	*Melanitta fusca deglandi*

Source: del Nevo and Malamma 1997

4.12F Aquatic (Non-Mammal) Species Observed in the Outer Harbor

Appendix 4.12F

Aquatic (Non-Mammal) Species Observed in the Outer Harbor

Common Name	Scientific Name
bat ray	*Myliobatis californica*
bay goby	*Lepidogobius lepidus*
bay pipefish	*Syngnathus leptorhynchus*
black shrimp	*Crangon franciscorum*
blue-spotted shrimp	*Crangon nigromaculata*
California halibut	*Paralichthys californicus*
chameleon goby	*Tridentiger trigonocephalus*
Dungeness crab	*Cancer magister*
English sole	*Parophrys vetulus*
leopard shark	*Triakis semifasciata*
lingcod	*Ophiodon elongatus*
longfin smelt	*Spirinchus thaleichthys*
northern anchovy	*Engraulis mordax*
Pacific herring	*Clupea harengus*
Pacific tomcod	*Microgadus proximus*
plainfin midshipman	*Porichthys notatus*
shiner perch	*Cymatogaster aggregata*
speckled sanddab	*Citharichthys stigmaeus*
staghorn sculpin	*Leptocottus armatus*
starry flounder	*Platichthys stellatus*
walleye surfperch	*Hyperprosopon argenteum*
white croaker	*Genyonemus lineatus*
yellowfin goby	*Acanthogobius flavimanus*

Source: del Nevo and Malamma 1997

4.12G Information from U.S. Fish and Wildlife Service

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

IN REPLY REFER TO
1-1-02-SP-246

November 16, 2001

Ms. Corinna Lu
Biologist
URS Corporation
500 12th Street, Suite 200
Oakland, California 94607

Subject: Species List for Oakland Army Base Redevelopment Project, Contra Costa and San Francisco Counties, California

Dear Ms. Lu:

We are sending the enclosed list in response to your November 14, 2001, request for information about endangered and threatened species (Enclosure A). The list covers the following U.S. Geological Survey 7½ minute quad or quads: San Leandro, Hunters Point, Richmond, San Quentin, San Francisco North and Oakland West Quads.

Please read *Important Information About Your Species List* (enclosed). It explains how we made the list and describes your responsibilities under the Endangered Species Act. Please contact Harry Mossman, Biological Technician, at (916) 414-6674, if you have any questions about the attached list or your responsibilities under the Endangered Species Act. For the fastest response to species list requests, address them to the attention of Mr. Mossman at this address. You may fax requests to him at 414-6712 or 6713.

Sincerely,

Cecilia K Brown

for Jan C. Knight
Chief, Endangered Species Division

Enclosures

Important Information About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute *quads*. The United States is divided into these quads, which are about the size of San Francisco. If you requested your list by quad name or number, that is what we used. Otherwise, we used the information you sent us to determine which quad or quads to use.

Animals

The animals on your species list are ones that occur within, *or may be affected by projects within*, the quads covered by the list. Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.

Plants

Any plants on your list are ones *that have actually been observed* in the quad or quads covered by the list. We have also included either a county species list or a list of species in nearby quads. We recommend that you check your project area for these plants. Plants may exist in an area without ever having been detected there.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. For plant surveys, we recommend using the enclosed *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Species*. The results of your surveys should be published in any environmental documents prepared for your project.

State-Listed Species

If a species has been listed as threatened or endangered by the State of California, but not by us nor by the National Marine Fisheries Service, it will appear on your list as a Species of Concern. *However you should contact the California Department of Fish and Game for official information about these species.* Call (916) 322-2493 or write Marketing Manager, California Department of Fish and Game, Natural Diversity Data Base, 1416 Ninth Street, Sacramento, California 95814.

Your Responsibilities Under the Endangered Species Act

All plants and animals identified as *listed* on Enclosure A are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the *take* of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal. Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

> If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a *formal consultation* with the Service. Such consultation would result in a *biological opinion* addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
>
> If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an *incidental take permit*. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project. Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that mitigates for the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the mitigation plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as *critical habitat*. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Maps and boundary descriptions of the critical habitat may be found in the *Federal Register*. The information is also reprinted in the *Code of Federal Regulations* (50 **CFR** 17.95).

Candidate Species

We recommend that you address impacts to *candidate* species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Your list may contain a section called *Species of Concern*. This term includes former *category 2 candidate species* and other plants and animals of concern to the Service and other Federal, State and private conservation agencies and organizations. Some of these species may become candidate species in the future.

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed, candidate and special concern species in your planning, this should not be a problem. We also continually strive to make our information as accurate as possible. Sometimes we learn that a particular species has a different range than we thought. This should not be a problem if you consider the species on the county or surrounding-quad lists that we have enclosed. If you have a long-term project or if your project is delayed, please feel free to contact us about getting a current list. You can also find out the current status of a species by going to the Service's Internet page: *www.fws.gov*

GUIDELINES FOR CONDUCTING AND REPORTING BOTANICAL INVENTORIES FOR FEDERALLY LISTED, PROPOSED AND CANDIDATE PLANTS
(September 23, 1996)

These guidelines describe protocols for conducting botanical inventories for federally listed, proposed and candidate plants, and describe minimum standards for reporting results. The Service will use, in part, the information outlined below in determining whether the project under consideration may affect any listed, proposed or candidate plants, and in determining the direct, indirect, and cumulative effects.

Field inventories should be conducted in a manner that will locate listed, proposed, or candidate species (target species) that may be present. The entire project area requires a botanical inventory, except developed agricultural lands. The field investigator(s) should:

1. Conduct inventories at the appropriate times of year when target species are present and identifiable. Inventories will include all potential habitats. Multiple site visits during a field season may be necessary to make observations during the appropriate phenological stage of all target species.

2. If available, use a regional or local reference population to obtain a visual image of the target species and associated habitat(s). If access to reference populations is not available, investigators should study specimens from local herbaria.

3. List every species observed and compile a comprehensive list of vascular plants for the entire project site. Vascular plants need to be identified to a taxonomic level which allows rarity to be determined.

4. Report results of botanical field inventories that include:

   a. a description of the biological setting, including plant community, topography, soils, potential habitat of target species, and an evaluation of environmental conditions, such as timing or quantity of rainfall, which may influence the performance and expression of target species.

   b. a map of project location showing scale, orientation, project boundaries, parcel size, and map quadrangle name.

   c. survey dates and survey methodology(ies).

   d. if a reference population is available, provide a written narrative describing the target species reference population(s) used, and date(s) when observations were made.

   e. a comprehensive list of all vascular plants occurring on the project site for each habitat type.

   f. current and historic land uses of the habitat(s) and degree of site alteration.

g. presence of target species off-site on adjacent parcels, if known.

h. an assessment of the biological significance or ecological quality of the project site in a local and regional context.

5. If target species is(are) found, report results that additionally include:

a. a map showing federally listed, proposed and candidate species distribution as they relate to the proposed project.

b. if target species is (are) associated with wetlands, a description of the direction and integrity of flow of surface hydrology. If target species is (are) affected by adjacent off-site hydrological influences, describe these factors.

c. the target species phenology and microhabitat, an estimate of the number of individuals of each target species per unit area; identify areas of high, medium and low density of target species over the project site, and provide acres of occupied habitat of target species. Investigators could provide color slides, photos or color copies of photos of target species or representative habitats to support information or descriptions contained in reports.

d. the degree of impact(s), if any, of the proposed project as it relates to the potential unoccupied habitat of target habitat.

6. Document findings of target species by completing California Native Species Field Survey Form(s) and submit form(s) to the Natural Diversity Data Base. Documentation of determinations and/or voucher specimens may be useful in cases of taxonomic ambiguities, habitat or range extensions.

7. Report as an addendum to the original survey, any change in abundance and distribution of target plants in subsequent years. Project sites with inventories older than three years from the current date of project proposal submission will likely need additional survey. Investigators need to assess whether an additional survey(s) is (are) needed.

8. Adverse conditions may prevent investigator(s) from determining presence or identifying some target species in potential habitat(s) of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any year. An additional botanical inventory(ies) in a subsequent year(s) may be required if adverse conditions occur in a potential habitat(s). Investigator(s) may need to discuss such conditions.

9. Guidance from California Department of Fish and Game (CDFG) regarding plant and plant community surveys can be found in Guidelines for Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities, 1984. Please contact the CDFG Regional Office for questions regarding the CDFG guidelines and for assistance in determining any applicable State regulatory requirements.

ENCLOSURE A

Endangered and Threatened Species that May Occur in or be Affected by Projects in the Area of the Following California Counties

Reference File No. 1-1-02-SP-246

November 16, 2001

CONTRA COSTA COUNTY

Listed Species

Mammals

- salt marsh harvest mouse, *Reithrodontomys raviventris* (E)
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)
- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E) *

Birds

- California brown pelican, *Pelecanus occidentalis californicus* (E)
- California clapper rail, *Rallus longirostris obsoletus* (E)
- California least tern, *Sterna antillarum (=albifrons) browni* (E)
- western snowy plover, *Charadrius alexandrinus nivosus* (T)
- bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

- Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)
- Critical habitat, Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)
- giant garter snake, *Thamnophis gigas* (T)

Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

Fish

- tidewater goby, *Eucyclogobius newberryi* (E)
- Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
- winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
- Critical habitat, delta smelt, *Hypomesus transpacificus* (T)
- delta smelt, *Hypomesus transpacificus* (T)
- coho salmon - central CA coast, *Oncorhynchus kisutch* (T)
- Central California Coastal steelhead, *Oncorhynchus mykiss* (T)
- Critical habitat, Central California coastal steelhead, *Oncorhynchus mykiss* (T)
- Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T)
- Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)
- Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

- Lange's metalmark butterfly, *Apodemia mormo langei* (E)
- Conservancy fairy shrimp, *Branchinecta conservatio* (E)

longhorn fairy shrimp, *Branchinecta longiantenna* (E)

vernal pool tadpole shrimp, *Lepidurus packardi* (E)

callippe silverspot butterfly, *Speyeria callippe callippe* (E)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

valley elderberry longhorn beetle, *Desmocerus californicus dimorphus* (T)

Plants

large-flowered fiddleneck, *Amsinckia grandiflora* (E)

soft bird's-beak, *Cordylanthus mollis ssp. mollis* (E)

Contra Costa wallflower, *Erysimum capitatum ssp. angustatum* (E)

Critical Habitat, Contra Costa wallflower, *Erysimum capitatum ssp. angustatum* (E)

Antioch Dunes evening-primrose, *Oenothera deltoides ssp. howellii* (E)

Critical habitat, Antioch Dunes evening-primrose, *Oenothera deltoides ssp. howellii* (E)

pallid manzanita (Alameda manzanita), *Arctostaphylos pallida* (T)

Santa Cruz tarplant, *Holocarpha macradenia* (T)

Contra Costa goldfields, *Lasthenia conjugens* (E) *

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C)

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Suisun ornate shrew, *Sorex ornatus sinuosus* (SC)

salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)

Berkeley kangaroo rat, *Dipodomys heermanni berkeleyensis* (SC) *

Birds

Swainson's hawk, *Buteo Swainsoni* (CA)
little willow flycatcher, *Empidonax traillii brewsteri* (CA)
black rail, *Laterallus jamaicensis coturniculus* (CA)
bank swallow, *Riparia riparia* (CA)
Aleutian Canada goose, *Branta canadensis leucopareia* (D)
American peregrine falcon, *Falco peregrinus anatum* (D)
Snowy Egret, *Egretta thula* (MB)
tricolored blackbird, *Agelaius tricolor* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
short-eared owl, *Asio flammeus* (SC)
western burrowing owl, *Athene cunicularia hypugaea* (SC)
American bittern, *Botaurus lentiginosus* (SC)
ferruginous hawk, *Buteo regalis* (SC)
Costa's hummingbird, *Calypte costae* (SC)
Lawrence's goldfinch, *Carduelis lawrencei* (SC)
Vaux's swift, *Chaetura vauxi* (SC)
olive-sided flycatcher, *Contopus cooperi* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)
common loon, *Gavia immer* (SC)
saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)
loggerhead shrike, *Lanius ludovicianus* (SC)
Lewis' woodpecker, *Melanerpes lewis* (SC)
Suisun song sparrow, *Melospiza melodia maxillaris* (SC)
Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)
San Pablo song sparrow, *Melospiza melodia samuelis* (SC)
long-billed curlew, *Numenius americanus* (SC)
white-faced ibis, *Plegadis chihi* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
Allen's hummingbird, *Selasphorus sasin* (SC)
California thrasher, *Toxostoma redivivum* (SC)

Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)
northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)
San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)
western spadefoot toad, *Scaphiopus hammondii* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)
river lamprey, *Lampetra ayresi* (SC)
Pacific lamprey, *Lampetra tridentata* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Ciervo aegialian scarab beetle, *Aegialia concinna* (SC)
Antioch Dunes anthicid beetle, *Anthicus antiochensis* (SC)
Sacramento anthicid beetle, *Anthicus sacramento* (SC)
Midvalley fairy shrimp, *Branchinecta mesovallensis* (SC)
San Joaquin dune beetle, *Coelus gracilis* (SC)
Antioch cophuran robberfly, *Cophura hurdi* (SC)
Antioch efferian robberfly, *Efferia antiochi* (SC)
Bridges' Coast Range shoulderband snail, *Helminthoglypta nickliniana bridgesi* (SC)
Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)
curved-foot hygrotus diving beetle, *Hygrotus curvipes* (SC)
Middlekauf's shieldback katydid, *Idiostatus middlekaufi* (SC)
Marin elfin butterfly, *Incisalia mossii* (SC)
California linderiella fairy shrimp, *Linderiella occidentalis* (SC)
molestan blister beetle, *Lytta molesta* (SC)
Hurd's metapogon robberfly, *Metapogon hurdi* (SC)
Antioch mutillid wasp, *Myrmosula pacifica* (SC)
San Francisco lacewing, *Nothochrysa californica* (SC)
yellow-banded andrenid bee, *Perdita hirticeps luteocincta* (SC)
Antioch andrenid bee, *Perdita scitula antiochensis* (SC)
Antioch sphecid wasp, *Philanthus nasilis* (SC)

Plants

delta coyote-thistle (=button-celery), *Eryngium racemosum* (CA)
Suisun Marsh aster, *Aster lentus* (SC)
brittlescale, *Atriplex depressa* (SC)
valley spearscale, *Atriplex joaquiniana* (SC)
Big plant, *Blepharizonia plumosa ssp. plumosa* (SC)
salt marsh owl's clover (=johnny-nip), *Castilleja ambigua ssp. ambigua* (SC)
Mt. Diablo bird's-beak, *Cordylanthus nidularius* (SC)
interior California larkspur, *Delphinium californicum ssp. interius* (SC)
recurved larkspur, *Delphinium recurvatum* (SC)

Ben Lomond buckwheat (= naked buckwheat), *Eriogonum nudum var. decurrens* (SC)
fragrant fritillary, *Fritillaria liliacea* (SC)
Diablo helianthella (=rock-rose), *Helianthella castanea* (SC)
Brewer's dwarf-flax, *Hesperolinon breweri* (SC)
Carquinez goldenbush, *Isocoma arguta* (SC)
Northern California black walnut, *Juglans californica var. hindsii* (SC)
delta tule-pea, *Lathyrus jepsonii var. jepsonii* (SC)
Mason's lilaeopsis, *Lilaeopsis masonii* (SC)
little mousetail, *Myosurus minimus ssp. apus* (SC)
Mt. Diablo phacelia, *Phacelia phacelioides* (SC)
rock sanicle, *Sanicula saxatilis* (SC)
Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SC)
most beautiful (uncommon) jewelflower, *Streptanthus albidus ssp. peramoenus* (SC)
Mt. Diablo jewelflower, *Streptanthus hispidus* (SC)
alkali milk-vetch, *Astragalus tener var. tener* (SC) *
heartscale, *Atriplex cordulata* (SC) *
diamond-petaled poppy, *Eschscholzia rhombipetala* (SC) *
pappose spikeweed [=Congdon's tarplant], *Hemizonia parryi ssp. congdonii* (SC) *
caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) **
Livermore tarplant, *Deinandra bacigalupii* (SC)

SAN FRANCISCO COUNTY

Listed Species

Mammals

sei whale, *Balaenoptera borealis* (E)
blue whale, *Balaenoptera musculus* (E)
finback (=fin) whale, *Balaenoptera physalus* (E)
right whale, *Eubalaena glacialis* (E)
humpback whale, *Megaptera novaeangliae* (E)
sperm whale, *Physeter catodon (=macrocephalus)* (E)
salt marsh harvest mouse, *Reithrodontomys raviventris* (E)
Guadalupe fur seal, *Arctocephalus townsendi* (T)
Critical Habitat, Steller (=northern) sea-lion, *Eumetopias jubatus* (T)
Steller (=northern) sea-lion, *Eumetopias jubatus* (T)

Birds

California brown pelican, *Pelecanus occidentalis californicus* (E)
California clapper rail, *Rallus longirostris obsoletus* (E)
western snowy plover, *Charadrius alexandrinus nivosus* (T)
bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

leatherback turtle, *Dermochelys coriacea* (E)
loggerhead turtle, *Caretta caretta* (T)
green turtle, *Chelonia mydas (incl. agassizi)* (T)
olive (=Pacific) ridley sea turtle, *Lepidochelys olivacea* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

tidewater goby, *Eucyclogobius newberryi* (E)
Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
coho salmon - central CA coast, *Oncorhynchus kisutch* (T)
Central California Coastal steelhead, *Oncorhynchus mykiss* (T)
Critical habitat, Central California coastal steelhead, *Oncorhynchus mykiss* (T)
Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T)
Sacramento splittail, *Pogonichthys macrolepidotus* (T)
delta smelt, *Hypomesus transpacificus* (T) *

Invertebrates

white abalone, *Haliotes sorenseni* (E)
mission blue butterfly, *Icaricia icarioides missionensis* (E)
San Bruno elfin butterfly, *Incisalia mossii bayensis* (E)

Plants

Presidio (=Raven's) manzanita, *Arctostaphylos hookeri ssp. ravenii* (E)
Presidio clarkia, *Clarkia franciscana* (E)
San Francisco lessingia, *Lessingia germanorum* (E)
Marin dwarf-flax, *Hesperolinon congestum* (T)
marsh sandwort, *Arenaria paludicola* (E) *
beach layia, *Layia carnosa* (E) *

Proposed Species

Birds

short-tailed albatross, *Diomedea albatrus* (E)

Candidate Species

Invertebrates

black abalone, *Haliotes cracherodii* (C)

Species of Concern

Mammals

gray whale, *Eschrichtius robustus* (D)
Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)
long-eared myotis bat, *Myotis evotis* (SC)
fringed myotis bat, *Myotis thysanodes* (SC)
long-legged myotis bat, *Myotis volans* (SC)
Yuma myotis bat, *Myotis yumanensis* (SC)
San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)
salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)

Birds

little willow flycatcher, *Empidonax traillii brewsteri* (CA)
black rail, *Laterallus jamaicensis coturniculus* (CA)
bank swallow, *Riparia riparia* (CA)
American peregrine falcon, *Falco peregrinus anatum* (D)
Snowy Egret, *Egretta thula* (MB)
tricolored blackbird, *Agelaius tricolor* (SC)
grasshopper sparrow, *Ammodramus savannarum* (SC)
Bell's sage sparrow, *Amphispiza belli belli* (SC)
American bittern, *Botaurus lentiginosus* (SC)
ferruginous hawk, *Buteo regalis* (SC)
Vaux's swift, *Chaetura vauxi* (SC)
olive-sided flycatcher, *Contopus cooperi* (SC)
hermit warbler, *Dendroica occidentalis* (SC)
white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)
common loon, *Gavia immer* (SC)
saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)
Harlequin duck, *Histrionicus histrionicus* (SC)
loggerhead shrike, *Lanius ludovicianus* (SC)
Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)
long-billed curlew, *Numenius americanus* (SC)
ashy storm-petrel, *Oceanodroma homochroa* (SC)
rufous hummingbird, *Selasphorus rufus* (SC)
Allen's hummingbird, *Selasphorus sasin* (SC)
elegant tern, *Sterna elegans* (SC)
Xantus' murrelet, *Synthliboramphus hypoleucus* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
southwestern pond turtle, *Clemmys marmorata pallida* (SC)
California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)
river lamprey, *Lampetra ayresi* (SC)
Pacific lamprey, *Lampetra tridentata* (SC)
longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Opler's longhorn moth, *Adela oplerella* (SC)
sandy beach tiger beetle, *Cicindela hirticollis gravida* (SC)
globose dune beetle, *Coelus globosus* (SC)
Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)
bumblebee scarab beetle, *Lichnanthe ursina* (SC)

Plants

salt marsh owl's clover (=johnny-nip), *Castilleja ambigua ssp. ambigua* (SC)
San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata* (SC)
San Francisco wallflower, *Erysimum franciscanum* (SC)
fragrant fritillary, *Fritillaria liliacea* (SC)
San Francisco gumplant, *Grindelia hirsutula var. maritima* (SC)
Marin checkermallow, *Sidalcea hickmanii ssp. viridis* (SC)
Mission Delores campion, *Silene verecunda ssp. verecunda* (SC)
Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SC)
San Francisco owl's-clover, *Triphysaria floribunda* (SC)
San Francisco popcornflower, *Plagiobothrys diffusus* (CA) *
alkali milk-vetch, *Astragalus tener var. tener* (SC) *
compact cobweb thistle, *Cirsium occidentale var. compactum* (SC) *
Diablo helianthella (=rock-rose), *Helianthella castanea* (SC) *
Kellogg's (wedge-leaved) horkelia, *Horkelia cuneata ssp. sericea* (SC) *
adobe sanicle, *Sanicula maritima* (SC) *
San Francisco manzanita, *Arctostaphylos hookeri ssp. franciscana* (SC) **
coast lily, *Lilium maritimum* (SC) ?*

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	*Proposed Critical Habitat*	Proposed as an area essential to the conservation of the species.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	Other species of concern to the Service.
(D)	*Delisted*	Delisted. Status to be monitored for 5 years.
(CA)	*State-Listed*	Listed as threatened or endangered by the State of California.
*	*Extirpated*	Possibly extirpated from the area.
**	*Extinct*	Possibly extinct
	Critical Habitat	Area essential to the conservation of a species.

ENCLOSURE A

Endangered and Threatened Species that May Occur in
or be Affected by Projects in the Selected Quads Listed Below
Reference File No. 1-1-02-SP-246
November 16, 2001

QUAD : 447B SAN LEANDRO

Listed Species

Mammals

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

Birds

western snowy plover, *Charadrius alexandrinus nivosus* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E)

California least tern, *Sterna antillarum (=albifrons) browni* (E)

Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Critical habitat, Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

tidewater goby, *Eucyclogobius newberryi* (E)

delta smelt, *Hypomesus transpacificus* (T)

coho salmon - central CA coast, *Oncorhynchus kisutch* (T)

Central California Coastal steelhead, *Oncorhynchus mykiss* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

Plants

California sea blite, *Suaeda californica* (E) *

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C)

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

black tern, *Chlidonias niger* (SC)

black swift, *Cypseloides niger* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

loggerhead shrike, *Lanius ludovicianus* (SC)

black rail, *Laterallus jamaicensis coturniculus* (CA)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)

long-billed curlew, *Numenius americanus* (SC)

bank swallow, *Riparia riparia* (CA)

rufous hummingbird, *Selasphorus rufus* (SC)

Allen's hummingbird, *Selasphorus sasin* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Plants

alkali milk-vetch, *Astragalus tener var. tener* (SC) *

northcoast bird's-beak, *Cordylanthus maritimus ssp. palustris* (SC) *

pappose spikeweed [=Congdon's tarplant], *Hemizonia parryi ssp. congdonii* (SC) *

Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SC)

QUAD : 448A HUNTERS POINT

Listed Species

Mammals

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

Birds

western snowy plover, *Charadrius alexandrinus nivosus* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E)

California least tern, *Sterna antillarum (=albifrons) browni* (E)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

delta smelt, *Hypomesus transpacificus* (T)

coho salmon - central CA coast, *Oncorhynchus kisutch* (T)

Central California Coastal steelhead, *Oncorhynchus mykiss* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

mission blue butterfly, *Icaricia icarioides missionensis* (E)

San Bruno elfin butterfly, *Incisalia mossii bayensis* (E)

Plants

California sea blite, *Suaeda californica* (E)

Candidate Species

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C)

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

black tern, *Chlidonias niger* (SC)

black swift, *Cypseloides niger* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

loggerhead shrike, *Lanius ludovicianus* (SC)

black rail, *Laterallus jamaicensis coturniculus* (CA)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)

long-billed curlew, *Numenius americanus* (SC)

bank swallow, *Riparia riparia* (CA)

rufous hummingbird, *Selasphorus rufus* (SC)

Allen's hummingbird, *Selasphorus sasin* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

sandy beach tiger beetle, *Cicindela hirticollis gravida* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

Plants

alkali milk-vetch, *Astragalus tener var. tener* (SC) *

Diablo helianthella (=rock-rose), *Helianthella castanea* (SC)

Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SC)

San Francisco owl's-clover, *Triphysaria floribunda* (SC)

QUAD : 466A RICHMOND

Listed Species

Mammals

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

Birds

western snowy plover, *Charadrius alexandrinus nivosus* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E)

California least tern, *Sterna antillarum (=albifrons) browni* (E)

Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Critical habitat, Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

tidewater goby, *Eucyclogobius newberryi* (E)

Critical habitat, delta smelt, *Hypomesus transpacificus* (T)

delta smelt, *Hypomesus transpacificus* (T)

coho salmon - central CA coast, *Oncorhynchus kisutch* (T)

Central California Coastal steelhead, *Oncorhynchus mykiss* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Plants

pallid manzanita (Alameda manzanita), *Arctostaphylos pallida* (T)

Santa Cruz tarplant, *Holocarpha macradenia* (T)

Candidate Species

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C)

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

ferruginous hawk, *Buteo regalis* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

black tern, *Chlidonias niger* (SC)

black swift, *Cypseloides niger* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

loggerhead shrike, *Lanius ludovicianus* (SC)

black rail, *Laterallus jamaicensis coturniculus* (CA)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)

San Pablo song sparrow, *Melospiza melodia samuelis* (SC)

long-billed curlew, *Numenius americanus* (SC)

bank swallow, *Riparia riparia* (CA)

rufous hummingbird, *Selasphorus rufus* (SC)

Allen's hummingbird, *Selasphorus sasin* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Bridges' Coast Range shoulderband snail, *Helminthoglypta nickliniana bridgesi* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

San Francisco lacewing, *Nothochrysa californica* (SC)

Plants

alkali milk-vetch, *Astragalus tener var. tener* (SC) *

fragrant fritillary, *Fritillaria liliacea* (SC) *

Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SC)

most beautiful (uncommon) jewelflower, *Streptanthus albidus ssp. peramoenus* (SC)

QUAD : 466B SAN QUENTIN

Listed Species

Mammals

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

Birds

western snowy plover, *Charadrius alexandrinus nivosus* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E)

California least tern, *Sterna antillarum (=albifrons) browni* (E)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

tidewater goby, *Eucyclogobius newberryi* (E)

delta smelt, *Hypomesus transpacificus* (T)

Critical habitat, coho salmon - central CA coast, *Oncorhynchus kisutch* (T)

coho salmon - central CA coast, *Oncorhynchus kisutch* (T)

Central California Coastal steelhead, *Oncorhynchus mykiss* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Plants

Tiburon mariposa lily, *Calochortus tiburonensis* (T)

Tiburon paintbrush, *Castilleja affinis ssp. neglecta* (E)

Marin dwarf-flax, *Hesperolinon congestum* (T)

white-rayed pentachaeta, *Pentachaeta bellidiflora* (E) *

Tiburon jewelflower, *Streptanthus niger* (E)

showy Indian clover, *Trifolium amoenum* (E) *

Candidate Species

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C)

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)

Point Reyes jumping mouse, *Zapus trinotatus orarius* (SC)

Birds

- tricolored blackbird, *Agelaius tricolor* (SC)
- grasshopper sparrow, *Ammodramus savannarum* (SC)
- Bell's sage sparrow, *Amphispiza belli belli* (SC)
- short-eared owl, *Asio flammeus* (SC)
- western burrowing owl, *Athene cunicularia hypugaea* (SC)
- ferruginous hawk, *Buteo regalis* (SC)
- Costa's hummingbird, *Calypte costae* (SC)
- Vaux's swift, *Chaetura vauxi* (SC)
- black tern, *Chlidonias niger* (SC)
- black swift, *Cypseloides niger* (SC)
- hermit warbler, *Dendroica occidentalis* (SC)
- white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)
- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- American peregrine falcon, *Falco peregrinus anatum* (D)
- saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)
- Harlequin duck, *Histrionicus histrionicus* (SC)
- loggerhead shrike, *Lanius ludovicianus* (SC)
- black rail, *Laterallus jamaicensis coturniculus* (CA)
- Lewis' woodpecker, *Melanerpes lewis* (SC)
- San Pablo song sparrow, *Melospiza melodia samuelis* (SC)
- long-billed curlew, *Numenius americanus* (SC)
- bank swallow, *Riparia riparia* (CA)
- rufous hummingbird, *Selasphorus rufus* (SC)
- Allen's hummingbird, *Selasphorus sasin* (SC)

Reptiles

- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
- California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

- Northern red-legged frog, *Rana aurora aurora* (SC)
- foothill yellow-legged frog, *Rana boylii* (SC)

Fish

- green sturgeon, *Acipenser medirostris* (SC)
- longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Opler's longhorn moth, *Adela oplerella* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

Marin elfin butterfly, *Incisalia mossii* (SC)

Tiburon microblind harvestman, *Microcina tiburona* (SC)

Plants

northcoast bird's-beak, *Cordylanthus maritimus ssp. palustris* (SC) *

Tiburon tarplant, *Hemizonia multicaulis ssp. vernalis* (SC)

Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SC)

QUAD : 466C SAN FRANCISCO NORTH

Listed Species

Mammals

Guadalupe fur seal, *Arctocephalus townsendi* (T)

sei whale, *Balaenoptera borealis* (E)

blue whale, *Balaenoptera musculus* (E)

finback (=fin) whale, *Balaenoptera physalus* (E)

right whale, *Eubalaena glacialis* (E)

Critical Habitat, Steller (=northern) sea-lion, *Eumetopias jubatus* (T)

Steller (=northern) sea-lion, *Eumetopias jubatus* (T)

sperm whale, *Physeter catodon (=macrocephalus)* (E)

salt marsh harvest mouse, *Reithrodontomys raviventris* (E) *

Birds

western snowy plover, *Charadrius alexandrinus nivosus* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E) *

California least tern, *Sterna antillarum (=albifrons) browni* (E)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

tidewater goby, *Eucyclogobius newberryi* (E)

delta smelt, *Hypomesus transpacificus* (T)

Critical habitat, coho salmon - central CA coast, *Oncorhynchus kisutch* (T)

coho salmon - central CA coast, *Oncorhynchus kisutch* (T)

Central California Coastal steelhead, *Oncorhynchus mykiss* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

white abalone, *Haliotes sorenseni* (E)

mission blue butterfly, *Icaricia icarioides missionensis* (E)

San Bruno elfin butterfly, *Incisalia mossii bayensis* (E)

Plants

Presidio (=Raven's) manzanita, *Arctostaphylos hookeri ssp. ravenii* (E)

marsh sandwort, *Arenaria paludicola* (E) *

Presidio clarkia, *Clarkia franciscana* (E)

Marin dwarf-flax, *Hesperolinon congestum* (T)

beach layia, *Layia carnosa* (E) *

San Francisco lessingia, *Lessingia germanorum* (E)

Proposed Species

Birds

short-tailed albatross, *Diomedea albatrus* (E)

Candidate Species

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C)

Invertebrates

black abalone, *Haliotes cracherodii* (C)

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

gray whale, *Eschrichtius robustus* (D)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

Point Reyes jumping mouse, *Zapus trinotatus orarius* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

black tern, *Chlidonias niger* (SC)

black swift, *Cypseloides niger* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

Harlequin duck, *Histrionicus histrionicus* (SC)

loggerhead shrike, *Lanius ludovicianus* (SC)

black rail, *Laterallus jamaicensis coturniculus* (CA)

Lewis' woodpecker, *Melanerpes lewis* (SC)

long-billed curlew, *Numenius americanus* (SC)

ashy storm-petrel, *Oceanodroma homochroa* (SC)

bank swallow, *Riparia riparia* (CA)

rufous hummingbird, *Selasphorus rufus* (SC)

Allen's hummingbird, *Selasphorus sasin* (SC)

elegant tern, *Sterna elegans* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Opler's longhorn moth, *Adela oplerella* (SC)

sandy beach tiger beetle, *Cicindela hirticollis gravida* (SC)

globose dune beetle, *Coelus globosus* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

bumblebee scarab beetle, *Lichnanthe ursina* (SC)

Plants

San Francisco manzanita, *Arctostaphylos hookeri ssp. franciscana* (SC) **

alkali milk-vetch, *Astragalus tener var. tener* (SC) *

San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata* (SC)

San Francisco gumplant, *Grindelia hirsutula var. maritima* (SC)

Kellogg's (wedge-leaved) horkelia, *Horkelia cuneata ssp. sericea* (SC) *

San Francisco popcornflower, *Plagiobothrys diffusus* (CA) *

adobe sanicle, *Sanicula maritima* (SC) *

Marin checkermallow, *Sidalcea hickmanii ssp. viridis* (SC)

Mission Delores campion, *Silene verecunda ssp. verecunda* (SC)

Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SC)

San Francisco owl's-clover, *Triphysaria floribunda* (SC)

QUAD : 466D OAKLAND WEST

Listed Species

Mammals

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

Birds

western snowy plover, *Charadrius alexandrinus nivosus* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E)

California least tern, *Sterna antillarum (=albifrons) browni* (E)

Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Critical habitat, Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

tidewater goby, *Eucyclogobius newberryi* (E)

delta smelt, *Hypomesus transpacificus* (T)

coho salmon - central CA coast, *Oncorhynchus kisutch* (T)

Central California Coastal steelhead, *Oncorhynchus mykiss* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Plants

Santa Cruz tarplant, *Holocarpha macradenia* (T) *

Candidate Species

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C)

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

Berkeley kangaroo rat, *Dipodomys heermanni berkeleyensis* (SC) *

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

Alameda Island mole, *Scapanus latimanus parvus* (SC)

salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

black tern, *Chlidonias niger* (SC)

black swift, *Cypseloides niger* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

loggerhead shrike, *Lanius ludovicianus* (SC)

black rail, *Laterallus jamaicensis coturniculus* (CA)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)

long-billed curlew, *Numenius americanus* (SC)

bank swallow, *Riparia riparia* (CA)

rufous hummingbird, *Selasphorus rufus* (SC)

Allen's hummingbird, *Selasphorus sasin* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Bridges' Coast Range shoulderband snail, *Helminthoglypta nickliniana bridgesi* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

San Francisco lacewing, *Nothochrysa californica* (SC)

Plants

alkali milk-vetch, *Astragalus tener var. tener* (SC) *

San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata* (SC) *

northcoast bird's-beak, *Cordylanthus maritimus ssp. palustris* (SC) *

Kellogg's (wedge-leaved) horkelia, *Horkelia cuneata ssp. sericea* (SC) *

adobe sanicle, *Sanicula maritima* (SC) *

Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SC)

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	*Proposed Critical Habitat*	Proposed as an area essential to the conservation of the species.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	May be endangered or threatened. Not enough biological information has been gathered to support listing at this time.
(MB)	*Migratory Bird*	Migratory bird
(D)	*Delisted*	Delisted. Status to be monitored for 5 years.
(CA)	*State-Listed*	Listed as threatened or endangered by the State of California.
(*)	*Extirpated*	Possibly extirpated from this quad.
(**)	*Extinct*	Possibly extinct.
	Critical Habitat	Area essential to the conservation of a species.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

IN REPLY REFER TO
1-1-02-SP-263

November 20, 2001

Ms. Corinna Lu
Biologist
URS Corporation
500 12th Street, Suite 200
Oakland, California 94607

Subject: Species List for Oakland Army Base Redevelopment Project, Alameda County, California

Dear Ms. Lu:

We are sending the enclosed list in response to your November 16, 2001, request for information about endangered and threatened species (Enclosure A). The list covers the following U.S. Geological Survey 7½ minute quad or quads: San Francisco South, Briones Valley and Oakland East Quads.

Please read *Important Information About Your Species List* (enclosed). It explains how we made the list and describes your responsibilities under the Endangered Species Act. Please contact Harry Mossman, Biological Technician, at (916) 414-6674, if you have any questions about the attached list or your responsibilities under the Endangered Species Act. For the fastest response to species list requests, address them to the attention of Mr. Mossman at this address. You may fax requests to him at 414-6712 or 6713.

Sincerely,

Cecilia K. Brown

for Jan C. Knight
Chief, Endangered Species Division

Enclosures

Important Information
About Your Species List

How We Make Species Lists

We store information about endangered and threatened species lists by U.S. Geological Survey 7½ minute *quads*. The United States is divided into these quads, which are about the size of San Francisco. If you requested your list by quad name or number, that is what we used. Otherwise, we used the information you sent us to determine which quad or quads to use.

Animals

The animals on your species list are ones that occur within, *or may be affected by projects within*, the quads covered by the list. Fish and other aquatic species appear on your list if they are in the same watershed as your quad or if water use in your quad might affect them.

Plants

Any plants on your list are ones *that have actually been observed* in the quad or quads covered by the list. We have also included either a county species list or a list of species in nearby quads. We recommend that you check your project area for these plants. Plants may exist in an area without ever having been detected there.

Surveying

Some of the species on your list may not be affected by your project. A trained biologist or botanist, familiar with the habitat requirements of the species on your list, should determine whether they or habitats suitable for them may be affected by your project. We recommend that your surveys include any proposed and candidate species on your list. For plant surveys, we recommend using the enclosed *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Species*. The results of your surveys should be published in any environmental documents prepared for your project.

State-Listed Species

If a species has been listed as threatened or endangered by the State of California, but not by us nor by the National Marine Fisheries Service, it will appear on your list as a Species of Concern. *However you should contact the California Department of Fish and Game for official information about these species.* Call (916) 322-2493 or write Marketing Manager, California Department of Fish and Game, Natural Diversity Data Base, 1416 Ninth Street, Sacramento, California 95814.

Your Responsibilities Under the Endangered Species Act

All plants and animals identified as *listed* on Enclosure A are fully protected under the Endangered Species Act of 1973, as amended. Section 9 of the Act and its implementing regulations prohibit the *take* of a federally listed wildlife species. Take is defined by the Act as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect" any such animal. Take may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or shelter (50 CFR §17.3).

Take incidental to an otherwise lawful activity may be authorized by one of two procedures:

> If a Federal agency is involved with the permitting, funding, or carrying out of a project that may result in take, then that agency must engage in a *formal consultation* with the Service. Such consultation would result in a *biological opinion* addressing the anticipated effect of the project on listed and proposed species. The opinion may authorize a limited level of incidental take.
>
> If no Federal agency is involved with the project, and federally listed species may be taken as part of the project, then you, the applicant, should apply for an *incidental take permit*. The Service may issue such a permit if you submit a satisfactory conservation plan for the species that would be affected by your project. Should your survey determine that federally listed or proposed species occur in the area and are likely to be affected by the project, we recommend that you work with this office and the California Department of Fish and Game to develop a plan that mitigates for the project's direct and indirect impacts to listed species and compensates for project-related loss of habitat. You should include the mitigation plan in any environmental documents you file.

Critical Habitat

When a species is listed as endangered or threatened, areas of habitat considered essential to its conservation may be designated as *critical habitat*. These areas may require special management considerations or protection. They provide needed space for growth and normal behavior; food, water, air, light, other nutritional or physiological requirements; cover or shelter; and sites for breeding, reproduction, rearing of offspring, germination or seed dispersal.

Although critical habitat may be designated on private or State lands, activities on these lands are not restricted unless there is Federal involvement in the activities or direct harm to listed wildlife.

If any species has proposed or designated critical habitat within a quad, there will be a separate line for this on the species list. Maps and boundary descriptions of the critical habitat may be found in the *Federal Register*. The information is also reprinted in the *Code of Federal Regulations* (50 **CFR** 17.95).

Candidate Species

We recommend that you address impacts to *candidate* species. We put plants and animals on our candidate list when we have enough scientific information to eventually propose them for listing as threatened or endangered. By considering these species early in your planning process you may be able to avoid the problems that could develop if one of these candidates was listed before the end of your project.

Your list may contain a section called *Species of Concern*. This term includes former *category 2 candidate species* and other plants and animals of concern to the Service and other Federal, State and private conservation agencies and organizations. Some of these species may become candidate species in the future.

Wetlands

If your project will impact wetlands, riparian habitat, or other jurisdictional waters as defined by section 404 of the Clean Water Act and/or section 10 of the Rivers and Harbors Act, you will need to obtain a permit from the U.S. Army Corps of Engineers. Impacts to wetland habitats require site specific mitigation and monitoring. For questions regarding wetlands, please contact Mark Littlefield of this office at (916) 414-6580.

Updates

Our database is constantly updated as species are proposed, listed and delisted. If you address proposed, candidate and special concern species in your planning, this should not be a problem. We also continually strive to make our information as accurate as possible. Sometimes we learn that a particular species has a different range than we thought. This should not be a problem if you consider the species on the county or surrounding-quad lists that we have enclosed. If you have a long-term project or if your project is delayed, please feel free to contact us about getting a current list. You can also find out the current status of a species by going to the Service's Internet page: *www.fws.gov*

GUIDELINES FOR CONDUCTING AND REPORTING BOTANICAL INVENTORIES FOR FEDERALLY LISTED, PROPOSED AND CANDIDATE PLANTS
(September 23, 1996)

These guidelines describe protocols for conducting botanical inventories for federally listed, proposed and candidate plants, and describe minimum standards for reporting results. The Service will use, in part, the information outlined below in determining whether the project under consideration may affect any listed, proposed or candidate plants, and in determining the direct, indirect, and cumulative effects.

Field inventories should be conducted in a manner that will locate listed, proposed, or candidate species (target species) that may be present. The entire project area requires a botanical inventory, except developed agricultural lands. The field investigator(s) should:

1. Conduct inventories at the appropriate times of year when target species are present and identifiable. Inventories will include all potential habitats. Multiple site visits during a field season may be necessary to make observations during the appropriate phenological stage of all target species.

2. If available, use a regional or local reference population to obtain a visual image of the target species and associated habitat(s). If access to reference populations is not available, investigators should study specimens from local herbaria.

3. List every species observed and compile a comprehensive list of vascular plants for the entire project site. Vascular plants need to be identified to a taxonomic level which allows rarity to be determined.

4. Report results of botanical field inventories that include:

   a. a description of the biological setting, including plant community, topography, soils, potential habitat of target species, and an evaluation of environmental conditions, such as timing or quantity of rainfall, which may influence the performance and expression of target species.

   b. a map of project location showing scale, orientation, project boundaries, parcel size, and map quadrangle name.

   c. survey dates and survey methodology(ies).

   d. if a reference population is available, provide a written narrative describing the target species reference population(s) used, and date(s) when observations were made.

   e. a comprehensive list of all vascular plants occurring on the project site for each habitat type.

   f. current and historic land uses of the habitat(s) and degree of site alteration.

g. presence of target species off-site on adjacent parcels, if known.

h. an assessment of the biological significance or ecological quality of the project site in a local and regional context.

5. If target species is(are) found, report results that additionally include:

a. a map showing federally listed, proposed and candidate species distribution as they relate to the proposed project.

b. if target species is (are) associated with wetlands, a description of the direction and integrity of flow of surface hydrology. If target species is (are) affected by adjacent off-site hydrological influences, describe these factors.

c. the target species phenology and microhabitat, an estimate of the number of individuals of each target species per unit area; identify areas of high, medium and low density of target species over the project site, and provide acres of occupied habitat of target species. Investigators could provide color slides, photos or color copies of photos of target species or representative habitats to support information or descriptions contained in reports.

d. the degree of impact(s), if any, of the proposed project as it relates to the potential unoccupied habitat of target habitat.

6. Document findings of target species by completing California Native Species Field Survey Form(s) and submit form(s) to the Natural Diversity Data Base. Documentation of determinations and/or voucher specimens may be useful in cases of taxonomic ambiguities, habitat or range extensions.

7. Report as an addendum to the original survey, any change in abundance and distribution of target plants in subsequent years. Project sites with inventories older than three years from the current date of project proposal submission will likely need additional survey. Investigators need to assess whether an additional survey(s) is (are) needed.

8. Adverse conditions may prevent investigator(s) from determining presence or identifying some target species in potential habitat(s) of target species. Disease, drought, predation, or herbivory may preclude the presence or identification of target species in any year. An additional botanical inventory(ies) in a subsequent year(s) may be required if adverse conditions occur in a potential habitat(s). Investigator(s) may need to discuss such conditions.

9. Guidance from California Department of Fish and Game (CDFG) regarding plant and plant community surveys can be found in Guidelines for Assessing the Effects of Proposed Developments on Rare and Endangered Plants and Plant Communities, 1984. Please contact the CDFG Regional Office for questions regarding the CDFG guidelines and for assistance in determining any applicable State regulatory requirements.

ENCLOSURE A

Endangered and Threatened Species that May Occur in or be Affected by

PROJECTS IN ALAMEDA COUNTY

Reference File No. 1-1-02-SP-263

November 20, 2001

Listed Species

Mammals

- salt marsh harvest mouse, *Reithrodontomys raviventris* (E)
- San Joaquin kit fox, *Vulpes macrotis mutica* (E)
- riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *
- riparian brush rabbit, *Sylvilagus bachmani riparius* (E) *

Birds

- California brown pelican, *Pelecanus occidentalis californicus* (E)
- California clapper rail, *Rallus longirostris obsoletus* (E)
- California least tern, *Sterna antillarum (=albifrons) browni* (E)
- bald eagle, *Haliaeetus leucocephalus* (T)

Reptiles

- Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)
- Critical habitat, Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Amphibians

- California red-legged frog, *Rana aurora draytonii* (T)

Fish

- tidewater goby, *Eucyclogobius newberryi* (E)
- Critical habitat, winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
- winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)
- coho salmon - central CA coast, *Oncorhynchus kisutch* (T)
- Central California Coastal steelhead, *Oncorhynchus mykiss* (T)
- Critical habitat, Central California coastal steelhead, *Oncorhynchus mykiss* (T)
- Critical habitat, Central Valley steelhead, *Oncorhynchus mykiss* (T)
- Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)
- Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)
- Sacramento splittail, *Pogonichthys macrolepidotus* (T)
- delta smelt, *Hypomesus transpacificus* (T) *

Invertebrates

- longhorn fairy shrimp, *Branchinecta longiantenna* (E)
- vernal pool tadpole shrimp, *Lepidurus packardi* (E)
- callippe silverspot butterfly, *Speyeria callippe callippe* (E)

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

bay checkerspot butterfly, *Euphydryas editha bayensis* (T)

Plants

large-flowered fiddleneck, *Amsinckia grandiflora* (E)

Presidio clarkia, *Clarkia franciscana* (E)

palmate-bracted bird's-beak, *Cordylanthus palmatus* (E)

pallid manzanita (Alameda manzanita), *Arctostaphylos pallida* (T)

robust spineflower, *Chorizanthe robusta var. robusta* (E) *

Contra Costa goldfields, *Lasthenia conjugens* (E) *

California sea blite, *Suaeda californica* (E) *

showy Indian clover, *Trifolium amoenum* (E) *

Santa Cruz tarplant, *Holocarpha macradenia* (T) *

Proposed Species

Birds

mountain plover, *Charadrius montanus* (PT)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C)

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Alameda Island mole, *Scapanus latimanus parvus* (SC)

salt marsh vagrant shrew, *Sorex vagrans halicoetes* (SC)

Berkeley kangaroo rat, *Dipodomys heermanni berkeleyensis* (SC) *

Birds

- little willow flycatcher, *Empidonax traillii brewsteri* (CA)
- black rail, *Laterallus jamaicensis coturniculus* (CA)
- bank swallow, *Riparia riparia* (CA)
- Aleutian Canada goose, *Branta canadensis leucopareia* (D)
- American peregrine falcon, *Falco peregrinus anatum* (D)
- Snowy Egret, *Egretta thula* (MB)
- tricolored blackbird, *Agelaius tricolor* (SC)
- grasshopper sparrow, *Ammodramus savannarum* (SC)
- Bell's sage sparrow, *Amphispiza belli belli* (SC)
- short-eared owl, *Asio flammeus* (SC)
- western burrowing owl, *Athene cunicularia hypugaea* (SC)
- American bittern, *Botaurus lentiginosus* (SC)
- ferruginous hawk, *Buteo regalis* (SC)
- Costa's hummingbird, *Calypte costae* (SC)
- Lawrence's goldfinch, *Carduelis lawrencei* (SC)
- Vaux's swift, *Chaetura vauxi* (SC)
- olive-sided flycatcher, *Contopus cooperi* (SC)
- hermit warbler, *Dendroica occidentalis* (SC)
- white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)
- common loon, *Gavia immer* (SC)
- saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)
- loggerhead shrike, *Lanius ludovicianus* (SC)
- Lewis' woodpecker, *Melanerpes lewis* (SC)
- Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)
- long-billed curlew, *Numenius americanus* (SC)
- white-faced ibis, *Plegadis chihi* (SC)
- rufous hummingbird, *Selasphorus rufus* (SC)
- Allen's hummingbird, *Selasphorus sasin* (SC)
- California thrasher, *Toxostoma redivivum* (SC)

Reptiles

- silvery legless lizard, *Anniella pulchra pulchra* (SC)
- northwestern pond turtle, *Clemmys marmorata marmorata* (SC)
- southwestern pond turtle, *Clemmys marmorata pallida* (SC)
- San Joaquin coachwhip (=whipsnake), *Masticophis flagellum ruddocki* (SC)
- California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

western spadefoot toad, *Scaphiopus hammondii* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)

river lamprey, *Lampetra ayresi* (SC)

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Opler's longhorn moth, *Adela oplerella* (SC)

Bridges' Coast Range shoulderband snail, *Helminthoglypta nickliniana bridgesi* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

curved-foot hygrotus diving beetle, *Hygrotus curvipes* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

Fairmont (=Lum's) microblind harvestman, *Microcina lumi* (SC)

San Francisco lacewing, *Nothochrysa californica* (SC)

Plants

Sharsmith's onion, *Allium sharsmithae* (SC)

heartscale, *Atriplex cordulata* (SC)

brittlescale, *Atriplex depressa* (SC)

valley spearscale, *Atriplex joaquiniana* (SC)

Big plant, *Blepharizonia plumosa ssp. plumosa* (SC)

salt marsh owl's clover (=johnny-nip), *Castilleja ambigua ssp. ambigua* (SC)

Mt. Hamilton thistle, *Cirsium fontinale var. campylon* (SC)

South Bay clarkia, *Clarkia concinna ssp. automixa* (SC)

hispid bird's-beak, *Cordylanthus mollis ssp. hispidus* (SC)

Livermore tarplant, *Deinandra bacigalupii* (SC)

interior California larkspur, *Delphinium californicum ssp. interius* (SC)

recurved larkspur, *Delphinium recurvatum* (SC)

Ben Lomond buckwheat (= naked buckwheat), *Eriogonum nudum var. decurrens* (SC)

diamond-petaled poppy, *Eschscholzia rhombipetala* (SC)

talus fritillary, *Fritillaria falcata* (SC)

fragrant fritillary, *Fritillaria liliacea* (SC)

Diablo helianthella (=rock-rose), *Helianthella castanea* (SC)

pappose spikeweed [=Congdon's tarplant], *Hemizonia parryi ssp. congdonii* (SC)

delta tule-pea, *Lathyrus jepsonii var. jepsonii* (SC)

Mason's lilaeopsis, *Lilaeopsis masonii* (SC)

little mousetail, *Myosurus minimus ssp. apus* (SC)
Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SC)
most beautiful (uncommon) jewelflower, *Streptanthus albidus ssp. peramoenus* (SC)
alkali milk-vetch, *Astragalus tener var. tener* (SC) *
San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata* (SC) *
northcoast bird's-beak, *Cordylanthus maritimus ssp. palustris* (SC) *
Kellogg's (wedge-leaved) horkelia, *Horkelia cuneata ssp. sericea* (SC) *
adobe sanicle, *Sanicula maritima* (SC) *
caper-fruited tropidocarpum, *Tropidocarpum capparideum* (SC) **
Mt. Diablo phacelia, *Phacelia phacelioides* (SC)

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	*Proposed Critical Habitat*	Proposed as an area essential to the conservation of the species.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	Other species of concern to the Service.
(D)	*Delisted*	Delisted. Status to be monitored for 5 years.
(CA)	*State-Listed*	Listed as threatened or endangered by the State of California.
*	*Extirpated*	Possibly extirpated from the area.
**	*Extinct*	Possibly extinct
	Critical Habitat	Area essential to the conservation of a species.

ENCLOSURE A

Endangered and Threatened Species that May Occur in
or be Affected by Projects in the Selected Quads Listed Below
November 20, 2001

QUAD : 448B SAN FRANCISCO SOUTH

Listed Species

Mammals

Guadalupe fur seal, *Arctocephalus townsendi* (T)

sei whale, *Balaenoptera borealis* (E)

blue whale, *Balaenoptera musculus* (E)

finback (=fin) whale, *Balaenoptera physalus* (E)

right whale, *Eubalaena glacialis* (E)

Steller (=northern) sea-lion, *Eumetopias jubatus* (T)

sperm whale, *Physeter catodon (=macrocephalus)* (E)

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

Birds

marbled murrelet, *Brachyramphus marmoratus* (T)

western snowy plover, *Charadrius alexandrinus nivosus* (T)

bald eagle, *Haliaeetus leucocephalus* (T)

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E)

California least tern, *Sterna antillarum (=albifrons) browni* (E)

Reptiles

loggerhead turtle, *Caretta caretta* (T)

green turtle, *Chelonia mydas (incl. agassizi)* (T)

leatherback turtle, *Dermochelys coriacea* (E)

olive (=Pacific) ridley sea turtle, *Lepidochelys olivacea* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

tidewater goby, *Eucyclogobius newberryi* (E)

delta smelt, *Hypomesus transpacificus* (T)

coho salmon - central CA coast, *Oncorhynchus kisutch* (T)

Central California Coastal steelhead, *Oncorhynchus mykiss* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

Critical habitat, bay checkerspot butterfly, *Euphydryas editha bayensis* (T)

white abalone, *Haliotes sorenseni* (E)

mission blue butterfly, *Icaricia icarioides missionensis* (E)

San Bruno elfin butterfly, *Incisalia mossii bayensis* (E)

callippe silverspot butterfly, *Speyeria callippe callippe* (E)

Plants

Presidio (=Raven's) manzanita, *Arctostaphylos hookeri ssp. ravenii* (E) *

robust spineflower, *Chorizanthe robusta var. robusta* (E) *

San Francisco lessingia, *Lessingia germanorum* (E)

white-rayed pentachaeta, *Pentachaeta bellidiflora* (E) *

Proposed Species

Birds

short-tailed albatross, *Diomedea albatrus* (E)

Candidate Species

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C)

Invertebrates

black abalone, *Haliotes cracherodii* (C)

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

gray whale, *Eschrichtius robustus* (D)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

black tern, *Chlidonias niger* (SC)

black swift, *Cypseloides niger* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

Harlequin duck, *Histrionicus histrionicus* (SC)

loggerhead shrike, *Lanius ludovicianus* (SC)

black rail, *Laterallus jamaicensis coturniculus* (CA)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)

long-billed curlew, *Numenius americanus* (SC)

ashy storm-petrel, *Oceanodroma homochroa* (SC)

bank swallow, *Riparia riparia* (CA)

rufous hummingbird, *Selasphorus rufus* (SC)

Allen's hummingbird, *Selasphorus sasin* (SC)

elegant tern, *Sterna elegans* (SC)

Reptiles

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

Fish

Pacific lamprey, *Lampetra tridentata* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

globose dune beetle, *Coelus globosus* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

Leech's skyline diving beetle, *Hydroporus leechi* (SC)

bumblebee scarab beetle, *Lichnanthe ursina* (SC)

Plants

San Francisco manzanita, *Arctostaphylos hookeri ssp. franciscana* (SC) **

San Bruno Mountain manzanita, *Arctostaphylos imbricata* (CA)

Montara manzanita, *Arctostaphylos montaraensis* (SC)

San Francisco Bay spineflower, *Chorizanthe cuspidata var. cuspidata* (SC)

compact cobweb thistle, *Cirsium occidentale var. compactum* (SC) *

San Francisco gumplant, *Grindelia hirsutula var. maritima* (SC)

Diablo helianthella (=rock-rose), *Helianthella castanea* (SC)

Kellogg's (wedge-leaved) horkelia, *Horkelia cuneata ssp. sericea* (SC)

Mission Delores campion, *Silene verecunda ssp. verecunda* (SC)

Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SC)

San Francisco owl's-clover, *Triphysaria floribunda* (SC)

QUAD : 465B BRIONES VALLEY

Listed Species

Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

California clapper rail, *Rallus longirostris obsoletus* (E)

California least tern, *Sterna antillarum (=albifrons) browni* (E)

Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Critical habitat, Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

Critical habitat, delta smelt, *Hypomesus transpacificus* (T)

delta smelt, *Hypomesus transpacificus* (T)

Central California Coastal steelhead, *Oncorhynchus mykiss* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

Plants

pallid manzanita (Alameda manzanita), *Arctostaphylos pallida* (T)

Santa Cruz tarplant, *Holocarpha macradenia* (T)

Candidate Species

Amphibians

California tiger salamander, *Ambystoma californiense* (C)

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C)

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

small-footed myotis bat, *Myotis ciliolabrum* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

Aleutian Canada goose, *Branta canadensis leucopareia* (D)

ferruginous hawk, *Buteo regalis* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

black tern, *Chlidonias niger* (SC)

black swift, *Cypseloides niger* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

loggerhead shrike, *Lanius ludovicianus* (SC)

black rail, *Laterallus jamaicensis coturniculus* (CA)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Suisun song sparrow, *Melospiza melodia maxillaris* (SC)

long-billed curlew, *Numenius americanus* (SC)

bank swallow, *Riparia riparia* (CA)

rufous hummingbird, *Selasphorus rufus* (SC)

Allen's hummingbird, *Selasphorus sasin* (SC)

Reptiles

silvery legless lizard, *Anniella pulchra pulchra* (SC)

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

western spadefoot toad, *Scaphiopus hammondii* (SC)

Fish

green sturgeon, *Acipenser medirostris* (SC)

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Bridges' Coast Range shoulderband snail, *Helminthoglypta nickliniana bridgesi* (SC)

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

San Francisco lacewing, *Nothochrysa californica* (SC)

Plants

Diablo helianthella (=rock-rose), *Helianthella castanea* (SC)

delta tule-pea, *Lathyrus jepsonii var. jepsonii* (SC) *

most beautiful (uncommon) jewelflower, *Streptanthus albidus ssp. peramoenus* (SC)

QUAD : 465C OAKLAND EAST

Listed Species

Mammals

riparian (San Joaquin Valley) woodrat, *Neotoma fuscipes riparia* (E) *

salt marsh harvest mouse, *Reithrodontomys raviventris* (E)

Birds

bald eagle, *Haliaeetus leucocephalus* (T)

California brown pelican, *Pelecanus occidentalis californicus* (E)

California clapper rail, *Rallus longirostris obsoletus* (E)

California least tern, *Sterna antillarum (=albifrons) browni* (E)

Reptiles

Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Critical habitat, Alameda whipsnake, *Masticophis lateralis euryxanthus* (T)

Amphibians

California red-legged frog, *Rana aurora draytonii* (T)

Fish

tidewater goby, *Eucyclogobius newberryi* (E)

delta smelt, *Hypomesus transpacificus* (T)

Central California Coastal steelhead, *Oncorhynchus mykiss* (T)

Central Valley steelhead, *Oncorhynchus mykiss* (T)

winter-run chinook salmon, *Oncorhynchus tshawytscha* (E)

Central Valley spring-run chinook salmon, *Oncorhynchus tshawytscha* (T)

Critical Habitat, Central Valley spring-run chinook, *Oncorhynchus tshawytscha* (T)

Sacramento splittail, *Pogonichthys macrolepidotus* (T)

Invertebrates

vernal pool fairy shrimp, *Branchinecta lynchi* (T)

callippe silverspot butterfly, *Speyeria callippe callippe* (E)

Plants

pallid manzanita (Alameda manzanita), *Arctostaphylos pallida* (T)

robust spineflower, *Chorizanthe robusta var. robusta* (E) *

Presidio clarkia, *Clarkia franciscana* (E)

Candidate Species

Fish

Central Valley fall/late fall-run chinook salmon, *Oncorhynchus tshawytscha* (C)

Critical habitat, Central Valley fall/late fall-run chinook, *Oncorhynchus tshawytscha* (C)

Species of Concern

Mammals

Pacific western big-eared bat, *Corynorhinus (=Plecotus) townsendii townsendii* (SC)

greater western mastiff-bat, *Eumops perotis californicus* (SC)

long-eared myotis bat, *Myotis evotis* (SC)

fringed myotis bat, *Myotis thysanodes* (SC)

long-legged myotis bat, *Myotis volans* (SC)

Yuma myotis bat, *Myotis yumanensis* (SC)

San Francisco dusky-footed woodrat, *Neotoma fuscipes annectens* (SC)

San Joaquin pocket mouse, *Perognathus inornatus* (SC)

Alameda Island mole, *Scapanus latimanus parvus* (SC)

Birds

tricolored blackbird, *Agelaius tricolor* (SC)

grasshopper sparrow, *Ammodramus savannarum* (SC)

Bell's sage sparrow, *Amphispiza belli belli* (SC)

short-eared owl, *Asio flammeus* (SC)

western burrowing owl, *Athene cunicularia hypugaea* (SC)

ferruginous hawk, *Buteo regalis* (SC)

Costa's hummingbird, *Calypte costae* (SC)

Lawrence's goldfinch, *Carduelis lawrencei* (SC)

Vaux's swift, *Chaetura vauxi* (SC)

black tern, *Chlidonias niger* (SC)

black swift, *Cypseloides niger* (SC)

hermit warbler, *Dendroica occidentalis* (SC)

white-tailed (=black shouldered) kite, *Elanus leucurus* (SC)

little willow flycatcher, *Empidonax traillii brewsteri* (CA)

American peregrine falcon, *Falco peregrinus anatum* (D)

saltmarsh common yellowthroat, *Geothlypis trichas sinuosa* (SC)

loggerhead shrike, *Lanius ludovicianus* (SC)

black rail, *Laterallus jamaicensis coturniculus* (CA)

Lewis' woodpecker, *Melanerpes lewis* (SC)

Alameda (South Bay) song sparrow, *Melospiza melodia pusillula* (SC)

long-billed curlew, *Numenius americanus* (SC)

bank swallow, *Riparia riparia* (CA)

rufous hummingbird, *Selasphorus rufus* (SC)

Allen's hummingbird, *Selasphorus sasin* (SC)

Reptiles

northwestern pond turtle, *Clemmys marmorata marmorata* (SC)

southwestern pond turtle, *Clemmys marmorata pallida* (SC)

California horned lizard, *Phrynosoma coronatum frontale* (SC)

Amphibians

foothill yellow-legged frog, *Rana boylii* (SC)

western spadefoot toad, *Scaphiopus hammondii* (SC)

Fish

longfin smelt, *Spirinchus thaleichthys* (SC)

Invertebrates

Ricksecker's water scavenger beetle, *Hydrochara rickseckeri* (SC)

California linderiella fairy shrimp, *Linderiella occidentalis* (SC)

San Francisco lacewing, *Nothochrysa californica* (SC)

Plants

alkali milk-vetch, *Astragalus tener var. tener* (SC) *

fragrant fritillary, *Fritillaria liliacea* (SC)

Diablo helianthella (=rock-rose), *Helianthella castanea* (SC) *

Kellogg's (wedge-leaved) horkelia, *Horkelia cuneata ssp. sericea* (SC) *

Pacific cordgrass (=California cordgrass), *Sparina foliosa* (SC)

most beautiful (uncommon) jewelflower, *Streptanthus albidus ssp. peramoenus* (SC)

KEY:

(E)	*Endangered*	Listed (in the Federal Register) as being in danger of extinction.
(T)	*Threatened*	Listed as likely to become endangered within the foreseeable future.
(P)	*Proposed*	Officially proposed (in the Federal Register) for listing as endangered or threatened.
(PX)	*Proposed Critical Habitat*	Proposed as an area essential to the conservation of the species.
(C)	*Candidate*	Candidate to become a *proposed* species.
(SC)	*Species of Concern*	May be endangered or threatened. Not enough biological information has been gathered to support listing at this time.
(MB)	*Migratory Bird*	Migratory bird
(D)	*Delisted*	Delisted. Status to be monitored for 5 years.
(CA)	*State-Listed*	Listed as threatened or endangered by the State of California.
(*)	*Extirpated*	Possibly extirpated from this quad.
(**)	*Extinct*	Possibly extinct.
	Critical Habitat	Area essential to the conservation of a species.

4.12H Special-Status Wildlife Species Potentially Occurring within the OARB Redevelopment Project Area

Appendix 4.12H

Special-Status Wildlife Species Potentially Occurring within the OARB Redevelopment Project Area

Common Name	Scientific Name	Status			Supporting Habitat	Potential Occurrence in the Study area
		Federal	State	CNPS		
					Mammals	
Guadalupe fur seal	*Arctocephalus townsendi*	T	T	NA	Coastal waters, islands, isolated, rocky haul-outs.	Not likely to occur; no suitable habitat.
sei whale	*Balaenoptera borealis*	E	None	NA	Temperate open seas, nearshore and offshore, from Gulf of Alaska to Baja California	Not likely to occur; no suitable habitat.
blue whale	*Balaenoptera musculus*	E	None	NA	Open waters, occasional inshore waters	Not likely to occur; no suitable habitat.
finback whale	*Balaenoptera physalus*	E	None	NA	Open waters, occasional inshore waters	Not likely to occur; no suitable habitat.
Pacific western big-eared bat	*Corynorhinus townsendii townsendii*	SC	SC	NA	Humid coastal regions; roosts include caves, mines, and buildings	Not likely to occur; no suitable habitat.
Berkeley kangaroo rat	*Dipodomys heermanni berkeleyensis*	SC	None	NA	Annual grassland, coastal scrub, chaparral, hardwood-conifer habitats (not specific to subspecies)	Not likely to occur; no suitable habitat.
gray whale	*Eschrichtius robustus*	D		NA	Open waters, occasional inshore waters	Potential to occur.
right whale	*Eubalaena glacialis*	E	None	NA	Near shore in shallow waters, large bays	Not likely to occur; no suitable habitat.
Steller sea lion	*Eumetopias jubatus*	T	None	NA	Isolated shoreline and rocky islands from San Mateo County north	Not likely to occur; no suitable habitat.
greater western mastiff bat	*Eumops perotis californicus*	SC	SC	NA	Chaparral-type areas with rock walls and low-growing vegetation, or trees	Not likely to occur; no suitable habitat.
Pacific harbor seal	*Phoca vitulina*	MMPA	None	NA	Shallow water; in and near mouths of rivers; sand bars	Known to occur.
sperm whale	*Physeter catodon*	E	None	NA	Temperate and tropical oceans, near continental shelf, from Bering Sea to equator	Not likely to occur; no suitable habitat.
long-eared myotis bat	*Myotis evotis*	SC	None	NA	Brush, woodland, and forest habitats	Not likely to occur; no suitable habitat.
fringed myotis bat	*Myotis thysanodes*	SC	None	NA	Piñon-juniper forest, valley and foothill hardwood woodlands, and hardwood-conifer forest	Not likely to occur; no suitable habitat.

Appendix 4.12H
Special-Status Wildlife Species Potentially Occurring within the OARB Redevelopment Project Area

Common Name	Scientific Name	Status			Supporting Habitat	Potential Occurrence in the Study area
		Federal	State	CNPS		
long-legged myotis bat	*Myotis volans*	SC	None	NA	Woodlands, forests, chaparral, coastal scrub	Not likely to occur; no suitable habitat.
Yuma myotis bat	*Myotis yumanensis*	SC	SC	NA	Open forests and woodlands near water	Not likely to occur; no suitable habitat.
San Francisco dusky-footed woodrat	*Neotoma fuscipes annectens*	SC	SC	NA	Riparian woodland, hardwood forest, chaparral (not specific to subspecies)	Not likely to occur; no suitable habitat.
riparian woodrat	*Neotoma fuscipes riparia*	E	SC	NA	Brushy habitats with scattered trees	Not likely to occur; no suitable habitat.
salt marsh harvest mouse	*Reithrodonyomys raviventris*	E	E	NA	Coastal salt marsh, dense stands of pickleweed	Not likely to occur; no suitable habitat.
Alameda Island mole	*Scapanus latimanus parvus*	SC	None	NA	Grassland, pasture, montane and valley foothill riparian, cropland, wet meadow, open forest (not specific to subspecies)	Not likely to occur; no suitable habitat.
salt-marsh wandering shrew	*Sorex vagrans halicoetes*	SC	SC	NA	Salt marshes 6-8 feet above sea level where abundant driftwood is scattered throughout pickleweed	Not likely to occur; no suitable habitat.
California sea lion	*Zalophus californicus californianus*	MMPA	None	NA	Shallow water; on offshore rocks, sand bars, bays	Known to occur.
Point Reyes jumping mouse	*Zapus trinotatus orarius*	SC	SC	NA	Riparian, grassland, and wet meadow habitats, also prefers habitat near coniferous forest (not specific to subspecies)	Not likely to occur; no suitable habitat.
					Birds	
tricolored blackbird	*Agelaius tricolor*	SC	SC	NA	Open valleys and foothills in streamside timber, alfalfa and rice fields, blackberry thickets, tules and cattails on and around marshes and reservoirs	Not likely to occur; no suitable habitat.
grasshopper sparrow	*Ammadramus savannarum*	SC	None	NA	Grasslands, meadows, fields, pastures	Not likely to occur; no suitable habitat.
Bell's sage sparrow	*Amphispiza belli belli*	SC	SC	NA	Chaparral, coastal scrub	Not likely to occur; no suitable habitat.

Appendix 4.12H

Special-Status Wildlife Species Potentially Occurring within the OARB Redevelopment Project Area

Common Name	Scientific Name	Status			Supporting Habitat	Potential Occurrence in the Study area
		Federal	State	CNPS		
golden eagle	*Aquila chrysaetos*	None	SC	NA	Mountainous areas, canyons, shrub-land and grasslands	Potential to occur; known to occur at Alameda NAS.
short-eared owl	*Asio flammeus*	SC	SC	NA	Meadows, grasslands, wetlands, irrigated land	Not likely to occur; no suitable habitat
burrowing owl	*Athene cunicularia*	None	SC	NA	Short-grass prairie and open space; associated with burrowing mammals such as ground squirrels	Not likely to occur; no suitable habitat.
marbled murrelet	*Brachyramphus marmoratus*	T	E	NA	Mature Douglas fir and redwood forest within 56 km (35 mi) of the coast	Not likely to occur; no suitable habitat.
aleutian canada goose	*Branta canadensis leucopareia*	D	None	NA	Streams, marshes, lagoons, and sea cliffs are used for breeding; winter habitat includes agricultural croplands and pastures.	Not likely to occur; no suitable habitat.
ferruginous hawk	*Buteo regalis*	SC	SC	NA	Undisturbed grassland and agricultural areas (winter)	Not likely to occur; no suitable habitat.
Costa's hummingbird	*Calypte costae*	SC	None	NA	Desert scrub	Not likely to occur; no suitable habitat.
Lawrence's goldfinch	*Carduelis lawrencei*	SC	None	NA	Valley foothill hardwood, valley foothill hardwood-conifer	Not likely to occur; no suitable habitat.
Vaux's swift	*Chaetura vauxi*	SC	SC	NA	Redwood and Douglas fir forests with hollow trees and snags	Not likely to occur; no suitable habitat.
western snowy plover	*Charadrius alexandrinus nivosus*	T	None	NA	Sandy coastal beaches, salt pans, coastal dredges spoils sites, dry salt ponds, salt pond levees	Potential to occur.
northern harrier	*Circus cyaneus*	None	SC	NA	Nests and forages in salt marsh, freshwater marsh, and grassland habitats	Potential to occur; known to occur at Alameda NAS.
black swift	*Cypseloides niger*	SC	SC	NA	Mountains and coastal cliffs	Not likely to occur; no suitable habitat.
hermit warbler	*Dendroica occidentalis*	SC	None	NA	Mature pine and coniferous forests	Not likely to occur; no suitable habitat.
short-tailed albatross	*Diomedea albatrus*	C	None	NA	Open ocean; majority of the species is found off the coast of Japan	Not likely to occur; no suitable habitat.

Appendix 4.12H

Special-Status Wildlife Species Potentially Occurring within the OARB Redevelopment Project Area

Common Name	Scientific Name	Status			Supporting Habitat	Potential Occurrence in the Study area
		Federal	State	CNPS		
white-tailed kite	*Elanus leucurus*	SC	FP	NA	Nests among dense-topped trees; forages in open grasslands, meadows or marshes	Not likely to occur; no suitable habitat.
little willow flycatcher	*Empidonax trailii brewsteri*	None	E	NA	Riparian habitat, dense willow thickets edging wet meadows or ponds (not specific to subspecies)	Not likely to occur; no suitable habitat.
American peregrine falcon	*Falco peregrinus anatum*	D	E	NA	Cliff ledges, particularly near shores and marshes	Known to occur.
saltmarsh common yellowthroat	*Geothylpis trichas sinuosa*	None	SC	NA	San Francisco Bay region in fresh and saltwater marshes with thick continuous cover to water surface, tall grasses, tule patches and willows for nesting	Unlikely to occur due to lack of quality habitat
bald eagle	*Haliaeetus leucocephalus*	PD	E	NA	Seacoast, islands, sea cliffs, large lakes, large rivers, coastal lagoons	Unlikely to occur due to lack of quality habitat.
harlequin duck	*Histrionicus histrionicus*	SC	SC	NA	coastal marine environments; breeds near fast-flowing rivers	Not likely to occur; no suitable habitat.
loggerhead shrike	*Lanius ludovicianus*	SC	SC	NA	Open canopied valley and foothill hardwood, riparian; urban areas	Potential to occur.
California black rail	*Laterallus jamaaciensis coturniculus*	SC	SC	NA	Tidal salt marshes, freshwater and brackish marshes	Unlikely to occur due to lack of quality habitat.
Lewis' woodpecker	*Melanerpes lewis*	SC	None	NA	Open pine-oak woodlands, coniferous forests, and riparian woodlands. Prefers burned and logged woodlands.	Not likely to occur; no suitable habitat.
Suisun song sparrow	*Melospiza melodia maxillaris*	SC		NA	Intermixed stands of bulrush (*Scirpus* spp.), cattail (*Typha* spp.), and other emergent vegetation	Not likely to occur; no suitable habitat.
San Pablo song sparrow	*Melospiza melodia samuelis*	SC		NA	Intermixed stands of bulrush (*Scirpus* spp.), cattail (*Typha* spp.), and other emergent vegetation	Not likely to occur; no suitable habitat.
Alameda song sparrow	*Melospiza melodia pusillula*	SC	SC	NA	Salient emergent wetland	Not likely to occur; no suitable habitat.
long-billed curlew	*Numenius americanus*	SC	SC	NA	Intertidal mudflats of large estuaries, upland herbaceous areas, and cropland (winter)	Potential to occur.
ashy storm-petrel	*Oceanodroma homochroa*	SC	SC	NA	Isolated coast and island nester	Not likely to occur; no suitable habitat.

Appendix 4.12H

Special-Status Wildlife Species Potentially Occurring within the OARB Redevelopment Project Area

Common Name	Scientific Name	Status			Supporting Habitat	Potential Occurrence in the Study area
		Federal	State	CNPS		
brown pelican	*Pelecanus occidentalis*	E	E	NA	Nests on coastal islands, lacking ground predators; roosts on piers, buoys, and other structures	Known to occur.
double-crested cormorant (rookery)	*Phalacrocorax auritus*	None	SC	NA	Coastal cliffs, offshore islands, and inland along lake margins; nests on ground or in tall trees	Known to occur.
California clapper rail	*Rallus longirostric obsoletus*	E	E	NA	Salt marshes dominated by pickleweed and cord grass	Unlikely to occur due to lack of quality habitat.
bank swallow	*Riparia riparia*	SC	T	NA	Riparian vegetation, vertical banks or cliffs near streams, rivers, lakes, and oceans	Not likely to occur; no suitable habitat.
rufous hummingbird	*Selasphorus rufus*	SC	None	NA	Valley and foothill woodland, hardwood-conifer forest, riparian woodland, and chaparral during migration	Not likely to occur; no suitable habitat.
Allen's hummingbird	*Selasphorus sasin*	SC	None	NA	Brushy slopes, chaparral, thickets and open coniferous forests	Not likely to occur; no suitable habitat.
California least tern	*Sterna antillarum*	E	E	NA	Flat, open areas along the coast near inshore estuaries, river mouths, or shallows, sandy ground with little or no vegetation, bays, freshwater ponds, channels, lakes	Known to occur; foraging habitat present.
elegant tern	*Sterna elegans*	SC	SC	NA	Inland coastal waters, bays, estuaries, and harbors	Potential to occur.
					Fish	
green sturgeon	*Acipenser medirostris*	SC	SC	NA	Rivers and estuaries	Potential to occur.
tidewater goby	*Eucyclogobius newberryi*	E	SC	NA	Upper end of lagoons in salinities less than 10 parts per thousand.	Unlikely to occur; waters adjacent to the study area are most likely too saline.
Delta smelt	*Hypomesus transpacificus*	T	T	NA	Sacramento-San Joaquin Delta, Suisun Bay, San Pablo Bay, river channels and sloughs	Not likely to occur; no suitable habitat.
Pacific lamprey	*Lampetra tridentata*	SC	None	NA	Estuaries, rivers and creeks with fine gravel substrates	Potential to occur.
Central California Coast coho salmon	*Oncorhynchus mykiss*	T	E	NA	Between Punta Gordo and San Lorenzo River	Not likely to occur; out of range of species.

Appendix 4.12H

Special-Status Wildlife Species Potentially Occurring within the OARB Redevelopment Project Area

Common Name	Scientific Name	Status			Supporting Habitat	Potential Occurrence in the Study area
		Federal	State	CNPS		
Central California steelhead	*Oncorhynchus mykiss*	T	None	NA	Delta, Suisun Bay and associated marshes, San Francisco Bay west to the Golden Gate Bridge is designated as suitable habitat	Potential to occur; study area not normally in the migration route.
Sacramento Valley winter-run Chinook salmon	*Oncorhynchus tshawytscha*	E	E	NA	Sacramento River from Keswick Dam (near Redding) south to Chipps Island, then west through Carquinez Strait, San Pablo Bay, and San Francisco Bay	Potential to occur; study area not normally in the migration route.
Central Valley spring-run Chinook salmon	*Oncorhynchus tshawytscha*	T (PE)	T	NA	Central Valley rivers and their tributaries, west to the Pacific Ocean	Potential to occur; study area not normally in the migration route.
Central Valley fall/late-fall Chinook salmon	*Oncorhynchus tshawytscha*	C	SC	NA	Central Valley rivers and their tributaries, west to the Pacific Ocean	Potential to occur; study area not normally in the migration route.
Sacramento splittail	*Pogonichthys macrolepidotus*	T	SC	NA	Fresh water from lower Sacramento and San Joaquin rivers down to Montezuma Slough (may extend to the mouth of Napa River at San Pablo Bay)	Not likely to occur; no suitable habitat.
longfin smelt	*Spirinchus thaleichthys*	SC	SC	NA	Moderately saline estuaries and lower reaches of rivers	Potential to occur.
Invertebrates						
Opler's longhorn moth	*Adela oplerella*	SC	None	NA	Serpentine soils, open grasslands, sandy soils; host plant is cream cups (*Platystemon californicus*)	Not likely to occur; no suitable habitat.
vernal pool fairy shrimp	*Branchinecta lynchi*	SC	None	NA	Vernal pools	Not likely to occur; no suitable habitat.
sandy beach tiger beetle	*Cicindela hirticollis gravida*	SC	None	NA	Sandy areas adjacent to non-brackish water along coast; found in dry sand of upper zone	Not likely to occur; no suitable habitat.
globose dune beetle	*Coelus globosus*	SC	None	NA	Coastal sand dunes; foredunes and sand hummocks with dune vegetation	Not likely to occur; no suitable habitat.
black abalone	*Haliotes cracherodii*	C	None	NA	Mid- to low rocky intertidal	Not likely to occur; no suitable habitat.
white abalone	*Haliotes sorenseni*	E	None	NA	Rocky pinnacles and deep reefs in southern California; especially those off the channel islands; lives at depths of at least 80 feet to over 200 feet	Not likely to occur; no suitable habitat.

Appendix 4.12H

Special-Status Wildlife Species Potentially Occurring within the OARB Redevelopment Project Area

Common Name	Scientific Name	Status			Supporting Habitat	Potential Occurrence in the Study area
		Federal	State	CNPS		
Ricksecker's water scavenger beetle	*Hydrochara rickseckeri*	SC	None	NA	Freshwater habitats, restricted to the San Francisco Bay Area	Not likely to occur; no suitable habitat.
Bridges' Coast Range shoulderband snail	*Helminthoglypta nicklinianan bridgesi*	SC	None	NA	Grasslands of Alameda and Contra Costa counties	Not likely to occur; no suitable habitat.
Mission blue butterfly	*Icaricia icariodoides missionensis*	E	None	NA	Coastal scrub, grassland; host plants are perennial lupines: *Lupinus albifrons, L. variicolor,* and *L. formosus*; preferred nectar plants of adults are coast buckwheat (*Eriogonum latifolium*) and golden aster (*Heterotheca sessiliflora*)	Not likely to occur; no suitable habitat.
Marin elfin butterfly	*Incisalia mossii*	SC	None	NA	Coastal scrub with cliffs or rock outcrops; host plant is stonecrop (*Sedum spathulifolium*)	Not likely to occur; no suitable habitat.
San Bruno elfin butterfly	*Incisalia mossii bayensis*	E	None	NA	Coastal scrub with cliffs or rock outcrops, north facing slopes; host plant is stonecrop (*Sedum spathulifolium*)	Not likely to occur; no suitable habitat.
bumblebee scarab beetle	*Lichnanthe ursina*	SC	None	NA	Coastal sand dunes from Sonoma County to San Mateo County	Not likely to occur due to lack of quality habitat
California linderiella fairy shrimp	*Linderiella occidentalis*	SC	None	NA	Vernal pools	Not likely to occur; no suitable habitat.
Tiburon microblind harvestman	*Microcina tiburona*	SC	None	NA	Serpentine soils	Not likely to occur; no suitable habitat.
San Francisco lacewing	*Nothochrysa californica*	SC	None	NA	Freshwater streams	Not likely to occur; no suitable habitat.
callippe silverspot butterfly	*Speyeria callippe callippe*	E	None	NA	Grassy hillsides, chaparral, and oak woodland with native forbs; host plant a native violet (*Viola pedunculata)*	Not likely to occur; no suitable habitat.
mimic tryonia (California brackishwater snail)	*Tryonia imitator*	SC	None	NA	Coastal lagoons, estuaries, and salt marshes.	Believed by the CDFG (CNDDB) to be extirpated in the area.

Appendix 4.12H

Special-Status Wildlife Species Potentially Occurring within the OARB Redevelopment Project Area

Common Name	Scientific Name	Status			Supporting Habitat	Potential Occurrence in the Study area
		Federal	State	CNPS		
Reptiles and Amphibians						
California tiger salamander	*Ambystoma californiense*	C	SC	NA	Annual grassland and valley-foothill hardwood habitats, vernal pools and other seasonal water sources adjacent to underground refuges	Not likely to occur; no suitable habitat.
silvery legless lizard	*Anniella pulchra pulchra*	SC	SC	NA	Stabilized dune areas with coastal shrubs	Not likely to occur due to lack of quality habitat.
northwestern pond turtle	*Clemmys marmorata marmorata*	SC	SC	NA	Permanent or nearly permanent water with basking sites and upland for nest sites; can tolerate seawater for short periods of time, but prefers freshwater	Not likely to occur; no suitable habitat.
southwestern pond turtle	*Clemmys marmorata pallida*	SC	SC	NA	Permanent or nearly permanent water with basking sites and upland for nest sites; can tolerate seawater for short periods of time, but prefers freshwater	Not likely to occur; no suitable habitat.
Alameda whipsnake	*Masticophis lateralis euryzanthus*	T	T	NA	Chaparral and other scrubland habitats	Not likely to occur; no suitable habitat.
California horned lizard	*Phrynosoma coronatum frontale*	SC	SC	NA	Lowlands along sandy washes with scattered low bushes and open areas for sunning	Not likely to occur; no suitable habitat.
California red-legged frog	*Rana aurora draytonii*	E	SC	NA	Lowlands and foothills with deep water remaining for at least 11 weeks; water source is usually associated with abundant emergent and/or shoreline vegetation	Not likely to occur; no suitable habitat.
foothill yellow-legged frog	*Rana boylii*	SC	SC	NA	Partly shaded, shallow streams and riffles with cobble size or larger rocky substrate	Not likely to occur; no suitable habitat.
western spadefoot toad	*Scaphiopus hammondii*	SC	SC	NA	Quiet streams and temporary pools in grassland, open chaparral, and pine-oak woodlands	Not likely to occur; no suitable habitat.

Sources: CDFG 1999; USFWS (Appendix 4.12G)

4.12I Special-Status Plant Species Potentially Occurring within the OARB Redevelopment Project Area

Appendix 4.12I
Special-Status Plant Species Potentially Occurring Within the OARB Redevelopment Project Area

Common Name	Scientific Name	Status			Supporting Habitat	Flowering Period	Potential Occurrence in the Study area
		Federal	State	CNPS			
San Francisco manzanita	*Arctostaphylos hookeri* ssp. *franciscana*	SC	None	1B	Coastal scrub, chaparral, coastal prairie, coastal scrub, grassland; sandy	Mar-Aug	Not likely to occur; no suitable habitat.
Presidio manzanita	*Arctostaphylos hookeri* ssp. *ravenii*	E	E	1B	Chaparral, coastal prairie, coastal scrub; serpentinite outcrop	Feb-Mar	Not likely to occur; no suitable habitat.
Montara manzanita	*Arctostaphylos montaraensis*	SC	None	1B	Chaparral, coastal scrub	Jan-Mar	Not likely to occur; no suitable habitat.
pallid manzanita	*Arctostaphylos pallida*	T	E	1B	Chaparral, Foothill Woodland, Mixed Evergreen Forest	Dec-Mar	Not likely to occur; no suitable habitat.
marsh sandwort	*Arenaria paludicola*	E	E	1B	Freshwater and saltwater marsh	May-Aug	Not likely to occur; no suitable habitat.
adobe milk-vetch	*Astragalus tener* var. *tener*	None	None	1B	Playas, adobe clay grasslands, vernal pools	Mar-Jun	Believed by the CNPS to be extirpated in the area.
Tiburon mariposa lily	*Calochortuns tiburonensis*	T	T	1B	Serpentine soils	Mar-Jun	Not likely to occur; no suitable habitat.
Tiburon paintbrush	*Castillejoa affinis* ssp. *neglecta*	E	T	1B	Serpentine soils	Apr-Jun	Not likely to occur; no suitable habitat.
San Francisco Bay spineflower	*Chorizanthe cuspidata* var. *cuspidata*	SC	None	1B	Coastal bluff scrub, coastal dunes, coastal prairies, coastal scrub	Apr-Aug	Not likely to occur; no suitable habitat.
robust spineflower	*Chorizanthe robusta* var. *robusta*	E	None	1B	Cismontaine woodland, coastal dunes, coastal scrub	Apr-Sep	Not likely to occur; no suitable habitat.
Presidio clarkia	*Clarkia franciscana*	E	E	1B	Coastal scrub, grassland; serpentine	May-Jul	Not likely to occur; no suitable habitat.
Point Reyes bird's-beak	*Cordylanthus maritimus* ssp. *palustris*	SC	None	1B	Coastal salt marshes	Jun-Oct	Not likely to occur; no suitable habitat.
fragrant fritillary	*Fritillaria liliacea*	SC	None	1B	Coastal prairie, coastal scrub, grassland; often serpentinite	Feb-Apr	Not likely to occur; no suitable habitat.
dune gilia	*Gilia capitata* ssp. *chamissonis*	None	None	1B	Coastal dunes, coastal scrub	Apr-Jul	Believed by the CNPS to be extirpated in the area.

Appendix 4.12I
Special-Status Plant Species Potentially Occurring Within the OARB Redevelopment Project Area

Common Name	Scientific Name	Status			Supporting Habitat	Flowering Period	Potential Occurrence in the Study area
		Federal	State	CNPS			
San Francisco gumplant	*Grindelia stricta* var. *maritima*	SC	None	1B	Coastal bluff scrub, coastal scrub, grassland; sandy, serpentinite	Aug-Sept	Not likely to occur; no suitable habitat.
marsh gumplant	*Grindelia stricta* var. *angustifolia*	None	None	4	Coastal salt marsh, northern coastal scrub	Aug-Sep	Known to occur.
Diablo helianthella	*Helinathella castanea*	SC	None	1B	Broadleafed upland forest, chaparral, cismontane woodland, coastal scrub, riparian woodland, grassland	Apr-Jun	Not likely to occur; no suitable habitat.
Tiburon tarplant	*Hemizonia multicaulis* ssp. *vernalis*	SC	None		Annual grassland		Not likely to occur due to lack of quality habitat.
Marin dwarf flax	*Hesperolinon congestum*	T	T	1B	Chaparral, grassland; serpentinite	Apr-Jul	Not likely to occur; no suitable habitat.
Santa Cruz tarplant	*Holocarpha macradenia*	T	E	1B	Coastal prairie, grasslands; often clay	Jun-Oct	Not likely to occur; no suitable habitat.
Kellogg's (wedge-leaved) horkelia	*Horkelia cuneata* ssp. *sericea*	SC	None	1B	Coniferous forest, chaparral, coastal scrub;	Apr-Sep	Not likely to occur; no suitable habitat.
Delta tule pea	*Lathyrus jepsonii* var. *jepsonii*	SC	None	1B	Freshwater and brackish water marshes	May-Jun	Not likely to occur; no suitable habitat.
beach layia	*Layia carnosa*	E	E	1B	Coastal dunes, coastal scrub	Mar-Jul	Not likely to occur; no suitable habitat.
San Francisco lessingia	*Lessingia germanorum*	E	E	1B	Coastal scrub, remnant dunes	Jun-Nov	Not likely to occur; no suitable habitat.
white-rayed pentachaeta	*Pentachaeta belliciflora*	E	E	1B	Valley and foothill grassland; often serpentinite	Mar-May	Not likely to occur; no suitable habitat.
San Francisco popcornflower	*Plagiobothrys diffusus*	None	E	1B	Coastal prairie, valley and foothill grasslands	Apr-Jun	Not likely to occur; no suitable habitat.
adobe sanicle	*Sanicula maritima*	None	None	1B	Chaparral, coastal prairie, meadows, grassland; serpentine soils	Feb-May	Believed by the CNPS to be extirpated in the area.
Marin checkermallow	*Sidalcea hickmanii* ssp. *virdis*	SC	None	1B	Chaparral; serpentinite	May-Jun	Not likely to occur; no suitable habitat.
Mission Dolores campion	*Silene verecunda* ssp. *verecunda*	SC	None	1B	open, grassy areas in sandy or rocky soils	Mar-Aug	Not likely to occur due to lack of quality habitat.

/a/	Project	Old TAZ	New TAZ	Planning District /e/	Subarea	Units	House-holds /b/	Location	Comments/Time Period	Project Area
	PROJECTS TO BE COMPLETED 2006 - 2020									
x	Romax Iron Works Site/Lofts-L/W	474		WO		100	95	Near Peralta & Hollis		
x	West Oakland Transit Village	480		WO		275	261	7th St./Mandela to Union	Oppt. Sites 1, 2, 3 or others	
x	West Oakland Transit Village	61		WO		42	40	7th St./Chester to Peralta	Oppt. Sites 6 & 7 or others	
x	West Oakland Transit Village	480		WO		145	138	Mandela/5th or elsewhere	BofA/Alliance or other site	
	TOTAL: PROJECTS TO BE COMPLETED FROM 2000 CENSUS THROUGH 2020									
x	San Pablo Affordable Senior Housing	58		WO		65	62	3255 San Pablo bet 32nd & 34th	Approved 2/01	
x	Chase & Wood	60		WO		22	21	Chase & Wood	Approved 2001	
x	Mandela Gateway/OHA	61		WO		156	156	Mandela & 7th	Replaces Westwood Gardens	
	Adeline Street Lofts	63		WO		38	36	Adeline/24th St.	Predevel. 5/2000	
x	Acorn 1, 2, 3 /c/	65/66		WO		148	148	8th/10th/Filbert/Union	After 3/2000	
x	Bayporte Village /c/	68		WO		64	64	8th/10th/Market	After 3/2000	
	West Clawson Lofts/school reuse	473		WO		50	48	3240 Peralta	School reuse plus additional units	
x	Precision Dye/Live-Work	474		WO		37	35	Hanna & 32nd	Approved 2001	
x	Romax Iron Works Site	474		WO		100	95	Near Peralta & Hollis		
	Peralta Studios/live-work	476	791	WO		41	39	2121 Peralta at W. Grand	Converted PG&E facility	
x	Central Station Project/former Amtrak s	476/477	476/792	HB	16&W	376	358	16th & Wood	Live/work units	x
x	Bridge/Linden Court	478		WO		79	79	1089 26th St. near McClymonds	Approved; low-income	
x	Bridge/Chestnut Court	478		WO		78	78	2240 Chestnut St. at W. Grand	Approved; Hope IV project	
x	West Oakland Transit Village	480		WO		275	261	7th St./Mandela to Union	Oppt. Sites 1, 2, 3 or others	
x	West Oakland Transit Village	61		WO		42	40	7th St./Chester to Peralta	Oppt. Sites 6 & 7 or others	
x	West Oakland Transit Village	480		WO		145	138	Mandela/5th or elsewhere	BofA/Alliance or other site	
	Phoenix Lofts	481		WO		31	29	2nd near Brush	2000	

Notes:

/a/ 'X' in first column indicates updated assumptions compared to 11/21/00 Cumulative Scenario.

/b/ Assumes average vacancy factor of five percent.

/c/ The total units completed during 2000 were 293 for Acorn Parcels 1, 2, and 3, and 71 for Bayporte Village, replacing 480 and 196 original units, respectively, that were removed by 2000.

/d/ Excludes 14 units of scattered site affordable housing in West Oakland.

/e/ HB = Harbor Area; WO = West Oakland

Source: City of Oakland; Hausrath Economics Group.

Table 8a

OAKLAND CUMULATIVE GROWTH SCENARIO

ASSUMPTIONS FOR HOUSING PROJECTS

11/21/00 SCENARIO AS UPDATED FOR METROPORT, LEONA QUARRY, AND OARB REDEVELOPMENT EIRs

/a/	Project	TAZ	Planning District	Subarea	Units	House Holds /b/	Location	Comments/Time Period
	PROJECTS COMPLETED BY 2000							
	Downtown							
	Adcock/Joiner Apartments	487	OC	CC	50	48	532 16th St.	
	San Pablo Hotel	488	OC	CC	144	137	1955 San Pablo Ave.	
	Frank G. Mar	498	OC	CC	119	113	1220 Harrison	
	Madison Park Apartments	519	OC	CM	98	93	100 9th St.	
	4th Street Lofts/Tower Lofts	87	OC	JLD	61	58	4th St.	
	Keating/Old Town Square	491	OC	OO	98	93	918 Clay St.	
	Rosa Parks House	483	OC	UT	11	10	521 W. Grand Ave.	
	Subtotal				***581***	***552***		
	Rest of City							
	Howie Harp Plaza	56	OC	VSA	20	19	420 28th St.	
	Providence House	469	OC	VSA	41	39	540 23rd St.	
	Marlon Riggs Apartments	505	OC	LGA	13	12	269 Vernon St.	
	San Pablo Gateway	47	NO		17	16	5200 San Pablo	
	Sister Thea Bowman Manor	440	NO		56	53	6400 San Pablo	
	M.L.K. Jr. University High (M.L.K. Plaza)	42	NO		13	12	Aileen, Dover, & 58th	
	Peter Babcock House	433	NO		5	5	2350 Woolsey St.	
	Piedmont Apartments	631	NO		250	238	215 W. MacArthur Blvd.	
	Bayside Apartments	58	WO		31	29	958 28th St.	1997
	Slim Jenkins Court	60	WO		32	30	700 Willow St.	1991
x	Union Street Studios L/W	62	WO		19	18	1920 Union off W. Grand	Renovated former Ind'l - early 2000
	Victoria Court	64	WO		16	15		1994-1996
x	Acorn 1, 2, 3 /c/	65/66	WO		-231	-231	8th/10th/Filbert/Union	Before 3/2000 Census
x	Acorn 1, 2, 3 /c/	65	WO		70	70	8th/10th/Filbert/Union	Before 3/2000 Census
x	Acorn 1, 2, 3 /c/	66	WO		-249	-249	8th/10th/Filbert/Union	Before 3/2000 Census
x	Acorn 1, 2, 3 /c/	66	WO		75	75	8th/10th/Filbert/Union	Before 3/2000 Census
x	Bayporte Village /c/	68	WO		-196	-196	8th/10th/Market	Before 3/2000 Census
x	Bayporte Village /c/	68	WO		7	7	8th/10th/Market	Before 3/2000 Census
	James Lee Court	69	WO		26	25	690 15th St.	1992
	Victorian Village	69	WO		56	53		1991-1996
	Marcus Garvey Commons	477	WO		22	21	1761-1770 Goss St.	1992
	Drasnin Manor	104	SA		26	25	2530 International	
	Effie's House	540	SA		21	20	829 E. 19th St.	
	San Antonio Terrace	543	SA		23	22	1485 E. 22nd St.	
	Santana Apartments	764	SA		30	29	2220 10th Ave.	
	Mark Twain Senior Center	569	FV		109	104	2426-38 35th Ave.	
	Hismen Hin-nu Terrace	105	FV		92	87	2555 International	
	Jingletown Housing	105	FV		53	50	29th/E. 10th St.	
	Las Bougainvilleas	109	FV		68	65	1231-7 37th Ave.	
	Coolidge Court	571	LH		19	18	3800 Coolidge Ave.	
	Kaufman Broad	575	SH		40	38	Skyline/Keller	
	Kenneth Henry Court	124	CE		51	48	6455 Foothill Blvd.	
	Eastmont Town Center	625	CE		58	55	73rd & Bancroft	
	E.C. Reems [illegible]ens	135	EH		123	117	2600-2795 Alvingroom Ct.	

/a/	Project	TAZ	Planning District	Subarea	Units	House Holds /b/	Location	Comments/Time Period
	E.E. Cleveland Manor	135	EH		54	51	2611 Alvingroom Ct.	
	Habitat Village	617	EH		40	38	300 block 105th Ave.	
	United Together Manor	136/761	EH		18	17	9410 MacArthur Blvd.	
	Subtotal /d/				***1594***	***1521***		
	PROJECTS COMPLETED BY 2000 TOTAL				**2175**	**2073**		
	PROJECTS TO BE COMPLETED 2000 - 2005							
	Downtown							
	Preservation Park III	68	OC	CC	92	87	11th/12th & MLK	
	14th & Harrison Residential	498	OC	CC	90	86	14th & Harrison	
	17th & Harrison	499	OC	CC	60	57	17th & Harrison	
	1640 Broadway Mixed Use (17th & Broadway)	500	OC	CC	150	143	1640 Broadway	
	YWCA	500	OC	CC	50	48	1515 Webster St.	
	14th & Madison Mixed Use	518	OC	CM	90	86	14th & Madison	
	11th & Oak senior housing	519	OC	CM	52	49	1109 Oak St.	
	Hotel Site/Chinatown (Arioso)	496	OC	CT	88	84	9th & Franklin	
	Wheelink	72	OC	JLD	92	87	4th & Alice	
	The Landing - Legacy Partners	87	OC	JLD	282	268	Waterfront & Webster	Completed
	Allegro	87	OC	JLD	312	296	3rd & Jackson	Under construction
	311 Oak Street (COD Builders Residential) (Dreyers)	87	OC	JLD	220	209	311 Oak St.	Under construction
	Safeway Building	87	OC	JLD	46	44	4th & Jackson	Under construction
	Monahan Paper	87	OC	JLD	80	76	2nd bet. Jackson + Madison	
	Phoenix Lofts	481	(WO) OC	JLD	31	29	2nd near Brush	Completed 2000
	2nd & Broadway Mixed Use (Roscoe's site)	768	OC	JLD	119	113	2nd & Broadway	
	Lake Point Tower (The Essex)	517	OC	KC	270	257	208 17th St.	Lake Merritt Apartments; under construction
	8th & Castro Lofts	68	OC	OO	18	17	8th & Castro	
	Gem Building Condos (Eighth Street)	68	OC	OO	16	15	485 8th St.	Completed
	Swan's Market	71	OC	OO	42	40	9th & Washington	Completed
	11th & Clay Mixed Use	491	OC	OO	40	38	11th & Clay	
	Housewives Market	491	OC	OO	200	190	8th/9th/Clay/Jefferson	
	Forest City Residential West (Uptown)	70	OC	UT	1024	973	San Pablo/Telegraph/21st/19th	
	Forest City Residential West (Uptown)	483	OC	UT	261	248	San Pablo/Telegraph/21st/19th	
	Hahn One	484	OC	UT	256	243	21st & Telegraph	
	Subtotal				***3981***	***3783***		
	Rest of City							
	Former Sears	469	OC	VSA	53	50	27th & Telegraph	Under construction
	Butner Property	469	OC	VSA	30	29	23rd & Northgate	
	Black Sheep	469	OC	VSA	48	46	24th & Telegraph	
	CURA North	469	OC	VSA	19	18	531 24th St.	
	Cox Cadilac Mixed Use	505	OC	LGA	180	171	Harrison/27th/Bay Place	
	Perkins Street Residential Care	516	OC	LGA	56	53	Perkins & Bellevue	Under construction
	Downs Memorial	44	NO		21	20	1027 60th St.	
	North Oakland Infill Housing I	48	NO		3	3	865 43rd/3881 MLK	
	Green City Loft Project	454	NO		28	27	41st & Adeline	Land area in both Oakland & Emeryville
	Flecto Project	454	NO		45	43	47th & Adeline	1/2 units in Oak - land area in both Oakland & Emeryville
	West Street Rehab	456	NO		3	3	3927 West St.	
	MacArthur BART Transit Village	456	NO		100	95	Near 40th & Telegraph	
	40th and Broadway	631	NO		19	18	40th & Broadway	
x	San Pablo Affordable Senior Housing	58	WO		65	62	3255 San Pablo bet 32nd & 34th	Approved 2/01
x	Chase & Wood	60	WO		22	21	Chase & Wood	Approved 2001

/a/	Project	TAZ	Planning District	Subarea	Units	House Holds /b/	Location	Comments/Time Period
x	Mandela Gateway/OHA	61	WO		-49	-49	Mandela & 7th	Replaces Westwood Gardens
x	Mandela Gateway/OHA	61	WO		205	205		
	Adeline Street Lofts	63	WO		38	36	Adeline/24th St.	Pre-development 5/2000
x	Acorn 1, 2, 3 /c/	65	WO		71	71	8th/10th/Filbert/Union	After 3/2000
x	Acorn 1, 2, 3 /c/	66	WO		77	77	8th/10th/Filbert/Union	After 3/2000
x	Bayporte Village /c/	68	WO		64	64	8th/10th/Market	After 3/2000
	Clawson Lofts School Reuse	473	WO		50	48	3240 Peralta	School reuse plus additional units
x	Precision Dye/Live-Work	474	WO		37	35	Hanna & 32nd	Approved 2001
x	Peralta Studios/live-work	476	WO		41	39	2121 Peralta at W. Grand	Converted PG&E facility
x	Bridge/Linden Court	478	WO		79	79	1089 26th St. near McClymonds	Approved; low-income
x	Bridge/Chestnut Court	478	WO		78	78	2240 Chestnut St. at W. Grand	Approved; Hope IV project
x	Central Station Project/former Amtrak site	476	HB		252	240	16th & Wood	Live/work units
x	Central Station Project/former Amtrak site	477	HB		124	118	16th & Wood	Live/work units
	Evergreen Annex	537	SA		39	37	1230 2nd Ave.	
	Fruitvale BART - mixed use	556	FV		47	45	3400 E. 12th St.	
x	Leona Quarry	574	SH		150	144	Mountain/Campus/580/Edwards	
	Bancroft Senior Homes	581	CE		61	58	2320 & 2320B 55th Ave.	
	International Boulevard (RCD - 2 sites)	587	CE		30	29	6600 Int'l./1406 Seminary	Under construction
	International Boulevard Phase II	587	CE		24	23	6006 International	
	Foothill Boulevard Housing	626	CE		66	63	72nd & Foothill	Under construction
	Armistice Powell	130	EH		25	24	9507 Edes Ave.	
	Durant Square	139	EH		251	238	International & Durant/105th	In addition, 20 existing L/W units; under construction
	Allen Temple Arms IV	600	EH		24	23	7607 International	Under construction
	Allen Temple Arms III	615	EH		50	48	10121 International	Under construction
	Palm Villas (MacArthur Park)	137/758	EH		78	74	MacArthur (90th - 94th)	Under construction
	Subtotal				***2653***	***2555***		
	PROJECTS TO BE COMPLETED 2000 - 2005 TOTAL				**6634**	**6338**		
	PROJECTS TO BE COMPLETED 2006 - 2020							
	Downtown							
	16TH & MLK Mixed Use (Downtown Gateway)	488	OC	CC	150	143	16th/MLK/Jefferson	
	Shorenstein T10	489	OC	CC	200	190	13th/14th/MLK/Jefferson	
	12th & Harrison	498	OC	CC	30	29	12th & Harrison	
	15th & Harrison	499	OC	CC	90	86	15th & Harrison	
	Jack London Area	87	OC	JLD	150	143	2nd St. bet. Alice + Jackson	
	Jack London Area	87	OC	JLD	30	29	4th St. bet. Madison + Oak	
	Jack London Area Lofts	768	OC	JLD	60	57	2nd/3rd bet. Webster + Harrison	
	Old Oakland/Rattos Residential	71	OC	OO	150	143	8th/9th/Washington/Clay	
	8th & Washington	71	OC	OO	40	38	8th & Washington	
	Lafayette Square	491	OC	OO	100	95	Jefferson/9th/10th	
	Flower Warehouse	491	OC	OO	60	57	8th & Jefferson	
	St. Mary's	492	OC	OO	100	95	MLK/7th/8th	
	Channel Area	87	OC	JLD	100	95	Oak/5th Ave/Embarcadero/12th St.	
	Channel Area	519	OC	CM	200	190	Oak/5th Ave/Embarcadero/12th St.	
	Channel Area	521	OC	CM	450	428	Oak/5th Ave/Embarcadero/12th St.	
	Channel Area	537	SA		250	238	Oak/5th Ave/Embarcadero/12th St.	
	Forest City Residential West (Uptown)	69	OC	UT	350	333	San Pablo/Telegraph/21st/19th	
	Forest City Residential West (Uptown)	70	OC	UT	232	220	San Pablo/Telegraph/21st/19th	
	Forest City Residential West (Uptown)	483	OC	UT	157	149	San Pablo/Telegraph/21st/19th	
	Subtotal				***2899***	***2758***		

/a/	Project	TAZ	Planning District	Subarea	Units	House Holds /b/	Location	Comments/Time Period
	Rest of City							
	Former Sears - Phase II	469	OC	VSA	200	190	27th & Telegraph	
	Valdez Area	504	OC	VSA	400	380	Broadway/W. Grand/27th	
	Westmark Labor Temple	504	OC	VSA	200	190	Valdez & 23rd St. & Webster	
	MacArthur BART Transit Village	456	NO		30	29		
	MacArthur BART Transit Village	457	NO		100	95		
x	Romax Iron Works Site/Lofts-L/W	474	WO		100	95	Near Peralta & Hollis	
x	West Oakland Transit Village	480	WO		275	261	7th St./Mandela to Union	Oppt. Sites 1, 2, 3 or others
x	West Oakland Transit Village	61	WO		42	40	7th St./Chester to Peralta	Oppt. Sites 6 & 7 or others
x	West Oakland Transit Village	480	WO		145	138	Mandela/5th or elsewhere	BofA/Alliance or other site
	Fruitvale BART Transit Village	556	FV		100	95		
x	Leona Quarry	574	SH		414	397		
	Oak Knoll	630	SH		577	548		
x	Coliseum BART Station	125	CE		400	380		
x	HOPE IV - Coliseum Gardens	125	CE		-43	-41		
	International: 73rd - 82nd area	600	CE		50	48		
	Eastmont Area	625	CE		60	57		
	MacArthur : 73rd to city border	607	CE		40	38		
	MacArthur : 73rd to city border	137/759	CE		30	29		
	Golf Links Road Scattered Site Affordable Hsg	135	EH		90	86		
	International + 98th	614	EH		50	48		
	Subtotal				***3260***	***3103***		
	PROJECTS TO BE 2006-2020 TOTAL				**6159**	**5861**		
	CITYWIDE TOTAL 2000 - 2020				**12793**	**12199**		
	CITYWIDE TOTAL 1990 - 2020				**14968**	**14272**		
	DOWNTOWN 2000 - 2020				**6880**	**6541**		
	DOWNTOWN 1990 - 2020				**7461**	**7093**		

Notes:
/a/ 'X' in first column indicates updated assumptions compared to 11/21/00 Cumulative Scenario.
/b/ Assumes average vacancy factor of five percent.
/c/ The total units completed during 2000 were 293 for Acorn Parcels 1, 2, and 3, and 71 for Bayporte Village, replacing 480 and 196 original units, respectively, that were removed by 2000.
/d/ Excludes 14 units of scattered site affordable housing in West Oakland.

CEDA projects it will fund 600 new affordable units over the next five years. Some of those projects may already be included in projects on the list.

Source: City of Oakland; Port of Oakland; Hausrath Economics Group

Table 8b

OAKLAND CUMULATIVE GROWTH SCENARIO

ASSUMPTIONS FOR COMMERCIAL/INDUSTRIAL PROJECTS OUTSIDE DOWNTOWN

11/21/00 SCENARIO AS UPDATED FOR METROPORT, LEONA QUARRY, AND OARB REDEVELOPMENT EIRs

/a/	Project	TAZ	Planning District	Sq. Ft.	Empls	SF/Emp	Location	Comments
	PROJECTS COMPLETED BY 2000							
	M.L.K. Campus	42	NO	127,000	254	500		
x	K-Mart	474	WO	117,000	155	755	1555 40th St./near Hubbard St.	
	Base Closure - FISCO	67	HB		-500			
	Base Closure - Oakland Army Base	67/475/476/477	HB		-2,047			
x	Oakland Army Base - Interim Leasing (City and Port areas)	67/475/476/477	HB		1,277			
x	Port Maritime Growth (exclusive of OARB interim leasing) /c	67/482	HB		279			
	K-Mart (42nd + High)	345	FV	130,000	173	750		
	Fruitvale Station Retail (I-880)	555	FV	120,000	200	600		
	Webvan Distribution	108	CE	330,000	200	1650	Coliseum Way	
	Eastmont Town Center (med/lib/govt)	625	CE	146,000	292	500		Decline in retail employment as well
	Catellus Airport Business Park	130	EH	275,000	368	750	Edes & Jones	
	Federal Express - distrib. center	130	EH	250,000	333	750	Edes & 85th	
	US Postal Service - Internal Mail Sorting Warehouse	130	EH	150,000	350	430	85th Avenue	Some shift in jobs from West Oakland
x	Holiday Inn Express	595	EH	70 rms	35	0.5 emp/rm	Airport Drive	
x	Loss of "the Castle" / Coliseum parking expansion	599	EH		-30			Net change in employment
	Base Closure - Oak Knoll	630	SH		-2,281			
x	Airport Expansion	127/633	AP		671			
	PROJECTS TO BE COMPLETED 2000 - 2005							
	Chabot Observatory (new)	80	NH		80			
	MacArthur BART - office, medical, retail	457/456/735	NO	50,000	143	350		
	Flecto Project Mixed Use	454	NO	3,000	8	400	47th & Adeline	Mixed use/commercial
	Retail/Comml Devt/LakePark	84	LH	60,000	133	450		
	Cox Cadilac Mixed Use	505	OC	11,500	29	400	Harrison & Bay Place	
	Grand Ave. Office	776 (516)	OC	25,000	83	300		
x	Mandela Gateway/OHA	61	WO					
x	Retail	61	WO	10,000	25	400	Mandela & 7th	Resid'l with corner retail
x	Community Space	61	WO	4,000	0			
x	Jack London GatewayAcorn Shopping Center	68	WO		50		900 Market at 8th/7th	Revitalization/New stores
	IKEA Parking Deck	474	WO				Shellmound & I-80	Completed
	OTR site hotel	474	WO	149 rms	97	0.65/rm	Yerba Buena & Mandela Parkway	Extended Stay America hotel completed
x	Expo Design Center - replaces K-Mart	474	WO	117,000	200		1555 40th St./near Hubbard St.	Replaced K-Mart;+45 employees assumed
x	OTR site - Best Buy	474	WO	45,000	60	750	Yerba Buena & Mandela	Proposed completion: 2002
x	Gambiolini Property	474	WO	65,000	108	600	Bet. Ettie & Hannah	New const./Lt. Ind'l. with local retail
x	Plywood & Lumber Sales	474	WO	34,000	25		28th & Ettie	New constr./Lt. Ind'l. warehouse
x	32nd-34th & Mandela (office/flex space with local retail)	475	WO	100,000	222	450	West of Mandela	Reuse of existing and new space
x	Bridge/Chestnut Court - retail	478	WO	4,000	11	350	2240 Chestnut St.	Resid'l with grd. fl. retail
x	Amtrak Maintenance Facility	480	WO	163,400	350		Near 3rd & Kirkham	Approved; moving from nearby & expanding
	Telecommunications Access Facility/Mortenson	481	WO	120,000	50		3rd, Brush to Castro	
x	Port Maritime Expansion (exclusive of OARB interim leasing) /c/	67/482	HB		194			Employment growth reflects 60% operation of new terminal in Vision 2000 by 2005 and shifts in operations among existing facillities
x	Oakland Army Base - Interim Leasing (City and Port areas)	67/475/476/477	HB		653			
	Montgomery Wards - school	105	FV		50			
	Fruitvale BAR[illegible]ixed use (clinic, office, retail)	556	FV	75,0[illegible]	188	400		
	Additional de	108	CE			200		

/a/	Project	TAZ	Planning District	Sq. Ft.	Empls	SF/Emp	Location	Comments
x	Eastmont Town Center - new police fac.; rebuild. of retail	625	CE		400			Some shift w/i TAZ; decline in employment also
x	Extended Stay America	131	EH	100 rms	50	0.5 emp/rm	Near Coliseum & BART connector	1.7-acre site
	Durant Square - grocery and other retail	139	EH	48,000	107	450	International & Durant	45,000 mktpl to remain/Under construction
	Best Western	596	EH	76 rms	40	0.53 emp/rm	170 Hegenberger Loop	Completed
x	Courtyard by Marriott	596	EH	156 rms	101	0.65 emp/rm	350 Hegenberger	Completed
x	Spring Hill Hotel	596	EH	132 rms	92	0.7 emp/rm	Hegenberger Loop	
x	Home Base Site - Phase 1 - retail	599	EH	200,000	267	750		25-acre site; about 17 acres Phase 1
	Just Desserts	599	EH	64,525	145	450	550 85th Avenue	Nearly completed
x	Airport expansion	127/633	AP		845			
x	Arrowhead Marsh (Site D)	128	AP	4,000 pkg spaces	20		End of Pardee Road	Use for interim airport parking
x	Hegenberger Annex (Site F) - office	128	AP	48,000	160	300	Hegenberger & Pardee (NW)	2.4-acre site; Port selling property
x	Hegenberger/Pardee (Site E) - R&D/office	128	AP	235,000	588	400	Hegenberger & Pardee (NE)	1.4-acre site; Port selling property
x	7711 Oakport Road (Site A) - Key Source International	597	AP	9,000	20	450	7711 Oakport	1.3-acre site
	Edgewater Distribution Center - warehouse/industrial	597	AP	406,700	339 /b/	1,200	7200 Edgewater	Property sold to AMB/former Grand Auto
	Edgewater/Pardee (Site C) - R&D	597	AP	30,000	67	450	Edgewater & Pardee Lane	Port sale of vacant site
x	Metroport Project (Site B) - Phase 1 - office	597	AP	360,000	1,200	300	Hegenberger & I-880	22-acre site; Port selling property
x	Auto Dealership	597	AP	25,000	42	600	Oakport & Hassler	4-acre site
x	Extended Stay America	597	AP	149 rms	75	0.5 emp/rm	Near Oakport & Hassler	3.42-acre site
x	Restaurant	597	AP	5,000	20	250	Near Oakport & Hassler	1-acre site; part of Extended Stay development
x	Rainin Instrument Company	597	AP	200,000	267	750	Edgewater & Hassler	7.8-acre site; under construction
	Zhone Technologies	597	AP	300,000	750	400	66th & Oakport	Partially completed
	PROJECTS TO BE COMPLETED 2006 - 2020							
	Claremont Hotel Expansion	23	NH	160-165 rms	115	0.70/rm	Tunnel Road & Domingo	75 unit timeshares/85-90 rms/structured parking
	MacArthur BART area	457/735	NO	20,000	57	350		
x	Carnation Factory Site (Lt.Ind/Office/Local Retail)	62	WO	150,000	333	450	Mandela & 14th/16th/Poplar	Adaptive reuse; possible new construction
x	Kirkham/16th & 18th	62	WO	150,000	333	450	Kirkham/16th & 18th	Site transitions from trucking to lt.ind'l/R&D/ofc
x	Romax Iron Works Site - ground-floor retail	474	WO	7,500	21	350	Near Peralta & Hollis	
x	Conversions and infill	474	WO		280			New uses net of declines
x	34th & Wood/Lt. Ind'l.	475	WO	13,000	22	600	East of Mandela	
x	Conversions and Infill	475	WO		130			New uses net of declines
x	West Oakland Transit Village - retail/com'l	480	WO	5,000	14	350		
x	- retail/com'l	61	WO	5,000	14	350		
x	Amtrak Maintenance Facilities - expanded operations	480	WO		200			Expansion as train service increases
	Conversions - W. Amendment Area - C.D. Redev.	481	WO	60,000	171	350		
x	Oakland Army Base Reuse: Gateway (Non-Maritime)	67/475/476	HB					
x	Office	67	HB	600,000	2,250	267		
x	R&D/Lt. Industrial	67	HB	996,000	2,490	400		
x	Retail	67	HB	25,000	70	357		
x	Warehouse/Distribution	475	HB	300,000	240	1,250		
x	R&D/Lt. Industrial	476	HB	200,000	500	400		
x	R&D/Lt. Industrial	476	HB	176,000	440	400		
	Job Training	476	HB	50,000	100	500		
	EBMUD - Wastewater Treatment Expansion	475	HB		40			
x	Port Maritime Expansion and OARB Reuse (Maritime) /c/	67/482	HB		881			Employment growth reflects full development of 1,000 acres for terminals, incorporating Vision 2000, JIT development, and increased maritime areas from OARB.
x	Oakland Army Base - End of Interim Leasing	67/475/476/477	HB		-1,930			Permanent reuse replaces interim leasing
x	Central Station Project/former Amtrak site	476/477	HB				16th & Wood Sts.	Project description as of 3/19/01
x	Office/R&D	476	HB	981,235	2,804	350		
x	Train Station/Comm'l-Retail-Community Uses	476	HB	70,279	150			

/a/	Project	TAZ	Planning District	Sq. Ft.	Empls	SF/Emp	Location	Comments
x	Office/R&D	477	HB	386,065	1,103	350		
x	16th & Wood sites/Lt. Industrial	477	HB	185,000	463	400		Phoenix Iron Works & other sites
x	16th & Wood sites/Lt. Industrial	476	HB	120,000	300	400		Sites north of Central Station project
	5th Avenue/Clinton Cove/9th Ave. Terminal Area	95	SA					Development program per Estuary Policy Plan
	Restaurant/Café	95	SA	5,500	18	300		
	Public use/museum/recreation	95	SA	70,000	23	3,000		
	Restaurant/Retail	95	SA	30,000	75	400		
	Hotel	95	SA	400 rm	340	0.85/rm		
	Hotel	95	SA	250 rm	150	0.60/rm		
	Conference	95	SA	50,000	20	2500		
x	Leona Quarry - retail	574	SH	10,000	29	350		
	Oak Knoll - housing/retail	630	SH	25,000	55	450		
	Additional dev/infill	108	CE		250			
	Intercity Rail Platform	125	CE		10		73rd & San Leandro	Amtrak
x	Loss of industrial uses for BART parking	125	CE		-40		Vicinity of 66th & Hegenberger	
x	East Oakland Sports Center	130	EH	140,000	56	2,500		At Brookfield Park
x	Federal Express - expansion	130	EH	100,000	133	750	Edes & 85th	
	Additional dev/infill	140	EH		200			
	Additional dev/infill	599	EH		250			
x	Home Base Site - Phase 2 - retail	599	EH	100,000	133	750		25-acre site; about 8 acres Phase 2
x	Airport expansion	127/633	AP		2,611			
x	Arrowhead Marsh (Site D) - R&D/distribution	128	AP	500,000	890	560	End of Pardee Road	34.4-acre site; eventual development
x	7711 Oakport Road (Site A) - Key Source International	597	AP	2,000	5	450	7711 Oakport	Addition to existing building
x	Metroport Project (Site B) - Phases 2, 3, 4	597	AP				Hegenberger & I-880	22-acre site; Port selling property
x	Office	597	AP	990,444	3,301	300		
x	Hotel	597	AP	336 rm	336	1 emp/rm		
x	Retail	597	AP	50,000	125	400		
x	Zhone Technologies	597	AP		107			More intensive use of facilities

Notes:
/a/ 'X' in first column indicates updated assumptions compared to 11/21/00 Cumulative Scenario.

Source: City of Oakland; Port of Oakland; Hausrath Economics Group

Table 8c
OAKLAND CUMULATIVE GROWTH SCENARIO
ASSUMPTIONS FOR COMMERCIAL/INDUSTRIAL PROJECTS IN DOWNTOWN
11/21/00 SCENARIO AS ASSUMED FOR METROPORT, LEONA QUARRY, AND OARB REDEVELOPMENT EIRS

Project	TAZ	Planning District	Subarea	Sq. Ft.	Empls	SF/Emp	Location	Comments
PROJECTS COMPLETED BY 2000 (1990 - 1999)								
City Administration - Wilson Building (office only)	486	OC	CC	165,430	414	400		
City Administration - Dalziel Building (office only)	487	OC	CC	225,710	564	400		
City Hall	487	OC	CC	80,000	200	400		
State Building	488	OC	CC	600,000	1500	400		
Federal Building	489	OC	CC	1,000,000	2500	400		
1111 Broadway	490	OC	CC	535,000	1783	300		
UC Office of the President	497	OC	CC	232,500	1000			
Tribune Tower	497	OC	CC	89,000	297	300		
New County Building	519	OC	CM		334			
Caltrans Building	503	OC	KC		1180			
Warriors Practice Facility	71	OC	OO	60,000	20		530 10th Street	
Oakland Icerink	70	OC	UT		35			
PROJECTS TO BE COMPLETED 2000 - 2005								
Rotunda Building	486	OC	CC				16th & Broadway	
Office	486	OC	CC	187,000	534	350		
Retail	486	OC	CC	50,000	111	450		
17th Street Parking Garage (retail - 500 spaces)	486	OC	CC	23,000	51	450	16th/17th/San Pablo	
City Administration - Wilson Building (retail)	486	OC	CC	16,800	42	400		
Lathan Square Building (renovation)	486	OC	CC	107,000	122			Assumes ~/+ 40%
City Administration - Dalziel Building (retail)	487	OC	CC	20,000	44	455		
Plaza Building	487	OC	CC	13,000	43	300		
518 17th Street (renovation)	488	OC	CC	32,000	98	325		
Old PG&E Building (renovation)	488	OC	CC	37,685	116	325		
16th & MLK Office (Downtown Gateway)	488	OC	CC	100,000	333	300	16th/MLK/Jefferson	
Shorenstein T9	489	OC	CC					
Office	489	OC	CC	472,500	1575	300		
Retail	489	OC	CC	7,500	25	300		
Shorenstein T5/T6	490	OC	CC				11th/12th/Clay	
Office	490	OC	CC	580,000	1933	300		
Retail	490	OC	CC	7,500	25	300		
Keystone Hotel/Hilton Gardens	497	OC	CC	214 rooms	140	0.65/rm	11th/12th/Broadway	
13th and Broadway/Utility Building (renovation)	497	OC	CC	60,000	200	300		
14th & Harrison Project	498	OC	CC	9,000	23	400		Ground floor commercial
1404 Franklin (renovation)	500	OC	CC	50,000	43			
1640 Broadway Mixed Use	500	OC	CC					
Office	500	OC	CC	177,680	592	300		
Retail	500	OC	CC	5,400	18	300		
1111 Jackson (former State Building)	519	OC	CM	150,000	500	300		Under construction
Courtyard Marriott Hotel	496	OC	CT	150 rooms	75	0.5/rm	9th & Broadway	Under construction
Arioso Mixed Use	496	OC	CT	5,800	25		900 Broadway/9th	Commercial/88 units
Embarcadero & Broadway (Site D)	72	OC	JLD					
Office	72	OC	JLD	45,000	138	325		
Retail/entertainment	72	OC	JLD	24,000	48	500		
Meadow Commercial (Site C)	72	OC	JLD	20,000	67	300		Restaurant
Waterfront Plaza Hotel Expansion (incl. 3,100 sf confer)	72	OC	JLD	63 rooms	47	0.75/rm		

Project	TAZ	Planning District	Subarea	Sq. Ft.	Empls	SF/Emp	Location	Comments
Allegro Housing	87	OC	JLD	12,559	33	375	3rd and Jackson	Under construction
311 Oak Street (COD Builders Residential)	87	OC	JLD	30,000	80	375		
Monahan Paper Office	87	OC	JLD	190,000	585	325		
Safeway Building Housing	87	OC	JLD	7,400				
Office	87	OC	JLD	6,500	19	325	4th and Jackson	Ground floor commercial
Retail	87	OC	JLD	4,500	15	300	4th and Jackson	Ground floor commercial
Water Street Intensification (Site E)	736	OC	JLD	5,000	20	250		
Phase 2/Jack London Village (Site F)	736	OC	JLD					
Hotel	736	OC	JLD	400 rooms	340	0.85/rm		
Retail/entertainment	736	OC	JLD	99,000	248	400		
Office - partial absorption	736	OC	JLD	100,000	333	300		
115 Broadway Office	767	OC	JLD	10,000	29	350		
Cinema Expansion	767	OC	JLD	700 seats	25		Wash/2nd to 3rd	
Washington Street Garage Addition	767	OC	JLD		20			
Terranomics - office (Clay - 3rd to 4th)	767	OC	JLD	31,000	95	325	Clay/3rd to 4th	
Terranomics -retail expansion: Bed, Bath	767	OC	JLD	15,000	38	400	3rd/Jefferson	Bed, Bath & Beyond
Terranomics - lg. Amer. Conversions - addtl office	767	OC	JLD	30,595	96		4th/Jefferson/3rd/MLK	
Terranomics - lg. Amer. Conversions - reduced retail	767	OC	JLD	-13,660	-13		4th/Jefferson/3rd/MLK	
Union Machine Works	767	OC	JLD				2nd/Clay	
Office	767	OC	JLD	30,000	86	350		
Entertainment	767	OC	JLD	6,000	15	400		
Kimball's Salsa Club	767	OC	JLD	10,000	29	350	mid-Blk 2nd/3rd near Wash	
300 Harrison Office (former City Lofts)	768	OC	JLD	100,000	308	325	3rd & Harrison	
Embarcadero & Webster Office	768	OC	JLD	40,000	123	325	100 Webster	
Oak Tree Commercial	768	OC	JLD	60,000	185	325		
2nd & Broadway Mixed Use (Roscoe's site)	768	OC	JLD					
Office	768	OC	JLD	90,000	277	325		
Retail	768	OC	JLD	8,000	29	275		
Upper Floor Entertainment & Addtl Retail/Rest (infill)	768	OC	JLD	12,000	32	376		
Amtrak Station (Site G - parking garage and commercial)	768	OC	JLD	20,000	80			
Wakefield Rehab (renovation)	74	OC	KC	68,000	58			
415 20th Street (LBL Supercomputer)	74	OC	KC	70,000	140	500		
20th & Broadway	502	OC	KC			300	+ renovation of ex bank bldg	
Office	502	OC	KC	325,000	1083	300		
Ground floor retail	502	OC	KC	11,500	29	400		
Bermuda Building	502	OC	KC	160,000	356	450	21st & Franklin	
Lake Merritt Tower II	503	OC	KC	700,000	2333	300		
Washington & 8th Street (renovation)	71	OC	OO	68,000	60			
Swan's Market	71	OC	OO					
Office	71	OC	OO	17,000	49	350		
Retail	71	OC	OO	25,000	55	450		
Rattos + others in area (renovations)	491	OC	OO		80			
Housewives Market	491	OC	OO	27,500	78	350	8th/9th/Clay/Jefferson	ground floor commercial
11th & Clay Mixed Use (office)	491	OC	OO	30,000	92	325		
Uptown Project (retail/comml - Blk 2)	70	OC	UT	35,700	89	400		
Fox Side Buildings (renovation & new)	70	OC	UT					
Office	70	OC	UT	30,100	93	325		
Retail	70	OC	UT	18,000	51	350		
New space - perf. & comml.	70	OC	UT	22,000	55	400		
Uptown Project	483	OC	UT					
Retail/comml - Blk 5	483	OC	UT	18,500	46	400		
Parking garage - Blk 4	483	OC	UT	1394 spaces	20			
I. Magnin Building (renovation)	484	OC	UT	63,000	210	300		
Hahn One - Phase I (retail/office)	484	OC	UT	16,800	46	400		
Sears Building (upper floor office renovation)	485	OC	UT	180,000	514	350		
Floral Depot Blk (rehabs to office)	485	OC	UT	~40,000	123	325		

Project	TAZ	Planning District	Subarea	Sq. Ft.	Empls	SF/Emp	Location	Comments
Sweets Ballroom - Super Club	485	OC	UT	12,000	15	800		
Floral Depot Blk - rehabs to retail/E&D/perf.	485	OC	UT	~20,000	33	600		Includes Millennium Village
Rehabs/infill for office 17th-19th Blk	485	OC	UT		154			
PROJECTS TO BE COMPLETED 2005 - 2020								
Shorenstein T10	489	OC	CC					
Office	489	OC	CC	550,000	1833	300		
Retail	489	OC	CC	8,000	27	300		
Shorenstein T12	489	OC	CC	584,000	1947	300		
Additional Tribune Building and others (infill)	497	OC	CC		457			
Intensification of Existing - Water Street extension	72	OC	JLD		30			
Phase 2/Jack London Village (Site F)(ofc-absorp of rest)	736	OC	JLD	157,500	525	300		
Lower Broadway	767	OC	JLD					Removes some ex. Space
Office	767	OC	JLD	120,000	369	325		
Retail/entertainment/restaurant	767	OC	JLD	25,000	63	400		
Terranomics - Additional construction	767	OC	JLD					Occurs in conjunction with new garage on Cost Plus site
Retail	767	OC	JLD	15,000	38	400		
Office	767	OC	JLD	20,000	62	325		
Cost Plus (Site A)	767	OC	JLD					
Replacement retail: net additional space	767	OC	JLD	10,000	25	400		
750-space garage	767	OC	JLD		30			
Rehab and/or new constr (space is net add'l)	767	OC	JLD					
Retail	767	OC	JLD	5,000	13	400		
Office	767	OC	JLD	5,000	15	323		
Office conversion - Meyers plumbing	768	OC	JLD	25,578	79	350		Replaces lt. Ind.
Conversion - Produce District Bldgs - office-retail-rest	768	OC	JLD	145,000	414	350		Replaces lt. Ind. - adds pkg
Millers Meat Site	768	OC	JLD					Removes lt. Ind.
Office	768	OC	JLD	115,000	354	325		
Retail/commercial	768	OC	JLD	10,000	25	400		
Old Oakland (infill)	71	OC	OO		200			
Uptown Project (retail/comm'l - Blk 8)	69	OC	UT	8,000	20	400		
Fox Theater (~2,400 seats)	70	OC	UT	2400 seats	40			
Uptown Project (retail/comml - Blk 7)	70	OC	UT	11,000	34	325		
Uptown Project (retail/comm'l - Blk 3 + addtl Blk 2)	483	OC	UT	10,000	35			
Uptown Project (retail/comml Blk 4)	483	OC	UT	14,800	40	375		
Uptown Project (retail/comml - Blk 6)	483	OC	UT	9,000	26	350		
Additional infill	483	OC	UT		70			
Hahn One - Phase 2 (retail)	484	OC	UT	25,000	68			
Additional infill/rehab	484	OC	UT		100			
Additional infill/rehab	485	OC	UT		285			

Source: City of Oakland; Port of Oakland; Hausrath Economics Group

4.12J Correspondence Between the U.S. Army and the USFWS, and Between the Army and the NMFS Regarding Federally-Protected Species

United States Department of the Interior
Fish and Wildlife Service
Sacramento Fish and Wildlife Office
2800 Cottage Way, Room W-2605
Sacramento, California 95825-1846

IN REPLY REFER TO:
1-1-00-I-869

October 11, 2000

Mr. Roger Caswell
BRAC Environmental Coordinator
U.S. Army Corps of Engineers
Oakland Army Base BRAC Transition Office
2475D W. 12th Street
Oakland, California 94607

Subject: Concurrence of Not Likely to Adversely Affect, Disposal and Reuse of Oakland Army Base, Alameda, California

Dear Mr. Caswell:

This regards your letter dated August 3, 2000, requesting concurrence that the disposal and reuse of the Oakland Army Base in Alameda, California is not likely to adversely affect the federally endangered California least tern (*Sterna antillarum browni*) (least tern). The least tern is protected under the Endangered Species Act of 1973, as amended (Act).

The U.S. Fish and Wildlife Service has reviewed the provided documents regarding the disposal and reuse of the Oakland Army Base, and concurs that the action(s) are not likely to adversely affect least terns.

If you have further questions, please contact Don Hankins or Ken Sanchez at (916) 414-6625.

Sincerely,

Karen J. Miller

Karen J. Miller
Chief, Endangered Species Division

Blank page

DEPARTMENT OF THE ARMY
MILITARY TRAFFIC MANAGEMENT COMMAND
OAKLAND army BASE TRANSITION OFFICE
2475-D WEST 12TH STREET
OAKLAND, CALIFORNIA 94607

REPLY TO
ATTENTION OF

3 August, 2000

Ser 216A6

From: Oakland Army Base BRAC Transition Office
2475D W. 12th Street
Oakland, Ca 94607

To: Mr. Wayne White, Field Supervisor
U.S. Fish and Wildlife Service
Sacramento Field Office
2800 Cottage Way, Room W2606
Sacramento, California 95825-1846

Subj: BIOLOGICAL ASSESSMENT FOR USFWS, DISPOSAL AND REUSE OF OAKLAND ARMY BASE, ALAMEDA COUNTY, CALIFORNIA

Dear Mr. White:

This letter is intended to supplement the *Biological Assessment for the Disposal and Reuse of Oakland Army Base (OARB)*, dated September 30, 1999. In that Biological Assessment, we asked for USFWS concurrence with our conclusion that the Army's proposed action is not likely to adversely affect any threatened or endangered species or critical habitat. In subsequent discussions, Don Hankins of your staff expressed some concerns regarding potential impacts to the endangered California least tern from lighting and landscaping associated with development of the spit area at OARB. The least tern forages in the waters offshore from the western-most parcel of the base known as the "Spit" and may occasionally use this area for resting.

Under the reuse plan, the "Spit" area is proposed to become a public access waterfront park managed by the East Bay Regional Park District (EBRPD). The project is at a very early conceptual stage with no design yet proposed and may be affected by the eventual decision on the Bay Bridge alignment question.

Don proposed several specific restrictions that he felt could possibly be included in the property transfer documents to address his concerns. We discussed this proposal with both the Oakland Base Reuse Authority (OBRA) and the EBRPD. While we agree that consideration of the least tern is proper and necessary, the Army, OBRA, and the EBRPD believe that it would not be appropriate for the Army to set specific restrictions on reuse. We believe that it would be more effective for the new owner to negotiate restrictions with your staff when specific design and use intentions for the parcel are available to be reviewed. Therefore, we propose to include the following more general restriction within the transfer document:

Subj: BIOLOGICAL ASSESSMENT FOR USFWS, DISPOSAL AND REUSE OF OAKLAND ARMY BASE, ALAMEDA COUNTY, CALIFORNIA

"Prior to site development or other opening of the property parcel known as the 'Spit' area (a parcel consisting of approximately 15 acres at the far west end of the installation, south of and adjacent to the east end of the Oakland Bay Bridge) to public access or other reuse, the new owners will coordinate with and obtain approval of their specific development plan for the property from the USFWS Endangered Species Office."

With the Army's commitment to impose this restriction in the property transfer document, potential impacts to the least tern will be avoided. Therefore, we request your concurrence with our determination that the disposal and reuse of OARB are not likely to adversely affect any listed species or critical habitat.

We will continue to provide your office with any assistance or additional information that may expedite your concurrence with our findings. If you have any questions, please contact Dr. Robert Koenigs at (916) 557-6712.

Sincerely,

Roger Caswell
BRAC Environmental Coordinator

cc:
Dr. Robert Koenigs, USACE-SPK
Mr. Chuck Hubbard, USACE-SPK
Ms. Loretta Graves, MTMC-HQ
Ms. Eloia Thornton, Oakland Redevelopment Agency
Ms. Theresa Persick-Arnold, DAIM-BO

United States Department of the Interior

FISH AND WILDLIFE SERVICE

IN REPLY REFER TO:

Ecological Services
Sacramento Field Office
2800 Cottage Way, Room E-1803
Sacramento, California 95825-1846

In Reply Refer To:
PPN 1833

January 11, 1996

Anne Cavazos
SCS Engineers
6761 Sierra Court, Suite D
Dublin, California 94568

Subject: Request for Concurrence of Oakland Army Base Suitability Classification for Fish and Wildlife Management, Oakland Army Base, Alameda County, Oakland, California

Dear Ms. Cavazos:

The United States Fish and Wildlife Service (Service), Sacramento Field Office, has reviewed Environmental Assessment No. 24-1405-77(Oakland Army Base, 1977) and other pertinent documentation describing fish and wildlife resources at the Oakland Army Base (OARB). Upon review of this documentation, the Service has determined that the OARB does not have land or water areas that are suitable for a program of conservation and management of fish and wildlife. Therefore, the Service recommends that the OARB should be classified as Category III as described in Army Regulation 420-74.

If you have any questions regarding these comments, please contact Mark Littlefield (Wetlands Branch) at (916) 979-2113.

Sincerely yours,

Joel A. Medlin
Field Supervisor
U.S. Department of the Interior Coordinator

cc: AES-Portland, OR

DEPARTMENT OF THE ARMY
MILITARY TRAFFIC MANAGEMENT COMMAND
HQ, WESTERN AREA
UNITED STATES ARMY GARRISON
OAKLAND ARMY BASE
OAKLAND, CALIFORNIA 94626-5000

SEP 3 0 1999

Mr. Wayne White, Field Supervisor
United States Fish and Wildlife Service
Sacramento Field Office
2800 Cottage Way, Room W2605
Sacramento, California 95825-1846

SUBJECT: BIOLOGICAL ASSESSMENT FOR USFWS, DISPOSAL AND REUSE OF OAKLAND ARMY BASE, ALAMEDA COUNTY, CALIFORNIA

Dear Mr. White:

This letter documents the United States Army's formal coordination under Section 7 of the Endangered Species Act (ESA) regarding the disposal and reuse of the Oakland Army Base (OARB), Alameda County, California. The Army plans to dispose of the OARB as excess property, by transfer to a Local Reuse Agency, the Oakland Base Reuse Authority (OBRA). The OBRA has developed a plan for redevelopment and reuse of the installation (Reuse Plan). The Army has prepared an Environmental Impact Statement (EIS) to assess the potential effects of the disposal and reuse of OARB. As described in the EIS, the disposal (transfer) of OARB property is the Army's primary action. Reuse is a secondary action to be undertaken by the OBRA after disposal. As part of the EIS's analysis of the potential effects on the environment of the Army's action, the Army has prepared a Biological Assessment (BA). A copy of this BA is attached for your review. A separate BA has been prepared to assess potential effects on anadromous fish species, and has been submitted to the National Marine Fisheries Service. The attached BA describes field surveys done to inventory plant and wildlife species at OARB and in the immediate vicinity, both by the Army for the EIS and by others for various state and federal agency actions in the OARB area. It assesses the potential for OARB lands to contain suitable habitat for species listed as endangered or threatened under the Endangered Species Act of 1973, as amended, and the potential effects of disposal and reuse on listed species.

Previous Coordination—Previous coordination between the Army and the Fish and Wildlife Service (USFWS) included correspondence regarding fish and wildlife management suitability classification, requests by the Army for species lists, and a field visit by USFWS staff from the Endangered Species Division. On January 14, 1996, Mr. Joel A. Medlin, Field Supervisor for the USFWS, wrote a letter of concurrence stating that "the OARB does not have land or water

areas that are suitable for a program of conservation or management of fish and wildlife" in conjunction with an Installation Natural Resources Management Plan for OARB (Reference PPN 833, letter to Anne Cavazos of SCS Engineers). In May of 1997, Foster Wheeler Environmental Corporation requested a list of endangered and threatened species that might occur in the OARB vicinity, in connection with environmental baseline studies leading to the EIS for disposal and reuse of OARB. In September of 1997, project staff provided Mr. Dan Buford of your office a description of the installation and color aerial photographs of the OARB sand spit area (see below). On December 17, 1998, Mr. Buford accompanied biologists of the US Army Corps of Engineers and Foster Wheeler Environmental Corporation on a field visit to OARB. On September 10, 1999, Mr. Harry Mossman of your office provided an updated species list.

Potential Habitat—Oakland Army Base consists of 422 acres on Oakland's Outer Harbor, 54 acres of which are submerged lands near OARB's three wharves, currently leased to the Port of Oakland. All but approximately 17 acres of the OARB is intensively developed and is covered in large buildings, parking lots, pavement, and landscaping. The only open land suitable for wildlife use on the installation is the undeveloped sand spit area at the western isthmus of the installation. This area was created of artificial fill to be part of the eastern terminus and toll plaza area for the San Francisco-Oakland Bay Bridge. Studies of listed species at OARB and the potential effects of disposal and reuse on such species have focused on this sand spit area and the submerged lands.

Listed Species—Initial surveys and screening for the project determined that the sand spit and open water areas adjacent to OARB could provide suitable areas for use by four listed species: 1) California least tern, 2) brown pelican, 3) western snowy plover, and 4) peregrine falcon. Suitable habitat is lacking for all of the other listed species of plants and animals, which prefer either undeveloped upland habitat or wetlands and tidal marshes, neither of which are present at OARB. The listed non-anadromous fish species are tidewater and estuarine species for which habitat is not present in the OARB submerged lands. Botanical surveys for the EIS as well as for the California Department of Transportation did not result in the identification of listed plant species on the sand spit.

Of these four listed species that may use OARB, the peregrine falcon was recently (August 25, 1999) delisted. Of the three remaining species, field surveys as well as a review of the extensive studies conducted for the Port of Oakland's Vision 2000 and Harbor Improvement programs, and the San Francisco-Oakland Bay Bridge East Span Seismic Safety project indicated that least terns and brown pelicans occasionally use the waters of the Outer Harbor south of the sand spit for foraging. Least terns were observed resting in the waters of the Outer Harbor during field surveys for the project. There is little suitable habitat for the western snowy plover.

California least terns are central-based foragers. They nest in large colonies and then forage in areas surrounding the nesting colony. There is a large least tern nesting colony located about two miles south of OARB at the former Alameda Naval Air Station. Extensive bird survey conducted by the Port of Oakland for the Vision 2000 and Harbor Improvement programs have shown that least terns use the Outer, Middle, and Inner Oakland harbor areas for foraging, as well as San Francisco Bay waters to the south and west of the Alameda colony. The areas south and west of the colony, however, are proven to be much more popular for least tern foraging than the Oakland Outer Harbor area near OARB. Only a small percentage of the tern sightings and diving attempts were observed in the Outer Harbor.

Brown pelicans frequent a large roosting area located along a breakwater south of Alameda but do not breed in San Francisco Bay. They use the Oakland harbor areas for foraging, but use the Outer Harbor area less intensively than areas nearer to the Alameda roost, according to intensive surveys done on behalf of the Port of Oakland programs. The Port studies did not observe the brown pelican in the portion of the Outer Harbor occupied by the OARB submerged lands. Brown pelicans may use areas such as the sand spit and its shoreline for resting, but have not been observed there during studies for the EIS, and these are clearly not important rest areas for them.

The sand spit does not provide suitable habitat for **western snowy plover**. This bird feeds on amphipods, insects, and sand crabs that live along beaches, and nests in foredunes or other sandy or unvegetated areas. The OARB sand spit contains only two very small (30-40 meter-wide) beaches and is covered in a dense growth of weeds. Western snowy plovers have not been observed there during field studies for the EIS and are not likely to use the area very frequently.

Summary—Based on the field studies conducted for the EIS, for the Port, and for other projects in the area, and a review of the literature, the Army finds that two listed species, the California least tern and brown pelican, are present near OARB. These species occasionally use the waters around OARB to forage for fish. They may occasionally use the sand spit land area for resting, though they have not been observed doing this. OARB lands, however, do not provide nesting or roosting habitat for either species, or for the western snowy plover.

OBRA's Reuse Plan—The OBRA's Reuse Plan for OARB includes development of the sand spit area into a shoreline access park, with trails, lawn areas, and trees. Though the park would increase human activity in the sand spit area, it would not significantly alter the characteristics of this area that attract the relatively low level of current use by the least tern and brown pelican. The Reuse Plan includes a description of the Port of Oakland's Berth 21 project, a proposed fill of 25 acres of the Oakland Outer Harbor, one-third of which consists of OARB submerged lands.

This fill is currently part of the Port of Oakland's Capital Improvement Plan but is not yet funded. If approved and funded, it would not be implemented until approximately 2004. This fill could have an indirect effect on the brown pelican and least tern, since it could temporarily disrupt their feeding behavior by causing some disturbance to sediments in the Outer Harbor and would remove a small amount of potential, marginal foraging area. The siltation disturbance could be controlled or prevented, however, by use of construction methods selected to minimize the movement of silt within the water. Furthermore, the disruption of feeding behavior and the loss of foraging area would not be consequential, given the relatively low level of foraging use in this area by these species.

If the Port of Oakland goes forward with the Berth 21 fill project, the Port will be required at the time of implementation to obtain a permit from the US Army Corps of Engineers under Section 404 of the Clean Water Act. The Corps will coordinate with the USFWS regarding the ESA and the potential effects of this project on endangered and threatened species. If conditions at that time warrant it, they will enter into formal consultation and develop the necessary mitigation measures. The Berth 21 project is not likely, therefore, to cause a significant unmitigated adverse effect if it occurs. More specific conclusions about this aspect of Reuse Plan implementation and its potential effects on special status species are not possible without a more concrete project proposal from the Port.

As described in the BA, the reuse of the wharf areas of OARB is a small part of the expansion plans for the Port of Oakland. These expansion plans have been addressed in Biological Opinions issued by the USFWS. Therefore, it would be redundant to formally repeat a consultation for indirect impacts when those impacts had already been addressed as direct impacts of another project. We have summarized the impacts in our BA but do not propose to consider them in determining whether formal consultation is necessary.

Conclusions—The Army finds that the disposal and reuse of OARB would likely not involve significant modification or degradation of listed species' habitat, would not significantly impair the essential behavior patterns of listed species (including breeding, feeding, or shelter), and would not result in the take of listed species (50CFR 17.3). Therefore, we conclude that the disposal and reuse of OARB is not likely to adversely affect any listed species or critical habitat under the jurisdiction of the USFWS. Formal consultation under the ESA will therefore not be necessary. We reach this conclusion recognizing that the reuse activities of the Port, which have some potential for impact, have already been covered by BO's from the USFWS.

We request that you concur with our determination that the disposal and reuse of OARB are not likely to adversely affect any listed species or critical habitat. Thank you very much for your assistance in this matter.

Sincerely,

Roger Caswell
BRAC Environmental Coordinator

Attachment

cc: R. Koenigs (ACOE)
D. Davy (FW)

Blank page

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, California 90802-4213

APR 10 2000 F/SWO3:GRS

Roger Caswell
Base Environmental Coordinator
Department of Army
Military Traffic Management Command
Oakland Army Base
Oakland, California 94626-5000

Dear Mr. Caswell,

Thank you for your letter of September 30, 1999, requesting National Marine Fisheries Service (NMFS) concurrence with your determination that the United States Army's (Army) proposed disposal and reuse of Oakland Army Base (OARB) is not likely to adversely affect listed species or designated critical habitat. The Army plans to dispose of the OARB as excess property, by transfer to a Local Reuse Agency, the Oakland Base Reuse Authority.

Available information indicates the following species listed under the Endangered Species Act (ESA) within the jurisdiction of the NMFS may occur within the project area:

Sacramento River winter-run chinook salmon *(Oncorhynchus tshawytscha)* - endangered
Central Valley ESU spring-run chinook salmon *(Oncorhynchus tshawytscha)* - threatened
Central California Coast ESU steelhead *(Oncorhynchus mykiss)* - threatened
Central Valley ESU steelhead *(Oncorhynchus mykiss)* - threatened

The site is also located within the designated critical habitat for Central California Coast steelhead (65 FR 7764).

As outlined in your letter, several projects directly related to the OARB Reuse Plan have been previously addressed by NMFS in section 7 consultations with the Army Corps of Engineers (Corps). Specifically, section 7 consultation for the Oakland Harbor Navigation Improvement (-50') Program was completed informally between NMFS and the Corps by letter dated August 9, 1999, and formal consultation was completed for the Oakland Harbor Berths 55-58 Project with the issuance of a biological opinion to the Corps on November 26, 1999.

151422SWR00S/233

Regarding the Berth 21 fill project, your letter indicates project planning has not been completed by the Port of Oakland and the project is not certain to occur. However, the Army's biological assessment for the disposal and reuse of the OARB concludes the proposed Berth 21 fill of 25 acres of the Oakland Outer Harbor, one-third of which consists of OARB submerged lands, will have a minimal effect on listed salmon and steelhead (Biological Assessment prepared by Foster Wheeler Environmental Corporation, September 1999). The NMFS does not concur with this finding of minimal effect, but recognizes additional project specific information is unavailable at this time to determine the full extent of potential impacts and possible mitigation measures. Due to the lack of sufficient information at this time on the Berth 21 project, I concur with the Army that section 7 consultation for this project should be subsequently addressed with the Corps during the Section 404 Clean Water Act permitting process.

Based on the best available information, the actions associated with the Army's proposed disposal and reuse of OARB have either been previously addressed by NMFS in section consultations with the Corps, will be addressed in a future section 7 consultation with the Corps as specific project information becomes available, or are not likely to adversely affect Central Valley steelhead, Central California Coast steelhead, Central Valley spring-run chinook salmon, winter-run chinook salmon, or designated critical habitat. However, further consultation may be required if new information becomes available indicating that federally listed species or critical habitat may be adversely affected, or project plans change in a manner that affects listed species or critical habitat.

If you have any questions concerning these comments, please contact Mr. Gary Stern at (707) 575-6060.

Sincerely,

Rodney R. McInnis
Acting Regional Administrator

cc: Peter LaCivita, ACOE-San Francisco, Ca.
Jim Lecky, NMFS PRD-Long Beach, Ca.

DEPARTMENT OF THE ARMY
MILITARY TRAFFIC MANAGEMENT COMMAND
HQ, WESTERN AREA
UNITED STATES ARMY GARRISON
OAKLAND ARMY BASE
OAKLAND, CALIFORNIA 94626-5000

SEP 3 0 1999

William T. Hogarth, Ph.D., Regional Administrator
National Marine Fisheries Service
Southwest Region
501 West Ocean Boulevard, Suite 4200
Long Beach, CA 90802-4213

SUBJECT: BIOLOGICAL ASSESSMENT FOR NMFS, DISPOSAL AND REUSE OF OAKLAND ARMY BASE, ALAMEDA COUNTY, CALIFORNIA

Dear Dr. Hogarth:

This letter documents the United States Army's formal coordination under Section 7 of the Endangered Species Act regarding the disposal and reuse of the Oakland Army Base (OARB), Alameda County, California. The Army plans to dispose of the OARB as excess property, by transfer to a Local Reuse Agency, the Oakland Base Reuse Authority (OBRA). The OBRA has developed a plan for redevelopment and reuse of the installation (Reuse Plan). The Army has prepared an Environmental Impact Statement (EIS) to assess the potential effects of the disposal and reuse of OARB. As described in the EIS, the disposal (transfer) of OARB property is the Army's primary action. Reuse is a secondary action to be undertaken by the OBRA after disposal. As part of the EIS's analysis of the potential effects on the environment of the Army's action, the Army has prepared a Biological Assessment (BA) for anadromous fish species. A copy of this BA is attached for your review. A separate BA has been prepared to assess potential effects on other listed species, and has been submitted to the US Fish and Wildlife Service. The attached BA assesses the potential for OARB lands to contain suitable habitat for species listed as endangered or threatened under the Endangered Species Act (ESA) of 1973, as amended, and the potential effects of disposal and reuse on listed species.

Potential Listed Species Habitat—Oakland Army Base consists of 422 acres on Oakland's Outer Harbor, 54 acres of which are submerged lands near OARB's wharves, currently leased to the Port of Oakland. The OARB submerged area is contiguous with the wharves and a shoreline that runs along the southern edge of a 17-acre sand spit that forms the southern margin of the San Francisco-Oakland Bay Bridge approach and toll plaza area. The sand spit area contains two small (30-40 meter-long) beaches, but otherwise consists entirely of large rock (rip rap). Water depth in the wharf area is approximately 40 feet, though the Port of Oakland currently plans to deepen the Outer Harbor channel to 50 feet to accommodate larger container ships.

Listed Species—A list of endangered and threatened species obtained from the US Fish and Wildlife Service and dated September 10, 1999, indicates that the following anadromous fish species are included on lists of species that might occur in the vicinity of OARB:

Winter-run chinook salmon (endangered) *(Onchorhynchus tshawytscha)*
Winter-run chinook salmon critical habitat (endangered)
Coho salmon (threatened) *(Onchorhynchus kisutch)*
Central California steelhead (threatened) *(Onchorhynchus mykiss)*
Central Valley spring-run chinook salmon (proposed) *(Onchorhynchus tshawytscha)*
Central Valley spring-run chinook salmon critical habitat (proposed)

The fall/late fall-run chinook salmon and their critical habitat are included on the September 10 list as species proposed for listing. Since that date, however, they have been reclassified as candidate species.

The chinook and coho salmon and the Central California steelhead are species that pass through San Francisco bay (Bay) on their way to and from spawning grounds in the Sacramento and San Joaquin river basins. Coho salmon seldom pause in the Bay on their way to the ocean and are not expected at or near OARB. Steelhead may be present in the project area on their way to spawn in the small streams entering the southern San Francisco Bay.

Chinook salmon of any race are relatively rare in the specific project area (Oakland Outer Harbor). Only two chinook salmon were captured during extensive surveys of the Oakland Inner, Middle, and Outer harbors for the Port of Oakland Vision 2000 and Harbor Improvement Programs. A possible third adult salmon (probably fall-run chinook) was observed in July for this same study, when a seal was seen feeding on a salmon near the Alameda Naval Air Station. Chinook salmon smolts spend an average of 4 to 10 days in the Bay on their migration from the Sacramento-San Joaquin Delta to the sea and do not often find their way to the Outer Harbor.

Chinook presmolts may spend portions of the winter, spring, or summer in the Bay. These fish prefer shallow water adjacent to tidal marshes, however, such as is found in the Crescent Marsh area on the north side of the San Francisco-Oakland Bay Bridge, opposite OARB. The latter area is within the critical habitat zone for chinook salmon, which includes waters of the Bay north of the Bay Bridge. The OARB, however, contains no critical habitat or suitable habitat for more than occasional or incidental use by these species.

OBRA's Reuse Plan—The OBRA's Reuse Plan for OARB includes development of the sand spit area along the western isthmus of the installation into a shoreline access park with trails,

lawn areas, and trees. This may have a minor beneficial effect on chinook salmon and steelhead by protecting shallow water habitat offshore from further development.

Also under the Reuse Plan, the Port of Oakland would obtain the OARB wharf area and continue to develop the port for international shipping. The OARB wharf area, however, is only a small part of the Port's expansion plans. Increased ship traffic that would result from the combination of all of the Port's improvement projects has the potential to affect steelhead and chinook salmon food sources by introducing alien organisms in ship ballast. This effect would be partially mitigated by improved ballasting in newer model, larger container ships, which would become more common in the Port once the channels are deepened. In addition, the Port, as part of their project, has proposed to implement rules requiring ballast exchange outside of San Francisco Bay to control this potential effect. The NMFS will address the ballast issue in their Biological Opinion for the Vision 2000 and Harbor Improvement programs and may formalize a requirement for the Port to implement such measures, particularly for the Port's project to add new berths to the Inner Harbor (Berths 55-58), which will increase shipping volume directly. With such mitigation in place, more and larger ships entering the harbor would not pose a significant danger to chinook salmon or steelhead as a result of Reuse Plan implementation.

The Reuse Plan includes a description of the Port of Oakland's Berth 21 Project, a proposed fill of 25 acres of the Oakland Outer Harbor, one-third of which consists of OARB submerged lands. This fill is currently part of the Port of Oakland's Capital Improvement Plan but is not yet funded. If approved and funded, it would not be implemented until approximately 2004. This fill could have an indirect effect on chinook salmon and steelhead, since it could temporarily disrupt their feeding behavior by disturbing sediments in the Outer Harbor. This disturbance would be minimal given the marginal nature of the habitat. The siltation disturbance could be controlled or prevented, however, by use of construction methods selected to minimize the movement of silt within the water. The fill would also remove some salmon and steelhead habitat, but again, this impact would be minimal since 40-foot-deep water is marginal habitat, at best.

If the Port of Oakland goes forward with the Berth 21 fill project, the Port will be required at the time of implementation to obtain a permit from the US Army Corps of Engineers under Section 404 of the Clean Water Act. The Corps will coordinate with the NMFS regarding the ESA and the potential effects of this project on endangered and threatened marine species. If conditions at that time warrant it, they will enter into formal consultation and develop the necessary mitigation measures. This action is not likely, therefore, to cause a significant unmitigated adverse effect if it occurs. More specific conclusions about this aspect of Reuse Plan implementation and its

potential effects on special status marine species are not possible without a more concrete project proposal from the Port.

As described in the BA, the reuse of the wharf areas of OARB is a small part of the expansion plans for the Port of Oakland. These expansion plans are being addressed in a Biological Opinion under preparation by the NMFS. Therefore, it would be redundant to formally repeat a consultation for indirect impacts when those impacts had already been addressed as direct impacts of another project. We have summarized the impacts in our BA but do not propose to consider them in determining whether formal consultation is necessary.

Conclusions— In developing our conclusions regarding impacts to listed species due to the disposal and reuse of OARB, several factors have been considered. First, the Outer Harbor at the Port of Oakland provides only marginal habitat for listed species. Second, a BO is currently being prepared by NMFS that addresses the primary impacts to listed species from the reuse of OARB as direct impacts, rather than indirect impacts. The same impacts do not need to be addressed as indirect impacts associated with property disposal at OARB. Finally, if the Port of Oakland elects to pursue the Berth 21 project at some time in the future, the need for a Section 7 consultation in conjunction with a 404 permit will have to be evaluated at that time and under the prevailing conditions. Based on the preceding considerations, the Army finds that the disposal and reuse of OARB would likely not involve modification or degradation of listed anadromous fish species' habitat or impairment of the essential behavior patterns of listed species. Therefore, we conclude that the disposal and reuse of OARB is not likely to adversely affect any listed species or critical habitat under the jurisdiction of the NMFS. Formal consultation under the ESA will therefore not be necessary.

We request that you concur with our determination that the disposal and reuse of OARB are not likely to adversely affect any listed species or critical habitat. Thank you very much for your assistance in this matter.

Sincerely,

Roger Caswell
Base Environmental Coordinator

Attachment

cc: R. Koenigs (ACOE)
D. Davy (FW)

We request that you concur with our determination that the disposal and reuse of OARB are not likely to adversely affect any listed species or critical habitat. Thank you very much for your assistance in this matter.

Sincerely,

Roger Caswell
BRAC Environmental Coordinator

Attachment

cc: R. Koenigs (ACOE)
D. Davy (FW)

Blank page

Appendix 5
Updated Cumulative Growth Scenario

UPDATED CUMULATIVE GROWTH SCENARIO FOR THE OAKLAND ARMY BASE REDEVELOPMENT PROJECT EIR

This appendix describes the cumulative growth scenario used for environmental impact analysis purposes in Oakland. The scenario provides the future cumulative development context for Oakland, identified in terms of future employment, households, and population. Use of the scenario for analyzing the redevelopment project's environmental impacts ensures that those impacts are appropriately considered as part of the cumulative context of future citywide and regional growth and development.

The need for developing the cumulative growth scenario is explained below, followed by a description of the approach and the chronology of scenario development and updates. Then, the updated cumulative scenario prepared for this EIR is summarized, followed by comparisons with projections from the Association of Bay Area Governments (ABAG). The specifics of the scenario for the OARB Redevelopment Project Area and the harbor and West Oakland areas surrounding the project area are summarized next, followed by the assumptions for growth in the rest of Alameda County and Bay Area region.

NEED FOR THE CUMULATIVE GROWTH SCENARIO

The cumulative growth scenario for Oakland was developed primarily for use in the cumulative transportation analysis in this and other Oakland EIRs. The growth scenario was prepared after analyses indicated that the growth projections assumed in the Alameda County Congestion Management Agency (CMA) travel demand model did not reflect the level of growth and development occurring in Oakland. Those projections also did not reflect the locations of growth for future development projects under construction, approved, proposed, and reasonably foreseeable for Oakland. The growth projections in the CMA travel model are from the ABAG Projections for Oakland.

FORECAST-BASED APPROACH THAT INCORPORATES FORESEEABLE FUTURE DEVELOPMENT PROJECTS

The cumulative growth scenario for Oakland was developed using a forecast-based approach, *i.e.*, an approach based on regional forecasts of economic activity and demographic trends. The cumulative growth scenario also considered recent and anticipated future development projects in Oakland as well as other changes in employment and population. Development projects and other changes were identified based on input from City of Oakland and Port of Oakland staffs and on analysis of economic and real estate market data and trends. Anticipated future development projects were identified to include approved, proposed, and potential development projects reasonably foreseeable by the year 2020.

The growth that could be accommodated by recent and expected future development projects and other changes in employment and population, was evaluated within the context of regional economic and demographic trends and projections. The ABAG projections provided the reference for citywide and county totals for the years 2005 and 2020, consistent with the analysis years in the Alameda County CMA travel model. The list of development projects and other changes provided the ability to relate individual projects to the citywide context. The location of specific projects and sites allowed for refinements in the allocation of growth to traffic analysis zones (TAZs) within the City. The CMA's travel model requires inputs at the TAZ level.

The results of this evaluation indicated that the ABAG projections for Oakland did not anticipate all of the growth and development that was occurring in the city and that would be represented by the development projects identified by the City and the Port as likely to occur by 2020. Thus, either the projects would not all be built and occupied as currently anticipated by 2020, or growth in Oakland would be higher than was anticipated by ABAG.

The cumulative growth scenario for Oakland that was developed for use in environmental impact analyses is the scenario that could accommodate development and occupancy of all recent and anticipated future development projects identified by the City and the Port. This approach ensures that the cumulative effects of all anticipated development projects can be evaluated

within the EIR-analysis period. This approach can be considered conservative in that citywide growth to the year 2020 is assumed to exceed the ABAG projections for Oakland. This approach for cumulative analysis in Oakland EIRs was discussed with and accepted by the Alameda County CMA.

CHRONOLOGY OF SCENARIO DEVELOPMENT

The cumulative growth scenario for Oakland was originally prepared and continues to be updated by Hausrath Economics Group (HEG) working closely with City of Oakland staff. The scenario was first completed in November 2000. Since that time, the scenario has been updated and refined for different parts of the City as needed for EIR analyses and planning efforts. In June 2001, the scenario was updated in the Oakland Airport/Coliseum area for use in cumulative impact analyses for the *Metroport Project EIR*. The scenario was further updated in August 2001, focusing on the area surrounding the Leona Quarry Project for use in the cumulative analyses for the *Leona Quarry Project EIR*. Subsequently, the scenario was again updated as of January 2002 for use in the cumulative impact analyses for this EIR. The January 2002 Updated Scenario was refined and updated in the Oakland Army Base (OARB) Redevelopment Project Area and in the harbor and West Oakland areas surrounding the redevelopment project area. The updated cumulative growth scenario as of January 2002 builds on the original November 2000 scenario and incorporates the updates from the June 2001 and August 2001 scenarios.

UPDATED GROWTH SCENARIO FOR OAKLAND

Updated Growth Scenario for *Oakland Army Base Redevelopment Project EIR*

The cumulative growth scenario for Oakland identifies households, population, and employment. Employment is disaggregated into four types: service, retail, manufacturing, and other, as required for use in the Alameda County CMA travel model. The projections are allocated to the

large number of traffic analysis zones identified throughout the city.[1] Building on the 1990 base year, future scenarios are developed for the years 2005 and 2020, consistent with the analysis years in the CMA travel model.

The Updated Cumulative Growth Scenario for Oakland prepared for the *OARB Redevelopment Project EIR*, is summarized in Table 1. The scenario includes the OARB Redevelopment Project Area as well as the rest of the city.

TABLE 1
UPDATED CUMULATIVE GROWTH SCENARIO
FOR OAKLAND, AS OF JANUARY 2002

	1990 /a/	2005	2020	Growth, 1990-2020
Households	144,520	152,260	158,120	+13,600
Household Population /b/	364,360	435,140	448,500	+84,140
Total Population /b/	371,440	443,250	457,260	+85,820
Employed Residents /b/	163,520	185,950	225,840	+62,320
Total Employment	170,230	204,990	240,220	+69,990
Manufacturing	18,890	18,020	19,740	+850
Other /c/	67,380	76,730	86,410	+19,030
Retail	23,180	23,630	26,460	+3,280
Service	60,780	86,610	107,610	+46,830

/a/ From Alameda County CMA Travel Demand Model.
/b/ Projections for 2005 and 2020 incorporate changes in demographic characteristics of the population in the existing housing stock in Oakland as evidenced in the persons per household and employed persons per household factors from ABAG *Projections 2000*. The demographic characteristics of residents of new housing to be built in Oakland by 2005 and 2020 were separately estimated by Hausrath Economics Group.
/c/ Includes employment in finance, insurance, real estate (FIRE); government; construction; transportation, communications, and utilities (TCU); wholesale; and agriculture and mining.

Source: Hausrath Economics Group based on approach and methodology described in this appendix.

[1] The traffic analysis zones (TAZs) are subdivisions of Census Tracts identified for transportation analysis and used in the CMA travel demand model.

Following the approach described earlier, the analysis evaluated how the amount and type of growth represented by future development projects identified by the City and Port "fit" within the ABAG projections for Oakland. ABAG *Projections 2000* were used as they were the most current at the time of the analysis. Other changes in population and employment also were accounted for. Other additions to population and employment included those resulting from increased occupancies of existing buildings, the re-leasing of space vacated by existing businesses/government activities relocating to newly developed projects, the renovation of space that had previously sat vacant, and the conversion of space in existing buildings to more intensive uses. Reductions in population and employment included changes as a result of base closures, displacements by new development projects, and the movement of some types of businesses out of the area due to increasing rents and land values as well as other factors.

The results of the analysis indicated that citywide totals for employment, households, and population in Oakland had to be higher than the ABAG totals to accommodate all the identified projects for Oakland as well as other changes anticipated by 2020. Further, the distribution of growth to TAZs within the city also had to be modified to reflect the locations of recent growth and identified projects likely to be developed during the projection period.

Comparison with ABAG Projections

The Updated Growth Scenario for Oakland is compared in Table 2 (on next page) with the ABAG projections for Oakland as incorporated into the Alameda County CMA Travel Demand Model. The ABAG *Projections 2000* series is currently used in the CMA model, and was also the series that provided the basis for the updated growth scenario for Oakland. The ABAG *Projections '98* series also is shown in the table, as the '98 projections provided the land use/growth assumptions in the travel model through March 2001, at the time that the growth scenario for Oakland was originally prepared in November 2000 (and at the time that it was determined that another growth scenario besides ABAG was needed for EIR analysis purposes in Oakland).

TABLE 2
UPDATED CUMULATIVE GROWTH SCENARIO FOR
***OARB REDEVELOPMENT PROJECT EIR* AND**
ABAG/CMA PROJECTIONS FOR OAKLAND

	1990 /a/	2005	2020	Growth 1990-2020
Employment				
Updated Growth Scenario /b/	170,230	204,990	240,220	+69,990
ABAG *Projections 2000* /c/	170,230	204,760	220,570	+50,340
ABAG *Projections '98* /d/	170,230	180,950	195,370	+25,140
Households				
Updated Growth Scenario /b/	144,520	152,260	158,120	+13,600
ABAG *Projections 2000* /c/	144,520	149,080	152,050	+7,530
ABAG *Projections '98* /d/	144,520	144,440	147,580	+3,060
Household Population				
Updated Growth Scenario /b/	364,360	435,140	448,500	+84,140
ABAG *Projections 2000* /c/	364,360	429,090	436,060	+71,700
ABAG *Projections '98* /d/	364,360	388,140 /e/	389,940 /e/	+25,580

/a/ From Alameda County Congestion Management Agency Travel Demand Model.
/b/ Updated Cumulative Growth Scenario for use in *OARB Redevelopment Project EIR*, prepared for the City of Oakland in January 2002 by Hausrath Economics Group.
/c/ ABAG *Projections 2000*, as included in the Alameda County CMA travel demand model, as of the preparation of this EIR and from March 2001 through at least mid-2002.
/d/ ABAG *Projections '98*, as included in the Alameda County CMA travel demand model, as of the preparation of the original November 2000 Cumulative Growth Scenario for Oakland.
/e/ Estimated based on data for total population in the CMA model, by subtracting population in group quarters.

Source: Hausrath Economics Group based on sources identified above.

The updated growth scenario compares to the ABAG projections (*Projections 2000*) as follows:

- **Employment**: The economic activity represented by recent growth and near-term growth and development projects in Oakland is consistent with the ABAG *Projections 2000* for Oakland for the year 2005. However,

employment growth accommodated by identified major development projects and other anticipated changes, over the longer term, would exceed the growth for Oakland reflected in the ABAG projections for 2020. Accounting for the higher long-term growth, the Updated Cumulative Growth Scenario reflects higher total employment in Oakland in 2020 than anticipated by ABAG, about nine percent higher.

- **Households and Population**: Housing built in Oakland from 1990 to 2000, housing currently under development in Oakland, and housing anticipated to be developed in the future would accommodate more household growth than reflected by ABAG *Projections 2000* in both the shorter term (2005) and longer term (2020) horizons. In 2020, the Updated Cumulative Growth Scenario includes about four percent more households and about three percent higher population in Oakland than anticipated by ABAG.

The differences in employment and households in Oakland in 2020 between the updated growth scenario and ABAG *Projections 2000* are not large (about four percent more households, three percent more population, and nine percent more jobs in 2020). These differences could indicate that growth, now allocated by ABAG to other communities in the region, would instead occur in Oakland (particularly the difference in employment growth). It also could mean that growth in the region would be higher than anticipated by ABAG (particularly the difference in household and population growth due to more housing development). Higher growth in Oakland, however, (as represented by the updated growth scenario) would represent only a very small difference for the region overall.

List of Foreseeable Future Development Projects

Tables 8a, 8b, and 8c, at the end of this appendix, provide background on the projects identified by the City of Oakland, the Port of Oakland, and Hausrath Economics Group for consideration in the growth scenario. The tables include major projects completed since the 1990 base year,

projects under construction, approved and proposed projects, as well as major potential projects under consideration and anticipated to be developed by 2020. There are three tables dividing the list of projects into three parts, including housing projects (Table 8a), commercial/industrial projects outside downtown (Table 8b), and commercial/industrial projects in downtown Oakland (Table 8c). The tables are organized according to the time period by which projects are assumed to be built and occupied by employment or population. In most cases, the project assumptions identified on the lists describe the new development; they do not identify existing uses and activities on the development site that would be removed for development, although the latter are accounted for in the growth scenario.

The projects on the lists all "fit" within the updated cumulative growth scenario prepared for this EIR. As explained above, the scenario also includes other changes in land use and in employment and population besides those due to the development of projects on the lists. Thus, the lists alone do not equate to the changes over time reflected by the growth scenario.

The amounts of household, population, and employment growth reflected by the updated growth scenario and those represented by projects on the lists, are more important than the specific projects identified. It is to be expected that the projects on the lists will change over time, and some will be added while others will be deleted. The lists reflect the best information at the time of the analysis. The growth scenario itself can remain valid as changes occur over time in the specifics of the development projects anticipated for the city.

THE PROJECT AREA AND SURROUNDING AREAS

Detailed analysis was undertaken to refine and update the employment, household, and population estimates and projections for the OARB Redevelopment Project Area and for surrounding harbor areas and West Oakland, in line with current business and maritime operations, recently released 2000 Census data, and current projects and plans for future development. Estimates and projections were developed for 1990 (based on data in the CMA travel demand model), 2000, 2005, and 2020.

Substantial effort was given to refining and updating the estimates and projections for the OARB Redevelopment Project Area. Both the interim leasing and eventual reuse/redevelopment of the former Army Base were quantified. The traffic analysis zones (TAZs) from the Alameda County CMA travel model were split into many, smaller TAZs requiring more detailed analysis for smaller areas. (The new, split TAZs allowed for improved transportation analysis in the maritime areas and on the former Army Base, and were needed to reflect the new Cypress/I-880 freeway.) The following summarizes the sources for key inputs and assumptions for the refined/updated estimates and projections for the OARB Redevelopment Project Area:

- **Army Base:** Assumptions for interim leasing (2000 and 2005) and eventual reuse/redevelopment (2020) of the former Army Base were provided by City of Oakland, OBRA, and Port of Oakland staffs and consultants.

- **Port Maritime:** Estimates and projections of Port maritime operations and employment within the project area (by TAZ) were developed by Hausrath Economics Group based on inputs from Port of Oakland staff, including maritime cargo data and projections, maritime employment estimates from the Port's economic impact model, Port facility development plans set forth in Port and *Bay Area Seaport Plan* documents, and inputs regarding likely maritime activity/operations during the interim year 2005. Inputs to define rail/intermodal uses and employment were provided by Dowling Associates.

- **16th and Wood:** Future development assumptions were provided by City of Oakland staff and consultants.

Analysis also was done to refine and update the estimates and projections for the surrounding harbor areas and West Oakland (as bounded by the project area on the west and south, the Oakland/Emeryville border and I-580 on the north, I-980 and MLK Jr. Blvd. on the east). The data for households, population, and employment in the surrounding areas as included in the November 2000 Growth Scenario and the ABAG/CMA data were evaluated and updated in light

of land uses and activities currently in these areas, and of development projects and other changes identified by the City of Oakland and Hausrath Economics Group.

The updated growth scenario for the project area and surrounding areas is summarized in Table 3. (The data for the project area and surrounding areas in Table 3 are included in the citywide totals for Oakland in Tables 1 and 2.)

TABLE 3
UPDATED GROWTH SCENARIO FOR OARB REDEVELOPMENT PROJECT AREA AND SURROUNDING HARBOR AREAS AND WEST OAKLAND

	1990	2000	2005	2020	Change 1990-2020	Change 2000-2020
Employment						
OARB Redevelopment Project Area	4,500	3,340	4,180	13,920	+9,420	+10,570
Surrounding Harbor Areas and West Oakland /a/	16,600	16,260	17,670	19,890	+3,290	+3,630
Total Harbor Area and West Oakland	21,100	19,600	21,850	33,810	+12,710	+14,200
Households						
OARB Redevelopment Project Area	sm	sm	360	360	+360	+360
Surrounding Harbor Areas and West Oakland /a/	8,680	8,400	9,320	10,180	+1,500	+1,780
Total Harbor Area and West Oakland	8,680	8,400	9,680	10,540	+1,860	+2,140
Household Population						
OARB Redevelopment Project Area	sm	sm	860	860	+860	+860
Surrounding Harbor Areas and West Oakland /a/	23,170	23,620	28,170	29,980	+6,810	+6,360
Total Harbor Area and West Oakland	23,170	23,620	29,030	30,840	+7,670	+7,220

sm = small (less than 10).

/a/ Surrounding harbor areas include land just north of the project area along I-80/580 and the Toll Plaza and the EBMUD facilities, as well as the UPRR tracks and yard area south of 7th Street, between I-880 and Middle Harbor Road. The surrounding West Oakland area includes the area to the east and north of the project area and bounded by the Oakland/Emeryville border, I-580, I-980, and MLK Jr. Blvd.

NOTE: More detailed versions of these estimates and projections, and background on assumptions are presented in the tables and maps included at the end of this appendix. See Tables 5a, 5b, 5c; Figures 1 and 2; Tables 6a-6h; and Tables 7a, 7 b, 7c.

Sources: City of Oakland, Oakland Base Reuse Authority, and Port of Oakland staffs and consultants; Hausrath Economics Group.

The following briefly summarizes the changes reflected in the updated growth scenario:

- **OARB Redevelopment Project Area:** Initially, employment declines in the Project Area as the Army Base is closed and access to the area is affected by the Loma Prieta earthquake and construction of the new I-880 freeway. Thereafter, employment increases as a result of interim leasing of the former Army Base facilities (by 2000 and 2005), eventual redevelopment of the former Base property (by 2020), growth and expansion of Port maritime cargos and operations, and redevelopment of properties along the new freeway in the 16th and Wood area (accommodating new households as well as employment growth).

- **Surrounding Harbor Areas and West Oakland:** Some growth of employment and of households and population is anticipated in the surrounding West Oakland area in the future. Employment growth is anticipated as a result of new development at the northern end of the area bordering Emeryville and from the intensification of uses in existing buildings as well as some new development along and around the Mandela Parkway after it is improved and connected to Hollis St. in Emeryville. Intensification of activity also is expected in the largely industrial/commercial areas south of I-880 to the east of the Jack London District. The eventual reuse/redevelopment of old, outmoded industrial facilities in the more central parts of West Oakland also is expected. Residential development will continue in West Oakland as older public housing is improved and upgraded, as a result of loft development and conversions, as additional affordable housing is built, and as housing is developed around the West Oakland BART station.

Tables presented at the end of this appendix provide more detailed versions of the estimates and projections for the redevelopment project area and surrounding areas and more background on assumptions. Tables 5a, 5b, and 5c detail the development assumptions and employment and household projections for the redevelopment project area in 2020. They assume completion of the proposed reuse/redevelopment of the former Oakland Army Base. A map is provided in

Figure 1 to identify the boundaries of the new TAZs within the redevelopment project area used for developing the space and employment/household projections. Tables 6a through 6h present the TAZ-level database of employment, households, and population that was developed for the redevelopment project area and the surrounding harbor areas and West Oakland. The map in Figure 2 identifies the boundaries of the surrounding West Oakland area and of the TAZs within that area.

Finally, the current list of development projects and other growth assumptions identified for the redevelopment project area and surrounding areas is detailed in Tables 7a and 7b, including commercial/industrial projects and housing projects. (All the items on these lists also are included on the citywide lists in Tables 8a and 8b.) The projects on the lists all "fit" within the updated cumulative growth scenario. As explained earlier, the scenario also includes other changes in land use and in employment and population besides those identified for development projects on the lists.

GROWTH IN THE REST OF ALAMEDA COUNTY AND BAY AREA REGION OUTSIDE OAKLAND

The growth scenario used for the cumulative transportation analysis for this EIR assumes growth in employment, households, and population as projected by ABAG and included in the CMA travel model for the rest of Alameda County and Bay Area region outside of Oakland. As a part of this and other Oakland EIRs, separate consultations were undertaken with the cities of Emeryville, Alameda, and San Leandro, to confirm that use of the ABAG/CMA land use/growth projections would adequately capture anticipated growth in each city, and that alternative assumptions or an alternative scenario were not needed for those cities.[2]

At the time the transportation analysis was conducted for this EIR, the latest CMA travel demand model extended beyond 2020 to 2025, and included horizon years 2005 and 2025 for use in

[2] Contacts made by Hausrath Economics Group with representatives from each of these cities included the following: contact with Matt Tomas, long-range planner with the City of San Leandro on May 8, 2001; contact with Cynthia Eliason, City of Alameda Planning Department on May 23, 2001; and contact with Diana Murrell, City of Emeryville Planning Department on May 24, 2001 and on earlier dates.

analyses for the CMA. The land use data for Oakland in the 2025 CMA model, however, showed lower employment, households, and population than reflected in the 2020 projections provided by the updated growth scenario for Oakland (summarized herein). To provide consistency with both the updated growth scenario for Oakland and the CMA model data, the Oakland data in the model for 2025 were replaced with the higher 2020 projections for Oakland from the updated growth scenario developed for this EIR. The data in Table 4 below summarize the projections for Alameda County for 2005, 2020, and 2025, assuming the updated growth scenario for Oakland and the ABAG/CMA projections for the rest of Alameda County.

TABLE 4
FUTURE CUMULATIVE CONTEXT FOR ALAMEDA COUNTY

	2005	2020	2025
Employment	781,240	964,470	1,008,740
Households	537,980	583,450	597,510
Household Population	1,528,030	1,631,080	1,665,030
Employed Residents	747,460	871,120	904,820

Note: Projections for Alameda County assume: (a) Updated Cumulative Growth Scenario for Oakland, January 2002, using the same, long-term growth scenario for 2020 and 2025, as the Oakland projections are higher than those in the CMA model for both years; and (b) ABAG/CMA projections in the Alameda County CMA Travel Demand Model as of January-March 2002, for the rest of Alameda County.

Sources: Alameda County CMA Travel Demand Model; Dowling Associates; City of Oakland; Hausrath Economics Group.

Table 5a: OARB Redevelopment Project Area and Nearby Harbor Areas - 2020 SPACE

Subarea	NEW TAZ	Warehouse/ Distr. (sq.ft.)	Lt. Industrial (sq.ft.)	R&D/Flex Ind'l-Office (sq.ft.)	Office/R&D (sq.ft.)	Office (sq.ft.)	Retail (sq.ft.)	Other (sq.ft.)	Total Non Residential (sq.ft.)	Residential (units)	Park (acres)	Terminals (acres)	AMS (acres)	Rail Intermodal (track feet)
OARB Gateway														
North	778	300,000							**300,000**				15	
East	779			200,000					**200,000**					
East/a/	780			176,000				50,000	**226,000**					
Central	781		444,000	552,000			25,000		**1,021,000**					
West	782					600,000			**600,000**		15			
Subtotal		**300,000**	**444,000**	**928,000**	-	**600,000**	**25,000**	**50,000**	**2,347,000**	-	**15**	-	**15**	-
OARB Port Maritime /b/														
	783													
	788													
	789													28,700
Subtotal		-	-	-	-	-	-	-	-	-	-	-	-	**28,700**
Port Maritime														
	784											295		
	785											205		
	67												75	
	786											330		
	787											121		
	482/f/											109		
	793												15	
Subtotal		-	-	-	-	-	-	-	-	-	-	**1,060**	**90**	-
16th and Wood														
Central Station /c,d/	476				981,235	57,345	1,320	11,614	**1,051,514**	252				
Central Station /c,d/	792				386,065				**386,065**	124				
Rest of Subarea/e/	476			120,000					**120,000**	-				
Rest of Subarea/e/	477			185,000					**185,000**					
Subtotal		-	-	**305,000**	**1,367,300**	**57,345**	**1,320**	**11,614**	**1,742,579**	**376**	-	-	-	-
TOTAL PROJECT AREA		**300,000**	**444,000**	**1,233,000**	**1,367,300**	**657,345**	**26,320**	**61,614**	**4,089,579**	**376**	**15**	**1,060**	**105**	**28,700**
EBMUD/Bridge	777/59													
UPRR	790													22,250

NOTES:

/a/ Other space in TAZ 780: Job Training/JATC, Homeless Collaborative.

/b/ Rail intermodal in TAZ 789 is JIT.

/c/ TAZ 476: Office, retail, and other space is the Train Station containing space for community room, offices for non-profits, cafe/food services, and circulation and service.

/d/ TAZs 476 and 792: Central Station project description as of 3/19/01 from ESA.

/e/ Includes Phoenix Ironworks site and other property in subarea. Development could be light industrial or R&D/flex-industrial/office space.

/f/ Includes 49 acres for Howard Terminal and 60 acres for Schnitzer Steel.

Table 5b: OARB Redevelopment Project Area and Nearby Harbor Areas - EMPLOYMENT DENSITY FACTORS								
Subarea	NEW TAZ	Warehouse/ Distr. (sq.ft.)	Lt. Industrial (sq.ft.)	R&D/Flex Ind'l-Office (sq.ft.)	Office/R&D (sq.ft.)	Office (sq.ft.)	Retail (sq.ft.)	Other (sq.ft.)
OARB Gateway (employment per 1000 SF gross building space - g. borchard associates)								
North	778	0.80						
East	779			2.50				
East	780			2.50				2.00
Central	781		2.50	2.50			2.80	
West	782					3.75		
Subtotal								
OARB Port Maritime								
	783							
	788							
	789							
Subtotal								
Port Maritime								
	784							
	785							
	67							
	786							
	787							
	482							
	793							
Subtotal								
16th and Wood (gross building space per employee - Hausrath Economics Group)								
Central Station	476				350	400	200	-
Central Station	792				350			
Rest of Subarea	476			400				
Rest of Subarea	477			400				
Subtotal								
TOTAL PROJECT AREA								
EBMUD/Bridge	777/59							
UPRR	790							

Table 5c: OARB Redevelopment Project Area and Nearby Areas - 2020 EMPLOYMENT AND HOUSEHOLDS

Subarea	NEW TAZ	Warehouse/ Distr.	Lt. Industrial	R&D/Flex Ind'l-Office	Office/R&D	Office	Retail	Other	Total Non Residential	Residential Households	Park	Terminals/g/	AMS/h/	Rail Intermodal/i/	TOTAL JOBS
OARB Gateway															
North	778	240							**240**				60		300
East	779			500					**500**						500
East/a/	780			440				100	**540**						540
Central	781		1,110	1,380			70		**2,560**						2,560
West	782					2,250			**2,250**		-				2,250
Subtotal		**240**	**1,110**	**2,320**	**-**	**2,250**	**70**	**100**	**6,090**	**-**	**-**	**-**	**60**	**-**	**6,150**
OARB Port Maritime /b/															
	783														-
	788														-
	789													188	188
Subtotal		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**188**	**188**
Port Maritime															
	784											668			668
	785											464			464
	67												300		300
	786											747			747
	787											274			274
	482/f/											247			247
	793												60		60
Subtotal		**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**2,400**	**360**	**-**	**2,760**
16th and Wood /c,d/															
Central Station /c,d/	476				2,804	143	7	-	**2,954**	240					2,954
Central Station /c,d/	792				1,103				**1,103**	118					1,103
Rest of Subarea/e/	476			300					**300**	-					300
Rest of Subarea/e/	477			463					**463**						463
Subtotal		**-**	**-**	**763**	**3,907**	**143**	**7**	**-**	**4,820**	**358**	**-**	**-**	**-**	**-**	**4,820**
TOTAL PROJECT AREA		**240**	**1,110**	**3,083**	**3,907**	**2,393**	**77**	**100**	**10,910**	**358**	**-**	**2,400**	**420**	**188**	**13,918**
EBMUD/Bridge	777/59							350	**350**						350
UPRR	790													146	146
														GRAND TOTAL JOBS	**14,414**

NOTES:

/a/ Other space in TAZ 780: Job Training/JATC, Homeless Collaborative.

/b/ Rail intermodal in TAZ 789 is JIT.

/c/ TAZ 476: Office, retail, and other space is the Train Station containing space for community room, offices for non-profits, cafe/food services, and circulation and service.

/d/ TAZs 476 and 792: Central Station project description as of 3/19/01 from ESA.

/e/ Includes Phoenix Ironworks site and other property in subarea. Development could be light industrial or R&D/flex-industrial/office space.

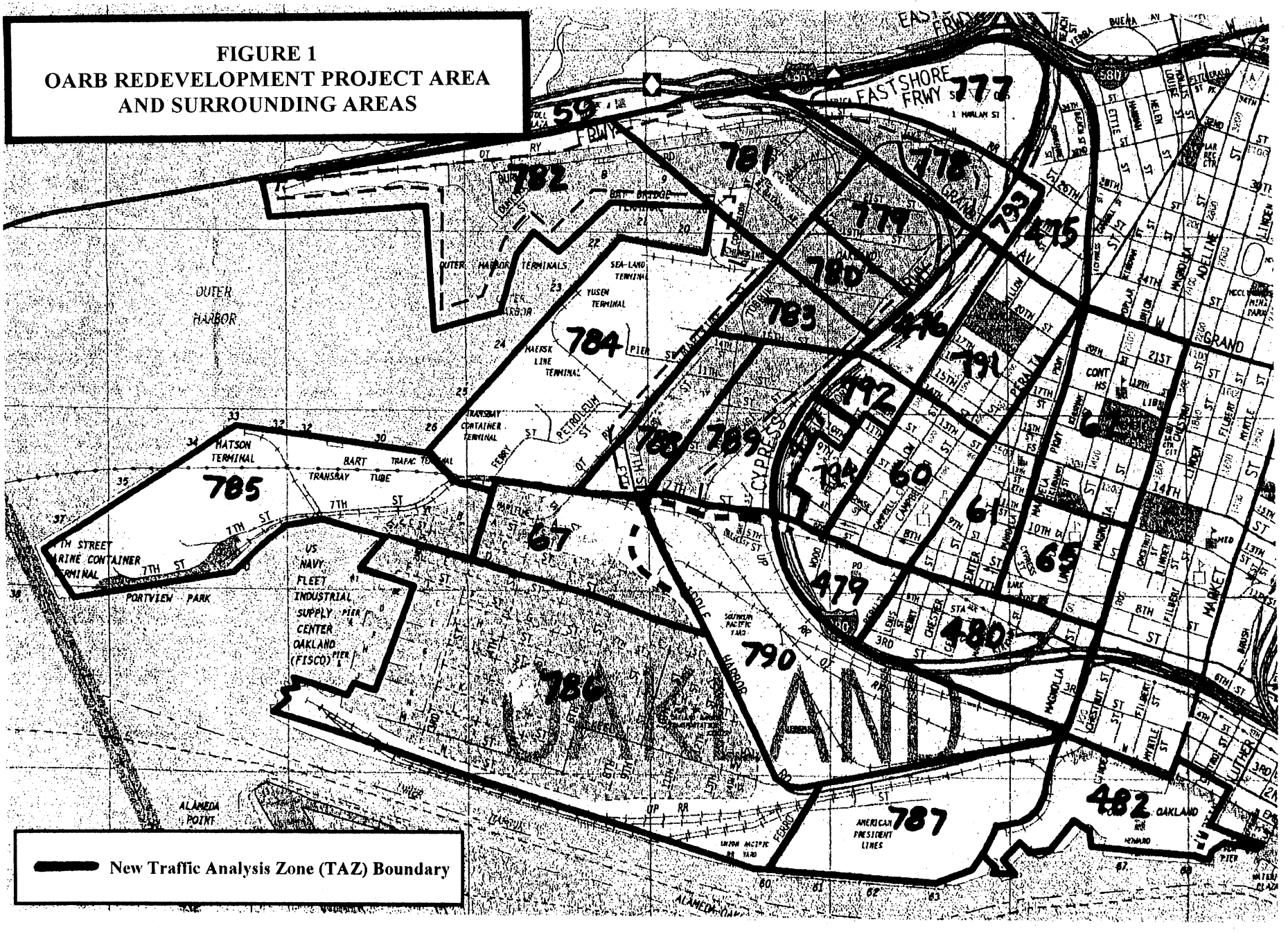
/f/ Includes 49 acres for Howard Terminal and 60 acres for Schnitzer Steel.

/g/ Employment at marine terminals averages approximately 2.26 employees per acre in 2020.

/h/ AMS employment averages 4 employees per acre in 2020.

/i/ Rail/intermodal employment from Dowling Associates, and averages 6.56 employees per thousand track-feet.

FIGURE 1
OARB REDEVELOPMENT PROJECT AREA
AND SURROUNDING AREAS



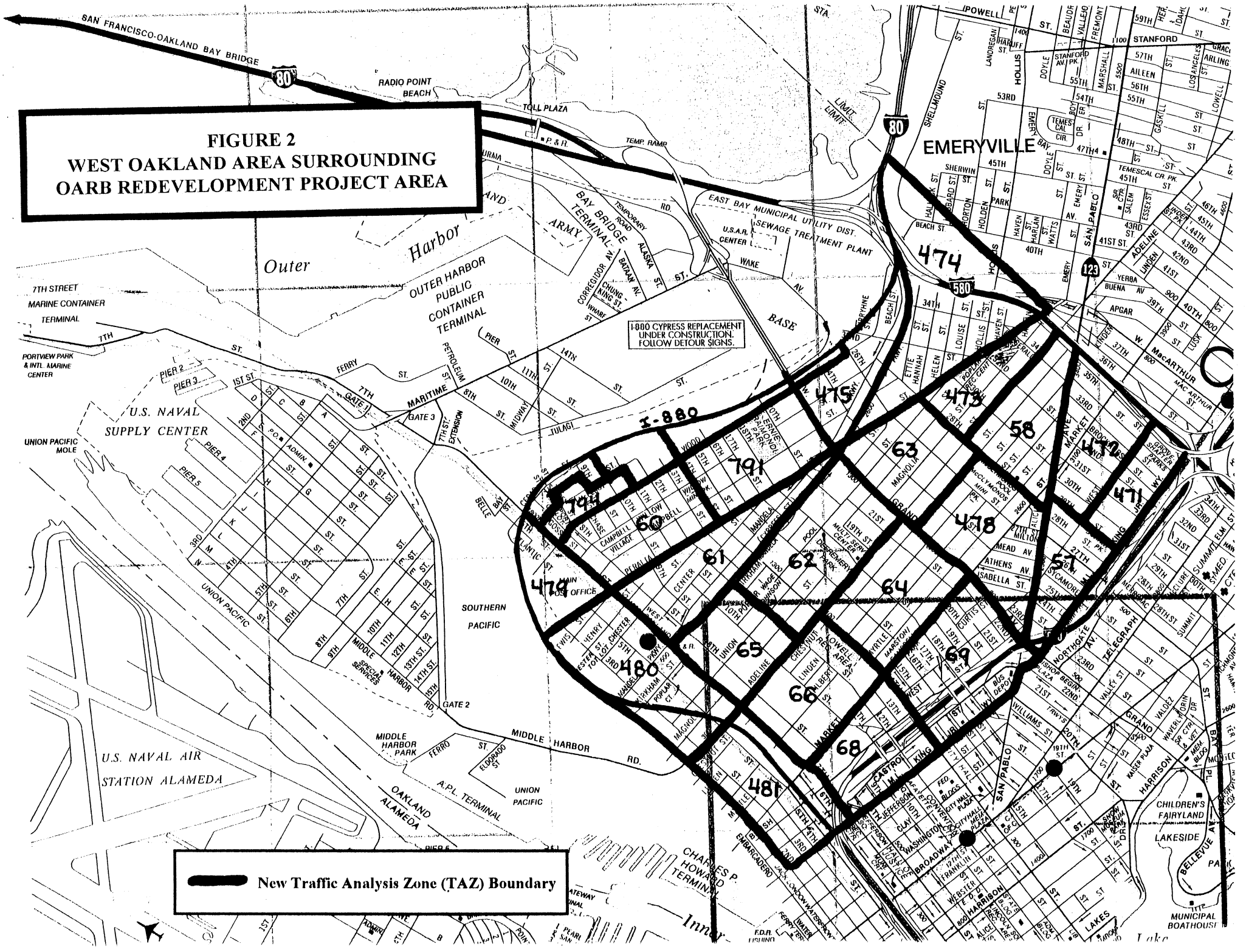


FIGURE 2
WEST OAKLAND AREA SURROUNDING
OARB REDEVELOPMENT PROJECT AREA
SAN FRANCISCO-OAKLAND BAY BRIDGE
80
RADIO POINT BEACH
TOLL PLAZA
P. & R.
TEMP. RAMP
EAST BAY MUNICIPAL UTILITY DIST. SEWAGE TREATMENT PLANT
U.S.A.R. CENTER
WAKE AV.
BAY BRIDGE TERMINAL
ARMY
TEMPORARY ROAD
RD.
BATAAN AV.
ALASKA ST.
CORREGIDOR AV.
CHUNG KING ST.
WHARF
ST.
Outer Harbor
OUTER HARBOR PUBLIC CONTAINER TERMINAL
7TH STREET MARINE CONTAINER TERMINAL
PORTVIEW PARK & INTL. MARINE CENTER
PIER 2
PIER 3
PIER 4
PIER 5
1ST ST.
7TH ST.
FERRY ST.
GATE 1
GATE 2
GATE 3
MARITIME ST.
7TH ST. EXTENSION
PETROLEUM
PIER ST.
14TH ST.
11TH ST.
10TH ST.
8TH ST.
MIDWAY ST.
JULIAN ST.
I-880 CYPRESS REPLACEMENT UNDER CONSTRUCTION. FOLLOW DETOUR SIGNS.
BASE
U.S. NAVAL SUPPLY CENTER
ADMIN.
UNION PACIFIC MOLE
UNION PACIFIC
SOUTHERN PACIFIC
SPECIAL SERVICES
HARBOR
MIDDLE HARBOR RD.
MIDDLE HARBOR PARK
FERRO ST.
ELDORADO ST.
A.P.L. TERMINAL
UNION PACIFIC
U.S. NAVAL AIR STATION ALAMEDA
OAKLAND
ALAMEDA
CHARLES P. HOWARD TERMINAL
EMBARCADERO
I-880
EMERYVILLE
SHELLMOUND
HOLLIS
DOYLE
STANFORD AV. PK.
55TH
MARSHALL
53RD
54TH
55TH
56TH
57TH
AILEEN
59TH
STANFORD
EMERY BAY
TEMESCAL CIR
DR.
47TH
48TH ST.
45TH
SHERWIN
BOARD ST.
NORTON
HOLDEN PARK
HAVEN
MARLIN
WATTS
SAN PABLO
41ST ST.
40TH
43RD ST.
TEMESCAL CR. PK.
451TH
ESSEX ST.
SALEM
ADELINE
LINDEN
YERBA BUENA AV
APGAR
MacARTHUR
MAC ARTHUR ST.
474
580
123
475
475A
476
476A
477
478
479
480
481
58
63
64
65
66
68
69
791
791A
60
61
62
57
471
471A
POPLAR REC. CENTER
McCLYMONDS MINI PK.
McCLYMONDS POOL
GRAVES PARK
MEAD AV.
ATHENS AV.
ISABELLA ST.
CAMORO
MULTI-SERV CENTER
DESCHUMEN PARK
POST OFFICE
LOWELL AREA
BUS DEPOT
TELEGRAPH
NORTHGATE AV.
BISHOP LAZA
BEGIN 22ND
CASTRO
KING
SAN PABLO
HARRISON
KAISER PLAZA
CITY HALL PLAZA
FED. BLDGS.
CIVIC CTR.
CHILDREN'S FAIRYLAND
LAKESIDE
BELLEVUE
MUNICIPAL BOATHOUSE
New Traffic Analysis Zone (TAZ) Boundary

Table 6a

1990 REVISED HEG CUMULATIVE OAKLAND LAND USE DATA FOR THE HARBOR AREA AND WEST OAKLAND - OARB REDEVELOPMENT PROJECT EIR

OLD TAZ	NEW TAZ	CENSUS TRACT	PLAN DIST	SUB AREA	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
475	778	401700	HB	OARBGW	0	0	0	0	0	0	20	0	0	20	29557
476	779	401700	HB	OARBGW	0	0	0	0	0	0	94	0	0	94	29557
476	780	401700	HB	OARBGW	0	0	0	0	0	0	550	0	0	550	29557
67	781	401700	HB	OARBGW	0	0	0	0	0	0	229	0	0	229	29557
67	782	401700	HB	OARBGW	0	0	0	0	0	0	149	0	0	149	29557
				Total OARBGW	**0**	**0**	**0**	**0**	**0**	**0**	**1042**	**0**	**0**	**1042**	
476	783	401700	HB	OARBPORT	0	0	0	0	0	0	47	0	0	47	29557
477	788	401700	HB	OARBPORT	0	0	0	0	0	0	474	60	100	634	29557
477	789	401700	HB	OARBPORT	0	0	0	0	0	0	370	0	34	404	29557
				Total OARBPORT	**0**	**0**	**0**	**0**	**0**	**0**	**891**	**60**	**134**	**1085**	
67	67	401900	HB	PORT	2	2	5	1	6	0	100	0	0	100	29425
482	482	402000	HB	PORT	0	0	0	0	0	130	115	0	0	245	63950
67	784	401700	HB	PORT	0	0	0	0	0	0	459	0	0	459	29557
67	785	401900	HB	PORT	0	0	0	0	0	0	522	0	0	522	29425
67	786	401900	HB	PORT	0	0	0	0	0	0	450	0	0	450	29425
482	787	402000	HB	PORT	0	0	0	0	0	0	314	0	0	314	63950
475	793	401700	HB	PORT	0	0	0	0	0	0	30	0	0	30	29557
				Total PORT	**2**	**2**	**5**	**1**	**6**	**130**	**1990**	**0**	**0**	**2120**	
476	476	401700	HB	16_WOOD	0	0	0	0	0	0	20	0	0	20	29557
477	477	401700	HB	16_WOOD	0	0	0	0	0	38	44	0	10	92	29557
477	792	401700	HB	16_WOOD	0	0	0	0	0	40	100	0	0	140	29557
				Total 16_WOOD	**0**	**0**	**0**	**0**	**0**	**78**	**164**	**0**	**10**	**252**	
				Subtotal OARB Redevelopment Project Area	**2**	**2**	**5**	**1**	**6**	**208**	**4087**	**60**	**144**	**4499**	
67	790	401900	HB	UPRR	0	0	0	0	0	0	80	0	0	80	29425
59	59	401700	HB	EBMUD/BR	0	0	0	0	0	0	140	0	0	140	29557
475	777	401700	HB	EBMUD/BR	0	0	0	0	0	0	170	0	0	170	29557
				TOTAL HARBOR AREA	**2**	**2**	**5**	**1**	**6**	**208**	**4477**	**60**	**144**	**4889**	
57	57	401400	WO		275	386	1106	11	1117	62	143	80	267	552	22634
58	58	401500	WO		376	484	1258	0	1258	126	146	31	282	585	28445
60	60	401800	WO		432	652	1853	4	1857	82	182	72	103	439	24170
61	61	402200	WO		343	556	1576	0	1576	4	245	0	43	292	18355
62	62	402300	WO		112	146	346	5	351	397	1076	61	142	1676	36957
63	63	401600	WO		64	106	227	2	229	326	163	0	315	804	20270
64	64	402400	WO		620	948	2062	2	2064	100	1081	351	86	1618	27344
65	65	402100	WO		295	611	1744	0	1744	32	194	152	44	422	18206
66	66	402500	WO		483	804	2245	6	2251	0	313	1	351	665	17641
68	68	402600	WO		424	667	1301	32	1333	41	65	47	89	242	20953
69	69	402700	WO		517	582	1524	23	1547	91	226	67	158	542	24009
471	471	401400	WO		385	541	1432	15	1447	31	23	40	0	94	22634
472	472	401400	WO		427	600	1602	17	1619	62	143	40	267	512	22634
473	473	401500	WO		177	228	650	0	650	126	146	3	282	557	28445
474	474	401700	WO		205	211	667	9	676	234	166	53	320	773	29557
475	475	401700	WO		0	0	0	0	0	254	485	8	250	997	29557
478	478	401600	WO		301	499	1605	11	1616	140	259	87	473	959	20270
479	479	401900	WO		2	2	7	1	8	0	1793	0	0	1793	29425
480	480	401900	WO		206	227	695	67	762	281	302	10	217	810	29425
481	481	402000	WO		34	11	34	0	34	138	254	40	330	762	63950
476	791	401700	WO		122	126	367	6	373	214	646	20	220	1100	29557
477	794	401700	WO		285	294	868	13	881	0	0	0	20	20	29557
				TOTAL WEST OAKLAND	**6085**	**8681**	**23169**	**224**	**23393**	**2741**	**8051**	**1163**	**4259**	**16214**	
				TOTAL HARBOR AREA AND WEST OAKLAND	**6087**	**8683**	**23174**	**225**	**23399**	**2949**	**12528**	**1223**	**4403**	**21103**	

Source: Hausrath Economics Group

Table 6b

2000 REVISED HEG CUMULATIVE OAKLAND LAND USE DATA FOR THE HARBOR AREA AND WEST OAKLAND - OARB REDEVELOPMENT PROJECT EIR

OLD TAZ	NEW TAZ	CENSUS TRACT	PLAN DIST	SUB AREA	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
475	778	401700	HB	OARBGW	0	0	0	0	0	0	25	0	0	25	30900
476	779	401700	HB	OARBGW	0	0	0	0	0	20	188	12	12	232	30900
476	780	401700	HB	OARBGW	0	0	0	0	0	0	550	0	0	550	30900
67	781	401700	HB	OARBGW	0	0	0	50	50	0	45	0	0	45	30900
67	782	401700	HB	OARBGW	0	0	0	46	46	0	41	0	0	41	30900
				Total OARBGW	**0**	**0**	**0**	**96**	**96**	**20**	**849**	**12**	**12**	**893**	
476	783	401700	HB	OARBPORT	0	0	0	0	0	0	10	0	54	64	30900
477	788	401700	HB	OARBPORT	0	0	0	0	0	10	199	0	131	340	30900
477	789	401700	HB	OARBPORT	0	0	0	0	0	0	45	0	0	45	30900
				Total OARBPORT	**0**	**0**	**0**	**0**	**0**	**10**	**254**	**0**	**185**	**449**	
67	67	401900	HB	PORT	0	0	0	0	0	0	113	0	0	113	30000
482	482	402000	HB	PORT	0	0	0	0	0	130	134	0	0	264	68000
67	784	401700	HB	PORT	0	0	0	0	0	0	500	0	0	500	30900
67	785	401900	HB	PORT	0	0	0	0	0	0	569	0	0	569	30000
67	786	401900	HB	PORT	0	0	0	0	0	0	62	0	0	62	30000
482	787	402000	HB	PORT	0	0	0	0	0	0	333	0	0	333	68000
475	793	401700	HB	PORT	0	0	0	0	0	0	10	0	0	10	30900
				Total PORT	**0**	**0**	**0**	**0**	**0**	**130**	**1721**	**0**	**0**	**1851**	
476	476	401700	HB	16_WOOD	1	1	4	0	4	0	12	0	3	15	30900
477	477	401700	HB	16_WOOD	0	0	0	0	0	4	10	0	10	24	30900
477	792	401700	HB	16_WOOD	0	0	0	0	0	36	78	0	0	114	30900
				Total 16_WOOD	**1**	**1**	**4**	**0**	**4**	**40**	**100**	**0**	**13**	**153**	
				Subtotal OARB Redevelopment Project Area	**1**	**1**	**4**	**96**	**100**	**200**	**2924**	**12**	**210**	**3346**	
67	790	401900	HB	UPRR	0	0	0	0	0	0	127	0	0	127	30000
59	59	401700	HB	EBMUD/BR	0	0	0	0	0	0	160	0	0	160	30900
475	777	401700	HB	EBMUD/BR	0	0	0	0	0	0	170	0	0	170	30900
				TOTAL HARBOR AREA	**1**	**1**	**4**	**96**	**100**	**200**	**3381**	**12**	**210**	**3803**	
57	57	401400	WO		285	385	1285	280	1565	56	147	80	282	565	26000
58	58	401500	WO		553	683	1689	0	1689	116	151	31	292	590	32400
60	60	401800	WO		448	648	1950	3	1953	77	182	72	108	439	27700
61	61	402200	WO		373	579	1834	10	1844	4	240	0	43	287	21800
62	62	402300	WO		133	167	451	2	453	357	1056	61	152	1626	40700
63	63	401600	WO		74	117	314	5	319	296	163	0	355	814	21100
64	64	402400	WO		718	1054	2557	31	2588	91	1051	321	106	1569	31900
65	65	402100	WO		226	450	1153	8	1161	32	214	112	49	407	21500
66	66	402500	WO		394	630	1641	138	1779	0	313	1	371	685	20500
68	68	402600	WO		316	478	977	0	977	41	75	47	129	292	24000
69	69	402700	WO		603	652	1946	0	1946	86	226	67	168	547	27200
471	471	401400	WO		401	542	1526	0	1526	28	23	40	0	91	26000
472	472	401400	WO		416	561	1635	39	1674	56	147	40	277	520	26000
473	473	401500	WO		185	228	709	15	724	123	156	3	292	574	32400
474	474	401700	WO		257	254	742	0	742	164	140	183	320	807	30900
475	475	401700	WO		0	0	0	0	0	180	420	8	250	858	30900
478	478	401600	WO		269	427	1387	227	1614	120	259	87	493	959	21100
479	479	401900	WO		0	0	0	0	0	0	1618	0	0	1618	30000
480	480	401900	WO		211	223	758	1	759	201	202	20	197	620	30000
481	481	402000	WO		37	11	28	0	28	129	383	45	430	987	68000
476	791	401700	WO		142	140	464	0	464	190	496	20	220	926	30900
477	794	401700	WO		175	173	572	0	572	0	0	0	20	20	30900
				TOTAL WEST OAKLAND	**6216**	**8402**	**23618**	**759**	**24377**	**2347**	**7662**	**1238**	**4554**	**15801**	
				TOTAL HARBOR AREA AND WEST OAKLAND	**6217**	**8403**	**2362**	**855**	**24477**	**2547**	**11043**	**1250**	**4764**	**19604**	

Source: Hausrath Economics Group

Table 6c

2005 REVISED HEG CUMULATIVE OAKLAND LAND USE DATA FOR THE HARBOR AREA AND WEST OAKLAND - OARB REDEVELOPMENT PROJECT EIR

OLD TAZ	NEW TAZ	CENSUS TRACT	PLAN DIST	SUB AREA	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
475	778	401700	HB	OARBGW	0	0	0	0	0	2	44	0	0	46	33000
476	779	401700	HB	OARBGW	0	0	0	0	0	20	188	12	12	232	33000
476	780	401700	HB	OARBGW	0	0	0	0	0	24	732	12	24	792	33000
67	781	401700	HB	OARBGW	0	0	0	50	50	0	75	0	0	75	33000
67	782	401700	HB	OARBGW	0	0	0	46	46	0	108	0	0	108	33000
				Total OARBGW	**0**	**0**	**0**	**96**	**96**	**46**	**1147**	**24**	**36**	**1253**	
476	783	401700	HB	OARBPORT	0	0	0	0	0	0	71	0	70	141	33000
477	788	401700	HB	OARBPORT	0	0	0	0	0	10	263	0	283	556	33000
477	789	401700	HB	OARBPORT	0	0	0	0	0	0	30	0	0	30	33000
				Total OARBPORT	**0**	**0**	**0**	**0**	**0**	**10**	**364**	**0**	**353**	**727**	
67	67	401900	HB	PORT	0	0	0	0	0	0	202	0	0	202	31500
482	482	402000	HB	PORT	0	0	0	0	0	130	70	0	0	200	69000
67	784	401700	HB	PORT	0	0	0	0	0	0	520	0	0	520	33000
67	785	401900	HB	PORT	0	0	0	0	0	0	380	0	0	380	31500
67	786	401900	HB	PORT	0	0	0	0	0	0	392	0	0	392	31500
482	787	402000	HB	PORT	0	0	0	0	0	0	342	0	0	342	69000
475	793	401700	HB	PORT	0	0	0	0	0	0	10	0	0	10	33000
				Total PORT	**0**	**0**	**0**	**0**	**0**	**130**	**1916**	**0**	**0**	**2046**	
476	476	401700	HB	16_WOOD	385	241	580	0	580	0	12	0	4	16	80500
477	477	401700	HB	16_WOOD	0	0	0	0	0	10	16	0	15	41	33000
477	792	401700	HB	16_WOOD	189	118	283	0	283	36	66	0	0	102	80700
				Total 16_WOOD	**574**	**359**	**863**	**0**	**863**	**46**	**94**	**0**	**19**	**159**	
Subtotal OARB Redevelopment Project Area					**574**	**359**	**863**	**96**	**959**	**232**	**3521**	**24**	**408**	**4185**	
67	790	401900	HB	UPRR	0	0	0	0	0	0	127	0	0	127	31500
59	59	401700	HB	EBMUD/BR	0	0	0	0	0	0	240	0	0	240	33000
475	777	401700	HB	EBMUD/BR	0	0	0	0	0	0	170	0	0	170	33000
				TOTAL HARBOR AREA	**574**	**359**	**863**	**96**	**959**	**232**	**4058**	**24**	**408**	**4722**	
57	57	401400	WO		297	385	1197	280	1477	53	153	95	297	598	27600
58	58	401500	WO		587	745	2173	0	2173	111	166	46	312	635	34600
60	60	401800	WO		481	669	2181	3	2184	77	182	72	113	444	29400
61	61	402200	WO		491	735	2390	10	2400	4	235	10	58	307	22800
62	62	402300	WO		139	167	454	2	456	347	1026	61	172	1606	43400
63	63	401600	WO		134	153	492	5	497	276	203	10	415	904	31000
64	64	402400	WO		747	1054	2630	31	2661	91	1041	300	116	1548	34400
65	65	402100	WO		273	521	1706	8	1714	32	184	112	54	382	22600
66	66	402500	WO		460	707	2265	138	2403	0	313	1	371	685	22400
68	68	402600	WO		516	661	1414	0	1414	41	75	97	134	347	36400
69	69	402700	WO		627	652	1958	0	1958	82	226	67	188	563	29900
471	471	401400	WO		418	542	1686	0	1686	26	23	40	0	89	27600
472	472	401400	WO		432	561	1745	39	1784	53	153	50	287	543	27600
473	473	401500	WO		269	276	816	15	831	120	195	4	380	699	39500
474	474	401700	WO		323	289	962	0	962	174	210	288	475	1147	36600
475	475	401700	WO		0	0	0	0	0	190	360	30	360	940	33000
478	478	401600	WO		382	584	2028	227	2255	98	279	107	523	1007	21300
479	479	401900	WO		0	0	0	0	0	0	1618	0	0	1618	31500
480	480	401900	WO		219	223	783	1	784	201	507	20	237	965	31500
481	481	402000	WO		85	40	109	0	109	129	478	50	480	1137	64400
476	791	401700	WO		209	179	578	0	578	190	506	20	230	946	39500
477	794	401700	WO		182	173	598	0	598	0	0	0	20	20	33000
				TOTAL WEST OAKLAND	**7271**	**9316**	**28165**	**759**	**28924**	**2295**	**8133**	**1480**	**5222**	**17130**	
TOTAL HARBOR AREA AND WEST OAKLAND					**7845**	**9675**	**29028**	**855**	**29883**	**2527**	**12191**	**1504**	**5630**	**21852**	

Source: Hausrath Economics Group

Table 6d

2020 REVISED HEG CUMULATIVE OAKLAND LAND USE DATA FOR THE HARBOR AREA AND WEST OAKLAND - OARB REDEVELOPMENT PROJECT EIR

OLD TAZ	NEW TAZ	CENSUS TRACT	PLAN DIST	SUB AREA	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
475	778	401700	HB	OARBGW	0	0	0	0	0	0	300	0	0	300	38400
476	779	401700	HB	OARBGW	0	0	0	0	0	75	300	0	125	500	38400
476	780	401700	HB	OARBGW	0	0	0	0	0	66	264	0	210	540	38400
67	781	401700	HB	OARBGW	0	0	0	0	0	443	942	70	1105	2560	38400
67	782	401700	HB	OARBGW	0	0	0	0	0	225	325	0	1700	2250	38400
			Total	**OARBGW**	**0**	**0**	**0**	**0**	**0**	**809**	**2131**	**70**	**3140**	**6150**	
476	783	401700	HB	OARBPORT	0	0	0	0	0	0	0	0	0	0	38400
477	788	401700	HB	OARBPORT	0	0	0	0	0	0	0	0	0	0	38400
477	789	401700	HB	OARBPORT	0	0	0	0	0	0	188	0	0	188	38400
			Total	**OARBPORT**	**0**	**0**	**0**	**0**	**0**	**0**	**188**	**0**	**0**	**188**	
67	67	401900	HB	PORT	0	0	0	0	0	0	300	0	0	300	37200
482	482	402000	HB	PORT	0	0	0	0	0	85	162	0	0	247	75700
67	784	401700	HB	PORT	0	0	0	0	0	0	668	0	0	668	38400
67	785	401900	HB	PORT	0	0	0	0	0	0	464	0	0	464	37200
67	786	401900	HB	PORT	0	0	0	0	0	0	747	0	0	747	37200
482	787	402000	HB	PORT	0	0	0	0	0	0	274	0	0	274	75700
475	793	401700	HB	PORT	0	0	0	0	0	0	60	0	0	60	38400
				Total PORT	**0**	**0**	**0**	**0**	**0**	**85**	**2675**	**0**	**0**	**2760**	
476	476	401700	HB	16_WOOD	385	241	580	0	580	545	704	0	2005	3254	93000
477	477	401700	HB	16_WOOD	0	0	0	0	0	63	185	0	215	463	38400
477	792	401700	HB	16_WOOD	189	118	283	0	283	199	220	0	684	1103	93200
				Total 16_WOOD	**574**	**359**	**863**	**0**	**863**	**807**	**1109**	**0**	**2904**	**4820**	
Subtotal OARB Redevelopment Project Area					**574**	**359**	**863**	**0**	**863**	**1701**	**6103**	**70**	**6044**	**13918**	
67	790	401900	HB	UPRR	0	0	0	0	0	0	146	0	0	146	37200
59	59	401700	HB	EBMUD/BR	0	0	0	0	0	0	160	0	0	160	38400
475	777	401700	HB	EBMUD/BR	0	0	0	0	0	0	190	0	0	190	38400
			TOTAL	**HARBOR AREA**	**574**	**359**	**863**	**0**	**863**	**1701**	**6599**	**70**	**6044**	**14414**	
57	57	401400	WO		338	385	1200	280	1480	44	163	110	317	634	31100
58	58	401500	WO		667	745	2178	0	2178	101	186	61	352	700	39100
60	60	401800	WO		545	669	2185	3	2188	77	182	72	133	464	33300
61	61	402200	WO		606	775	2482	10	2492	4	235	15	73	327	27800
62	62	402300	WO		158	167	455	2	457	407	1226	87	612	2332	49700
63	63	401600	WO		145	153	493	5	498	276	223	30	495	1024	35500
64	64	402400	WO		852	1054	2635	31	2666	81	1041	300	146	1568	37900
65	65	402100	WO		305	521	1709	8	1717	27	164	112	74	377	25400
66	66	402500	WO		517	707	2269	138	2407	0	313	1	391	705	24500
68	68	402600	WO		569	661	1417	0	1417	41	95	122	179	437	39200
69	69	402700	WO		1115	985	2528	0	2528	82	200	79	238	599	46300
471	471	401400	WO		476	542	1689	0	1689	21	23	40	0	84	31100
472	472	401400	WO		493	561	1748	39	1787	44	163	60	307	574	31100
473	473	401500	WO		296	276	817	15	832	110	245	9	430	794	44500
474	474	401700	WO		512	384	1192	0	1192	124	250	359	660	1393	41300
475	475	401700	WO		0	0	0	0	0	140	407	50	495	1092	38400
478	478	401600	WO		421	584	2031	227	2258	98	299	127	572	1096	24800
479	479	401900	WO		0	0	0	0	0	0	1618	0	0	1618	37200
480	480	401900	WO		850	622	1663	1	1664	51	682	34	282	1049	52000
481	481	402000	WO		85	40	109	0	109	111	576	60	768	1515	71800
476	791	401700	WO		230	179	579	0	579	180	506	20	280	986	45400
477	794	401700	WO		207	173	599	0	599	0	0	0	25	25	38400
			TOTAL	**WEST OAKLAND**	**9387**	**10183**	**29978**	**759**	**30737**	**2019**	**8797**	**1748**	**6829**	**19393**	
TOTAL HARBOR AREA AND WEST OAKLAND					**9961**	**10542**	**30841**	**759**	**31600**	**3720**	**15396**	**1818**	**12873**	**33807**	

Source: Hausrath Economics Group

Table 6e

1990-2000 REVISED HEG CUMULATIVE OAKLAND LAND USE DATA FOR THE HARBOR AREA AND WEST OAKLAND - OARB REDEVELOPMENT PROJECT EIR

OLD TAZ	NEW TAZ	CENSUS TRACT	PLAN DIST	SUB AREA	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
475	778	401700	HB	OARBGW	0	0	0	0	0	0	5	0	0	5	1343
476	779	401700	HB	OARBGW	0	0	0	0	0	20	94	12	12	138	1343
476	780	401700	HB	OARBGW	0	0	0	0	0	0	0	0	0	0	1343
67	781	401700	HB	OARBGW	0	0	0	50	50	0	-184	0	0	-184	1343
67	782	401700	HB	OARBGW	0	0	0	46	46	0	-108	0	0	-108	1343
				Total OARBGW	**0**	**0**	**0**	**96**	**96**	**20**	**-193**	**12**	**12**	**-149**	
476	783	401700	HB	OARBPORT	0	0	0	0	0	0	-37	0	54	17	1343
477	788	401700	HB	OARBPORT	0	0	0	0	0	10	-275	-60	31	-294	1343
477	789	401700	HB	OARBPORT	0	0	0	0	0	0	-325	0	-34	-359	1343
				Total OARBPORT	**0**	**0**	**0**	**0**	**0**	**10**	**-637**	**-60**	**51**	**-636**	
67	67	401900	HB	PORT	-2	-2	-5	-1	-6	0	13	0	0	13	575
482	482	402000	HB	PORT	0	0	0	0	0	0	19	0	0	19	4050
67	784	401700	HB	PORT	0	0	0	0	0	0	41	0	0	41	1343
67	785	401900	HB	PORT	0	0	0	0	0	0	47	0	0	47	575
67	786	401900	HB	PORT	0	0	0	0	0	0	-388	0	0	-388	575
482	787	402000	HB	PORT	0	0	0	0	0	0	19	0	0	19	4050
475	793	401700	HB	PORT	0	0	0	0	0	0	-20	0	0	-20	1343
				Total PORT	**-2**	**-2**	**-5**	**-1**	**-6**	**0**	**-269**	**0**	**0**	**-269**	
476	476	401700	HB	16_WOOD	1	1	4	0	4	0	-8	0	3	-5	1343
477	477	401700	HB	16_WOOD	0	0	0	0	0	-34	-34	0	0	-68	1343
477	792	401700	HB	16_WOOD	0	0	0	0	0	-4	-22	0	0	-26	1343
				Total 16_WOOD	**1**	**1**	**4**	**0**	**4**	**-38**	**-64**	**0**	**3**	**-99**	
				Subtotal OARB Redevelopment Project Area	**-1**	**-1**	**-1**	**95**	**94**	**-8**	**-1163**	**-48**	**66**	**-1153**	
67	790	401900	HB	UPRR	0	0	0	0	0	0	47	0	0	47	575
59	59	401700	HB	EBMUD/BR	0	0	0	0	0	0	20	0	0	20	1343
475	777	401700	HB	EBMUD/BR	0	0	0	0	0	0	0	0	0	0	1343
				TOTAL HARBOR AREA	**-1**	**-1**	**-1**	**95**	**94**	**-8**	**-1096**	**-48**	**66**	**-1086**	
57	57	401400	WO		10	-1	179	269	448	-6	4	0	15	13	3366
58	58	401500	WO		177	199	431	0	431	-10	5	0	10	5	3955
60	60	401800	WO		16	-4	97	-1	96	-5	0	0	5	0	3530
61	61	402200	WO		30	23	258	10	268	0	-5	0	0	-5	3445
62	62	402300	WO		21	21	105	-3	102	-40	-20	0	10	-50	3743
63	63	401600	WO		10	11	87	3	90	-30	0	0	40	10	830
64	64	402400	WO		98	106	495	29	524	-9	-30	-30	20	-49	4556
65	65	402100	WO		-69	-161	-591	8	-583	0	20	-40	5	-15	3294
66	66	402500	WO		-89	-174	-604	132	-472	0	0	0	20	20	2859
68	68	402600	WO		-108	-189	-324	-32	-356	0	10	0	40	50	3047
69	69	402700	WO		86	70	422	-23	399	-5	0	0	10	5	3191
471	471	401400	WO		16	1	94	-15	79	-3	0	0	0	-3	3366
472	472	401400	WO		-11	-39	33	22	55	-6	4	0	10	8	3366
473	473	401500	WO		8	0	59	15	74	-3	10	0	10	17	3955
474	474	401700	WO		52	43	75	-9	66	-70	-26	130	0	34	1343
475	475	401700	WO		0	0	0	0	0	-74	-65	0	0	-139	1343
478	478	401600	WO		-32	-72	-218	216	-2	-20	0	0	20	0	830
479	479	401900	WO		-2	-2	-7	-1	-8	0	-175	0	0	-175	575
480	480	401900	WO		5	-4	63	-66	-3	-80	-100	10	-20	-190	575
481	481	402000	WO		3	0	-6	0	-6	-9	129	5	100	225	4050
476	791	401700	WO		20	14	97	-6	91	-24	-150	0	0	-174	1343
477	794	401700	WO		-110	-121	-296	-13	-309	0	0	0	0	0	1343
				TOTAL WEST OAKLAND	**131**	**-279**	**449**	**535**	**984**	**-394**	**-389**	**75**	**295**	**-413**	
				TOTAL HARBOR AREA AND WEST OAKLAND	**130**	**-280**	**448**	**630**	**1078**	**-402**	**-1485**	**27**	**361**	**-1499**	

Source: Hausrath Economics Group

Table 6f

2000-2005 REVISED HEG CUMULATIVE OAKLAND LAND USE DATA FOR THE HARBOR AREA AND WEST OAKLAND - OARB REDEVELOPMENT PROJECT EIR

OLD TAZ	NEW TAZ	CENSUS TRACT	PLAN DIST	SUB AREA	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
475	778	401700	HB	OARBGW	0	0	0	0	0	2	19	0	0	21	2100
476	779	401700	HB	OARBGW	0	0	0	0	0	0	0	0	0	0	2100
476	780	401700	HB	OARBGW	0	0	0	0	0	24	182	12	24	242	2100
67	781	401700	HB	OARBGW	0	0	0	0	0	0	30	0	0	30	2100
67	782	401700	HB	OARBGW	0	0	0	0	0	0	67	0	0	67	2100
			Total	**OARBGW**	**0**	**0**	**0**	**0**	**0**	**26**	**298**	**12**	**24**	**360**	
476	783	401700	HB	OARBPORT	0	0	0	0	0	0	61	0	16	77	2100
477	788	401700	HB	OARBPORT	0	0	0	0	0	0	64	0	152	216	2100
477	789	401700	HB	OARBPORT	0	0	0	0	0	0	-15	0	0	-15	2100
			Total	**OARBPORT**	**0**	**0**	**0**	**0**	**0**	**0**	**110**	**0**	**168**	**278**	
67	67	401900	HB	PORT	0	0	0	0	0	0	89	0	0	89	1500
482	482	402000	HB	PORT	0	0	0	0	0	0	-64	0	0	-64	1000
67	784	401700	HB	PORT	0	0	0	0	0	0	20	0	0	20	2100
67	785	401900	HB	PORT	0	0	0	0	0	0	-189	0	0	-189	1500
67	786	401900	HB	PORT	0	0	0	0	0	0	330	0	0	330	1500
482	787	402000	HB	PORT	0	0	0	0	0	0	9	0	0	9	1000
475	793	401700	HB	PORT	0	0	0	0	0	0	0	0	0	0	2100
				Total PORT	**0**	**0**	**0**	**0**	**0**	**0**	**195**	**0**	**0**	**195**	
476	476	401700	HB	16_WOOD	384	240	576	0	576	0	0	0	1	1	49600
477	477	401700	HB	16_WOOD	0	0	0	0	0	6	6	0	5	17	2100
477	792	401700	HB	16_WOOD	189	118	283	0	283	0	-12	0	0	-12	49800
			Total	**16_WOOD**	**573**	**358**	**859**	**0**	**859**	**6**	**-6**	**0**	**6**	**6**	
Subtotal OARB Redevelopment Project Area					**573**	**358**	**859**	**0**	**859**	**32**	**597**	**12**	**198**	**839**	
67	790	401900	HB	UPRR	0	0	0	0	0	0	0	0	0	0	1500
59	59	401700	HB	EBMUD/BR	0	0	0	0	0	0	80	0	0	80	2100
475	777	401700	HB	EBMUD/BR	0	0	0	0	0	0	0	0	0	0	2100
			TOTAL	**HARBOR AREA**	**573**	**358**	**859**	**0**	**859**	**32**	**677**	**12**	**198**	**919**	
57	57	401400	WO		12	0	-88	0	-88	-3	6	15	15	33	1600
58	58	401500	WO		34	62	484	0	484	-5	15	15	20	45	2200
60	60	401800	WO		33	21	231	0	231	0	0	0	5	5	1700
61	61	402200	WO		118	156	556	0	556	0	-5	10	15	20	1000
62	62	402300	WO		6	0	3	0	3	-10	-30	0	20	-20	2700
63	63	401600	WO		60	36	178	0	178	-20	40	10	60	90	9900
64	64	402400	WO		29	0	73	0	73	0	-10	-21	10	-21	2500
65	65	402100	WO		47	71	553	0	553	0	-30	0	5	-25	1100
66	66	402500	WO		66	77	624	0	624	0	0	0	0	0	1900
68	68	402600	WO		200	183	437	0	437	0	0	50	5	55	12400
69	69	402700	WO		24	0	12	0	12	-4	0	0	20	16	2700
471	471	401400	WO		17	0	160	0	160	-2	0	0	0	-2	1600
472	472	401400	WO		16	0	110	0	110	-3	6	10	10	23	1600
473	473	401500	WO		84	48	107	0	107	-3	39	1	88	125	7100
474	474	401700	WO		66	35	220	0	220	10	70	105	155	340	5700
475	475	401700	WO		0	0	0	0	0	10	-60	22	110	82	2100
478	478	401600	WO		113	157	641	0	641	-22	20	20	30	48	200
479	479	401900	WO		0	0	0	0	0	0	0	0	0	0	1500
480	480	401900	WO		8	0	25	0	25	0	305	0	40	345	1500
481	481	402000	WO		48	29	81	0	81	0	95	5	50	150	-3600
476	791	401700	WO		67	39	114	0	114	0	10	0	10	20	8600
477	794	401700	WO		7	0	26	0	26	0	0	0	0	0	2100
			TOTAL	**WEST OAKLAND**	**1055**	**914**	**4547**	**0**	**4547**	**-52**	**471**	**242**	**668**	**1329**	
TOTAL HARBOR AREA AND WEST OAKLAND					**1628**	**1272**	**5406**	**0**	**5406**	**-20**	**1148**	**254**	**866**	**2248**	

Source: Hausrath Economics Group

Table 6g

2005-2020 REVISED HEG CUMULATIVE OAKLAND LAND USE DATA FOR THE HARBOR AREA AND WEST OAKLAND - OARB REDEVELOPMENT PROJECT EIR

OLD TAZ	NEW TAZ	CENSUS TRACT	PLAN DIST	SUB AREA	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
475	778	401700	HB	OARBGW	0	0	0	0	0	-2	256	0	0	254	5400
476	779	401700	HB	OARBGW	0	0	0	0	0	55	112	-12	113	268	5400
476	780	401700	HB	OARBGW	0	0	0	0	0	42	-468	-12	186	-252	5400
67	781	401700	HB	OARBGW	0	0	0	-50	-50	443	867	70	1105	2485	5400
67	782	401700	HB	OARBGW	0	0	0	-46	-46	225	217	0	1700	2142	5400
				Total OARBGW	**0**	**0**	**0**	**-96**	**-96**	**763**	**984**	**46**	**3104**	**4897**	
476	783	401700	HB	OARBPORT	0	0	0	0	0	0	-71	0	-70	-141	5400
477	788	401700	HB	OARBPORT	0	0	0	0	0	-10	-263	0	-283	-556	5400
477	789	401700	HB	OARBPORT	0	0	0	0	0	0	158	0	0	158	5400
				Total OARBPORT	**0**	**0**	**0**	**0**	**0**	**-10**	**-176**	**0**	**-353**	**-539**	
67	67	401900	HB	PORT	0	0	0	0	0	0	98	0	0	98	5700
482	482	402000	HB	PORT	0	0	0	0	0	-45	92	0	0	47	6700
67	784	401700	HB	PORT	0	0	0	0	0	0	148	0	0	148	5400
67	785	401900	HB	PORT	0	0	0	0	0	0	84	0	0	84	5700
67	786	401900	HB	PORT	0	0	0	0	0	0	355	0	0	355	5700
482	787	402000	HB	PORT	0	0	0	0	0	0	-68	0	0	-68	6700
475	793	401700	HB	PORT	0	0	0	0	0	0	50	0	0	50	5400
				Total PORT	**0**	**0**	**0**	**0**	**0**	**-45**	**759**	**0**	**0**	**714**	
476	476	401700	HB	16_WOOD	0	0	0	0	0	545	692	0	2001	3238	12500
477	477	401700	HB	16_WOOD	0	0	0	0	0	53	169	0	200	422	5400
477	792	401700	HB	16_WOOD	0	0	0	0	0	163	154	0	684	1001	12500
				Total 16_WOOD	**0**	**0**	**0**	**0**	**0**	**761**	**1015**	**0**	**2885**	**4661**	
				Subtotal OARB Redevelopment Project Area	**0**	**0**	**0**	**-96**	**-96**	**1469**	**2582**	**46**	**5636**	**9733**	
67	790	401900	HB	UPRR	0	0	0	0	0	0	19	0	0	19	5700
59	59	401700	HB	EBMUD/BR	0	0	0	0	0	0	-80	0	0	-80	5400
475	777	401700	HB	EBMUD/BR	0	0	0	0	0	0	20	0	0	20	5400
				TOTAL HARBOR AREA	**0**	**0**	**0**	**-96**	**-96**	**1469**	**2541**	**46**	**5636**	**9692**	
57	57	401400	WO		41	0	3	0	3	-9	10	15	20	36	3500
58	58	401500	WO		80	0	5	0	5	-10	20	15	40	65	4500
60	60	401800	WO		64	0	4	0	4	0	0	0	20	20	3900
61	61	402200	WO		115	40	92	0	92	0	0	5	15	20	5000
62	62	402300	WO		19	0	1	0	1	60	200	26	440	726	6300
63	63	401600	WO		11	0	1	0	1	0	20	20	80	120	4500
64	64	402400	WO		105	0	5	0	5	-10	0	0	30	20	3500
65	65	402100	WO		32	0	3	0	3	-5	-20	0	20	-5	2800
66	66	402500	WO		57	0	4	0	4	0	0	0	20	20	2100
68	68	402600	WO		53	0	3	0	3	0	20	25	45	90	2800
69	69	402700	WO		488	333	570	0	570	0	-26	12	50	36	16400
471	471	401400	WO		58	0	3	0	3	-5	0	0	0	-5	3500
472	472	401400	WO		61	0	3	0	3	-9	10	10	20	31	3500
473	473	401500	WO		27	0	1	0	1	-10	50	5	50	95	5000
474	474	401700	WO		189	95	230	0	230	-50	40	71	185	246	4700
475	475	401700	WO		0	0	0	0	0	-50	47	20	135	152	5400
478	478	401600	WO		39	0	3	0	3	0	20	20	49	89	3500
479	479	401900	WO		0	0	0	0	0	0	0	0	0	0	5700
480	480	401900	WO		631	399	880	0	880	-150	175	14	45	84	20500
481	481	402000	WO		0	0	0	0	0	-18	98	10	288	378	7400
476	791	401700	WO		21	0	1	0	1	-10	0	0	50	40	5900
477	794	401700	WO		25	0	1	0	1	0	0	0	5	5	5400
				TOTAL WEST OAKLAND	**2116**	**867**	**1813**	**0**	**1813**	**-276**	**664**	**268**	**1607**	**2263**	
				TOTAL HARBOR AREA AND WEST OAKLAND	**2116**	**867**	**1813**	**-96**	**1717**	**1193**	**3205**	**314**	**7243**	**11955**	

Source: Hausrath Economics Group

Table 6h

2000-2020 REVISED HEG CUMULATIVE OAKLAND LAND USE DATA FOR THE HARBOR AREA AND WEST OAKLAND - OARB REDEVELOPMENT PROJECT EIR

OLD TAZ	NEW TAZ	CENSUS TRACT	PLAN DIST	SUB AREA	EMPLYD RSDNTS	HOUSE HOLDS	HH POP	GROUP POP	TOT POP	MFG JOBS	OTHER JOBS	RETAIL JOBS	SERVICE JOBS	TOTAL JOBS	MEAN HH INCOME
475	778	401700	HB	OARBGW	0	0	0	0	0	0	275	0	0	275	7500
476	779	401700	HB	OARBGW	0	0	0	0	0	55	112	-12	113	268	7500
476	780	401700	HB	OARBGW	0	0	0	0	0	66	-286	0	210	-10	7500
67	781	401700	HB	OARBGW	0	0	0	-50	-50	443	897	70	1105	2515	7500
67	782	401700	HB	OARBGW	0	0	0	-46	-46	225	284	0	1700	2209	7500
			Total	**OARBGW**	**0**	**0**	**0**	**-96**	**-96**	**789**	**1282**	**58**	**3128**	**5257**	
476	783	401700	HB	OARBPORT	0	0	0	0	0	0	-10	0	-54	-64	7500
477	788	401700	HB	OARBPORT	0	0	0	0	0	-10	-199	0	-131	-340	7500
477	789	401700	HB	OARBPORT	0	0	0	0	0	0	143	0	0	143	7500
			Total	**OARBPORT**	**0**	**0**	**0**	**0**	**0**	**-10**	**-66**	**0**	**-185**	**-261**	
67	67	401900	HB	PORT	0	0	0	0	0	0	187	0	0	187	7200
482	482	402000	HB	PORT	0	0	0	0	0	-45	28	0	0	-17	7700
67	784	401700	HB	PORT	0	0	0	0	0	0	168	0	0	168	7500
67	785	401900	HB	PORT	0	0	0	0	0	0	-105	0	0	-105	7200
67	786	401900	HB	PORT	0	0	0	0	0	0	685	0	0	685	7200
482	787	402000	HB	PORT	0	0	0	0	0	0	-59	0	0	-59	7700
475	793	401700	HB	PORT	0	0	0	0	0	0	50	0	0	50	7500
				Total PORT	**0**	**0**	**0**	**0**	**0**	**-45**	**954**	**0**	**0**	**909**	
476	476	401700	HB	16_WOOD	384	240	576	0	576	545	692	0	2002	3239	62100
477	477	401700	HB	16_WOOD	0	0	0	0	0	59	175	0	205	439	7500
477	792	401700	HB	16_WOOD	189	118	283	0	283	163	142	0	684	989	62300
			Total	**16_WOOD**	**573**	**358**	**859**	**0**	**859**	**767**	**1009**	**0**	**2891**	**4667**	
Subtotal OARB Redevelopment Project Area					**573**	**358**	**859**	**-96**	**763**	**1501**	**3179**	**58**	**5834**	**10572**	
67	790	401900	HB	UPRR	0	0	0	0	0	0	19	0	0	19	7200
59	59	401700	HB	EBMUD/BR	0	0	0	0	0	0	0	0	0	0	7500
475	777	401700	HB	EBMUD/BR	0	0	0	0	0	0	20	0	0	20	7500
			TOTAL	**HARBOR AREA**	**573**	**358**	**859**	**-96**	**763**	**1501**	**3218**	**58**	**5834**	**10611**	
57	57	401400	WO		53	0	-85	0	-85	-12	16	30	35	69	5100
58	58	401500	WO		114	62	489	0	489	-15	35	30	60	110	6700
60	60	401800	WO		97	21	235	0	235	0	0	0	25	25	5600
61	61	402200	WO		233	196	648	0	648	0	-5	15	30	40	6000
62	62	402300	WO		25	0	4	0	4	50	170	26	460	706	9000
63	63	401600	WO		71	36	179	0	179	-20	60	30	140	210	14400
64	64	402400	WO		134	0	78	0	78	-10	-10	-21	40	-1	6000
65	65	402100	WO		79	71	556	0	556	-5	-50	0	25	-30	3900
66	66	402500	WO		123	77	628	0	628	0	0	0	20	20	4000
68	68	402600	WO		253	183	440	0	440	0	20	75	50	145	15200
69	69	402700	WO		512	333	582	0	582	-4	-26	12	70	52	19100
471	471	401400	WO		75	0	163	0	163	-7	0	0	0	-7	5100
472	472	401400	WO		77	0	113	0	113	-12	16	20	30	54	5100
473	473	401500	WO		111	48	108	0	108	-13	89	6	138	220	12100
474	474	401700	WO		255	130	450	0	450	-40	110	176	340	586	10400
475	475	401700	WO		0	0	0	0	0	-40	-13	42	245	234	7500
478	478	401600	WO		152	157	644	0	644	-22	40	40	79	137	3700
479	479	401900	WO		0	0	0	0	0	0	0	0	0	0	7200
480	480	401900	WO		639	399	905	0	905	-150	480	14	85	429	22000
481	481	402000	WO		48	29	81	0	81	-18	193	15	338	528	3800
476	791	401700	WO		88	39	115	0	115	-10	10	0	60	60	14500
477	794	401700	WO		32	0	27	0	27	0	0	0	5	5	7500
				TOTAL WEST OAKLAND	**3171**	**1781**	**6360**	**0**	**6360**	**-328**	**1135**	**510**	**2275**	**3592**	
TOTAL HARBOR AREA AND WEST OAKLAND					**3744**	**2139**	**72**	**-96**	**7123**	**1173**	**4353**	**568**	**8109**	**14203**	

Source: Hausrath Economics Group

Table 7a

CUMULATIVE SCENARIO: ASSUMPTIONS FOR MAJOR COMMERCIAL/INDUSTRIAL PROJECTS IN THE HARBOR AREA AND WEST OAKLAND

OARB REDEVELOPMENT PROJECT EIR

/a/	Project	Old TAZ	New TAZ	Planning District /b/	Subarea	Sq. Ft.	Empls	SF/Emp	Location	Comments	OARB Area
	LARGER CHANGES 1990 - 2000										
	Base Closure - FISCO	67	786/67	HB	PORT		-500				x
	Base Closure - Oakland Army Base	67/475/476/477	778-783/788/789	HB	OARBGW; OARBPORT		-2,047				x
x	Oakland Army Base - Interim Leasing (City and Port areas)	67/475/476/477	778-783/788/789	HB	OARBGW; OARBPORT		1,277				x
x	Port Maritime Growth (exclusive of OARB interim leasing) /c/	67/482	67/482/784-787/790	HB	PORT		279				x
x	K-Mart	474		WO		117,000	155	755	1555 40th St./near Hubbard St.		
	PROJECTS TO BE COMPLETED 2001 - 2005										
x	Port Maritime Expansion (exclusive of OARB interim leasing) /c/	67/482	67/482/784-787/790	HB	PORT		194			Employment growth reflects 60% operation of new terminal in Vision 2000 by 2005 and shifts in operations among existing facilities	x
x	Oakland Army Base - Interim Leasing (City and Port areas)	67/475/476/477	778-783/788/789	HB	OARBGW; OARBPORT		653				x
x	Mandela Gateway/OHA	61		WO							
	Retail	61		WO		10,000	25	400	Mandela & 7th	Resid'l with corner retail	
	Community Space	61		WO		4,000	0				
x	Jack London GatewayAcom Shopping Center	68		WO			50		900 Market at 8th/7th	Revitalization/New stores	
	IKEA Parking Deck	474		WO					Shellmound & I-80	Completed	
	OTR site hotel	474		WO		149 rms	97	0.65/rm	Yerba Buena & Mandela Parkway	Completed	
x	Expo Design Center - replaces K-Mart	474		WO		117,000	200		1555 40th St./near Hubbard St.	Replaced K-Mart;+45 employees assumed	
x	OTR site - Best Buy	474		WO		45,000	60	750	Yerba Buena & Mandela	Proposed completion: 2002	
x	Gambiolini Property	474		WO		65,000	108	600	Bet. Ettie & Hannah	New const./Lt. Ind'l. with local retail	
x	Plywood & Lumber Sales	474		WO		34,000	25		28th & Ettie	New constr./Lt. Ind'l. warehouse	
x	32nd-34th & Mandela (office/flex space with local retail)	475	475	WO		100,000	222	450	West of Mandela	Reuse of existing and new space	
x	Bridge/Chestnut Court - retail	478		WO		4,000	11	350	2240 Chestnut St.	Resid'l with grd. fl. retail	
x	Amtrak Maintenance Facility	480		WO		163,400	350		Near 3rd & Kirkham	Approved; moving from nearby & expanding	
	Telecommunications Access Facility/Mortenson	481		WO		120,000	50		3rd, Brush to Castro		
	PROJECTS TO BE COMPLETED 2006 - 2020										
x	Oakland Army Base Reuse: Gateway (Non-Maritime)	67/475/476	778-782	HB	OARBGW						x
x	Office	67	782	HB	OARBGW	600,000	2,250	267			x
x	R&D/Lt. Industrial	67	781	HB	OARBGW	996,000	2,490	400			x
x	Retail	67	781	HB	OARBGW	25,000	70	357			x
x	Warehouse/Distribution	475	778	HB	OARBGW	300,000	240	1,250			x
x	R&D/Lt. Industrial	476	779	HB	OARBGW	200,000	500	400			x
x	R&D/Lt. Industrial	476	780	HB	OARBGW	176,000	440	400			x
	Job Training	476	780	HB	OARBGW	50,000	100	500			x
	EBMUD - Wastewater Treatment Expansion	475	477	HB	EBMUD/Bridge		40				
x	Port Maritime Expansion and OARB Reuse (Maritime) /c/	67, 482	67,482,783-790	HB	PORT; OARBPORT		881			Employment growth reflects full development of 1,000 acres for terminals, incorporating Vision 2000, JIT development, and increased maritime areas from OARB.	x
x	Oakland Army Base - End of Interim Leasing	67/475/476/477	778-783/788/789	HB	OARBGW; OARBPORT		-1,930			Permanent reuse replaces interim leasing	x
x	Central Station Project/former Amtrak site	476/477	476/477/792	HB	16&W				16th & Wood Sts.	Project description as of 3/19/01	x
x	Office/R&D	476	476	HB	16&W	981,235	2,804	350			x
x	Train Station/Comm'l-Retail-Community Uses	476	476	HB	16&W	70,279	150				x
x	Office/R&D	477	792	HB	16&W	386,065	1,103	350			x
x	16th & Wood sites/Lt. Industrial	477	477	HB	16&W	185,000	463	400		Phoenix Iron Works & other sites	x
x		476	476	HB	16&W	120,000	300	400		Sites north of Central Station project	x
x	Carnation Factory Site (Lt.Ind/Office/Local Retail)	62		WO		150,000	333	450	Mandela & 14th/16th/Poplar	Adaptive reuse; possible new construction	
x	Kirkham/16th & 18th	62		WO		150,000	333	450	Kirkham/16th & 18th	Site transitions from trucking to lt.ind'l/R&D/ofc	
x	Romax Iron Works Site - ground-floor retail	474		WO		7,500	21	350	Near Peralta & Hollis		
x	Conversions and Infill	474		WO			280			New uses net of declines	
x	34th & Wood/Lt. Ind'l.	475	475	WO		13,000	22	600	East of Mandela		
x	Conversions and Infill	475	475	WO			130			New uses net of declines	
x	West Oakland Transit Village - retail/com'l	480		WO		5,000	14	350			
x	- retail/com'l	61		WO		5,000	14	350			
x	Amtrak Maintenance Facilities - expanded operations	480		WO			200			Expansion as train service increases	
	Conversions - W. Amendment Area - C. D. Redev.	481		WO		60,000	171	350			

Notes:

/a/ 'X' in first column indicates updated assumptions compared to 11/21/00 Cumulative Scenario.

/b/ HB = Harbor Area; WO = West Oakland. Planning District shown is as currently defined for this EIR.

/c/ Includes growth in terminal operations, maritime support activities, and rail/intermodal operations on Port and railroad land in the Harbor area.

Source: City of Oakland; Port of Oakland; Hausrath Economics Group.

Table 7b

ASSUMPTIONS FOR MAJOR HOUSING PROJECTS IN THE HARBOR AREA AND WEST OAKLAND

OARB REDEVELOPMENT PROJECT EIR

/a/	Project	Old TAZ	New TAZ	Planning District /e/	Subarea	Units	House-holds /b/	Location	Comments/Time Period	Project Area
	PROJECTS COMPLETED FROM 1990 TO 2000 CENSUS (March 1990 - March 2000) /d/									
	Bayside Apartments	58		WO		31	29	958 28th St.	1997	
	Slim Jenkins Court	60		WO		32	30	700 Willow	1991	
x	Union Street Studios L/W	62		WO		19	18	1920 Union off W. Grand	Renovated former Ind'l - early 2000	
	Victoria Court	64		WO		16	15		1994-1996	
	James Lee Court	69		WO		26	25	690 15th St.	1992	
	Victorian Village	69		WO		56	53		1991-1996	
	Marcus Garvey Commons	477		WO		22	21	1761-1770 Goss St.	1992	
	PROJECTS UNDERWAY DURING 2000 CENSUS									
	Portion Before 3/2000 Census									
x	Acorn 1, 2, 3 /c/	65		WO		-231	-231	8th/10th/Filbert/Union	Before 3/2000 Census	
x	Acorn 1, 2, 3 /c/	65		WO		70	70	8th/10th/Filbert/Union	Before 3/2000 Census	
x	Acorn 1, 2, 3 /c/	66		WO		-249	-249	8th/10th/Filbert/Union	Before 3/2000 Census	
x	Acorn 1, 2, 3 /c/	66		WO		75	75	8th/10th/Filbert/Union	Before 3/2000 Census	
x	Bayporte Village /c/	68		WO		-196	-196	8th/10th/Market	Before 3/2000 Census	
x	Bayporte Village /c/	68		WO		7	7	8th/10th/Market	Before 3/2000 Census	
	Portion After 3/2000 Census									
x	Acorn 1, 2, 3 /c/	65		WO		71	71	8th/10th/Filbert/Union	After 3/2000	
x	Acorn 1, 2, 3 /c/	66		WO		77	77	8th/10th/Filbert/Union	After 3/2000	
x	Bayporte Village /c/	68		WO		64	64	8th/10th/Market	After 3/2000	
	PROJECTS TO BE COMPLETED FROM 2000 CENSUS TO 2005									
x	San Pablo Affordable Senior Housing	58		WO		65	62	3255 San Pablo bet 32nd & 34th	Approved 2/01	
x	Chase & Wood	60		WO		22	21	Chase & Wood	Approved 2001	
x	Mandela Gateway/OHA	61		WO		-49	-49	Mandela & 7th	Replaces Westwood Gardens	
x	Mandela Gateway/OHA	61		WO		205	205			
	Adeline Street Lofts	63		WO		38	36	Adeline/24th St.	Predevel. 5/2000	
	West Clawson Lofts/school reuse	473		WO		50	48	3240 Peralta	School reuse plus additional units	
x	Precision Dye/Live-Work	474		WO		37	35	Hanna & 32nd	Approved 2001	
	Peralta Studios/live-work	476	791	WO		41	39	2121 Peralta at W. Grand	Converted PG&E facility	
x	Central Station Project/former Amtrak s	476	476	HB	16&W	252	240	16th & Wood	Live/work units	x
x	Central Station Project/former Amtrak s	477	792	HB	16&W	124	118	16th & Wood	Live/work units	x
x	Bridge/Linden Court	478		WO		79	79	1089 26th St. near McClymonds	Approved; low-income	
x	Bridge/Chestnut Court	478		WO		78	78	2240 Chestnut St. at W. Grand	Approved; Hope IV project	
	Phoenix Lofts	481		WO		31	29	2nd near Brush	2000	

Appendix 7
Land Use Options

Land Use Options

Two land use options for the Gateway development area, which may be implemented as part of the proposed program or any one of the "action" alternatives were proposed by decision-makers, or by members of the public during scoping. The purpose of this evaluation is to generally understand the implications for traffic, should one of these land use options be implemented.

One suggested land use option is a hotel, to be located in the western portion of the Gateway development area, east of the Gateway Park. This use would replace the currently-proposed office use at that location. Another suggested land use option would be High-End Retail (such as a department store) on the central portion of the Gateway development area. This would replace Flex Office/R&D or Light Industrial uses proposed for that location.

Office or Office/R&D, Light Industrial, Hotel, and High-End Retail land uses differ from one another in the number and timing of vehicle trips each generate[1]:

- Office or Office/R&D land uses generate relatively greater vehicle trips during the weekday commute peak hours. Trip generation for this land use type as proposed for the western portion of the Gateway development area would be 8.76 trips per thousand square feet per weekday, and 1.25 trips per thousand square feet in the peak hour.

- Light Industrial also generates relatively greater vehicle trips during the weekday commute peak hours. Trip generation for this land use type as proposed for the central portion of the Gateway development area would be 7.24 trips per thousand square feet per weekday, and 1.06 trips per thousand square feet in the peak hour.

- Hotels generate relatively more weekend and fewer weekday peak-hour trips. Trip generation for this land use type would be 8.58 trips per hotel room per weekday, and 0.74 trips per hotel room in the peak hour for a hotel that would generate the same number of peak hour trips as the proposed office in the western portion of the Gateway development area.

- High-End Retail land uses generate relatively high weekend and non-peak weekday trips. Trip generation for this land use type would be approximately 48 trips per thousand square feet per weekday, and 4.48 trips per thousand square feet in the peak hour for retail space that would generate the same number of peak hour trips as Flex Office/R&D, or Light Industrial uses proposed for the central portion of the Gateway development area.

---

[1] The trip generation rates for all the land uses described are non-linear – the rates are different for different sizes of development.

Should the Hotel land use option be exercised, the facility could not exceed 1,000 rooms in place of the Office use proposed for the western portion of the Gateway development area under the redevelopment program. At 1,000 rooms, exercising this land use option would not worsen significant impacts to intersections associated with redevelopment as proposed, nor would it result in new significant impacts not associated with the redevelopment program.

Should the High-End Retail land use option be exercised, the facility could not exceed 270,000 square feet in place of the Flex Office/R&D, or Light Industrial uses proposed for the central portion of the Gateway development area under the redevelopment program. At 270,000 square feet, exercising this land use option would not worsen significant impacts to intersections associated with redevelopment as proposed, nor would it result in new significant impacts not associated with the redevelopment program.

Both land use options would be required to implement all mitigation measures recommended in this document for significant transportation impacts relative to traffic, transit, and parking.

Oakland Army Base Redevelopment Area EIR

Redevelopment District Trip Generation: Redevelopment Program Land Use Options

Land Use	Amount	Trip Generation Land Use Category	Source	Equivalent Amount	Distribution				Trips Generated						
					AM Peak		PM Peak		Daily	AM Peak Hour			PM Peak Hour		
					In	Out	In	Out		In	Out	Total	In	Out	Total
Office or Office/R&D	2,979 KSF	General Office Building	ITE (710)	2,979 KSF					24,239	3,184	434	3,618	622	3,035	3,657
Rate / 1,000 Square Feet									8.14			1.21			1.23
Light Industrial	749 KSF	General Light Industrial	ITE (110)	749 KSF					5,340	631	86	717	93	679	772
Rate / 1,000 Square Feet									7.13			0.96			1.03
Office: Western Gateway	600 KSF	General Office Building	ITE (710)	600 KSF					5,255	684	93	778	128	624	752
Rate / Room									8.76			1.30			1.25
Hotel (Comparable Weekday Traffic)	628 Rooms	Hotel	ITE (310)	628 Rooms	61%	39%	53%	47%	5,250	244	156	400	224	198	422
Rate / Room									8.36			0.64			0.67
Hotel (Comparable Peak Hour Traffic)	1000 Rooms	Hotel	ITE (310)	1000 Rooms	61%	39%	53%	47%	8,578	434	278	712	393	349	742
Rate / Room									8.58			0.71			0.74
Light Industrial: Central Gateway	444 KSF	General Light Industrial	ITE (110)	444 KSF					3,214	384	52	436	57	416	473
Rate / 1,000 Square Feet									7.24			0.98			1.06
Office, R&D: Central Subarea	577 KSF	General Light Industrial	ITE (110)	577 KSF					5,099	663	90	754	123	603	726
Rate / 1,000 Square Feet									8.84			1.31			1.26
Central Gateway Subtotal	1,021								8,313			1,190			1,199
High End Retail (Comp. Weekday Traf.)	31 KSF	Shopping Center	ITE (820)	31 KSF	60%	40%	48%	52%	3,210	48	32	79	139	151	290
Rate / 1,000 Square Feet									103.55			2.56			9.35
High End Retail (Comp. Peak Hr. Traf.)	65 KSF	Shopping Center	ITE (820)	65 KSF	60%	40%	48%	52%	5,167	74	49	124	227	246	473
Rate / 1,000 Square Feet									79.50			1.90			7.27
High End Retail (Comp. Peak Hr. Traf.)	270 KSF	Shopping Center	ITE (820)	270 KSF	60%	40%	48%	52%	12,910	173	116	289	581	629	1,209
Rate / 1,000 Square Feet									47.82			1.07			4.48

Appendix 4.12I
Special-Status Plant Species Potentially Occurring Within the OARB Redevelopment Project Area

Common Name	Scientific Name	Status			Supporting Habitat	Flowering Period	Potential Occurrence in the Study area
		Federal	State	CNPS			
Pacific cordgrass	*Spartina foliosa*	SC	None	None	Coastal salt marshes		Not likely to occur; no suitable habitat.
most beautiful jewelflower	*Streptanthus albidus* ssp. *peramoenus*	SC	None	1B	Chaparral, grassland; serpentinite	Apr-Jun	Not likely to occur; no suitable habitat.
Tiburon jewelflower	*Streptanthus niger*	E	E	1B	Serpentine soils	May-Jun	Not likely to occur; no suitable habitat.
California sea blite	*Suaeda californica*	E	None	1B	Coastal salt marshes and swamps	Jul-Oct	Not likely to occur; no suitable habitat.
San Francisco owl's-clover	*Triphysaria floribunda*	SC	None	1B	Coastal prairie, coastal scrub, grassland; usually serpentinite	Apr-Jun	Not likely to occur; no suitable habitat.
showy Indian clover	*Trifolium amoenum*	E	None	1B	Wet swales, grasslands and grassy hillsides; occasionally found on serpentine soils	Apr-Jun	Not likely to occur; no suitable habitat.
saline clover	*Trifolium depauperatum* var. *hydrophilum*	None	None	1B	Vernal pools, valley grassland, mixed evergreen forests	Apr-Jun	Not likely to occur; no suitable habitat.

Sources: CDFG 1999; Skinner and Pavlik 1994