OAKLAND ESTUARY PLAN

Draft Environmental Impact Report

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State Clearinghouse No. 98031116

Prepared for:

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SUMMARY

A. PROJECT DESCRIPTION

The project is the adoption of the Oakland Estuary Plan, which establishes the location and intensity of land uses along the waterfront and provides policies and guidelines related to the intended form, pattern, and character of future development. The Estuary Plan also provides policies that establish the location and configuration of open space and public access facilities and the policies and recommendations for the improvement of transportation facilities.

B. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Potential environmental impacts of the project are summarized in Table S-1 at the end of this chapter. This table lists impacts and mitigation measures in three major categories: significant impacts that would remain significant even with mitigation; significant impacts that can be mitigated to a level of less-than-significant; and impacts that would not be significant. For each significant impact, the table includes a summary of mitigation measure(s), followed by a column that indicates whether the impact would be mitigated to a less-than-significant level. Please refer to Chapter III for a complete discussion of each impact and associated mitigation.

As stated in Table S-1 and in Chapter III, the Estuary Plan would result in significant, unavoidable impacts in regard to transportation, air quality, cultural and historical resources, and consistency with adopted plans and policies.

C. ALTERNATIVES

Chapter IV of this EIR analyzes two separate alternatives to the Estuary Plan: the "No Project" alternative, which would leave the existing Land Use and Transportation Element of the General Plan in place; and the "Environmentally Superior" alternative, which identifies lower levels of development in those areas with environmental constraints, and requires mitigation of the adverse impacts identified in this EIR to the point where they would be less than significant.

TABLE S-1
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significant Impact	Mitigation Measures	Significance After Mitigation
A. SIGNIFICANT UNAVOIDABLE IMPACTS		
B. Transportation		
B.1: Development pursuant to Estuary Plan would result in the degradation of the level of service along key arterial roadway segments in the Estuary Planning Area vicinity.	**B.1:** The proposed Estuary Plan would include a number of transportation improvements that would be expected to reduce congestion and improve roadway operations are included in the proposed Estuary Plan, including, among other proposals, construction of new, improved or extended streets, pedestrian and bicycle improvements, increases in alternative modes of transit such as ferries, water taxis, and shuttles, transit improvements, and parking management. No additional measures beyond those identified are feasible.	SU
E. Air Quality		
E.1: Implementation of the Estuary Plan would not be consistent with population and VMT assumptions used in air quality planning, and would result in increased regional emissions of criteria air pollutants.	**E.1:** No additional measures beyond those already included in the OSCAR Element and the Land Use and Transportation Element are feasible.	SU
G. Cultural and Historical Resources		
G.6: Implementation of the Estuary Plan would result in the creation of an eleven acre "Crescent Park" at the site of the Ninth Avenue Terminal and demolition of the Terminal building. The Ninth Avenue Terminal building is rated "B+" by the Oakland Cultural Heritage survey and has been determined eligible for the National Register of Historic Places.	**G.6:** No additional measures beyond those already identified are feasible.	SU

SU = Significant and Unavoidable

TABLE S-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significant Impact	Mitigation Measures	Significance After Mitigation
A. SIGNIFICANT UNAVOIDABLE IMPACTS		
N. Consistency with Adopted Plans and Policies		
N.3: The proposed Estuary Plan would be consistent with regional policies and programs except for the Clean Air Plan and the Priority Use Areas of the Bay Plan.	**N.3:** No additional measures beyond those already included in the OSCAR Element and the Land Use and Transportation Element are feasible.	SU

SU = Significant and Unavoidable

TABLE S-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significant Impact	Mitigation Measures	Significance After Mitigation
B. SIGNIFICANT BUT MITIGABLE IMPACTS		
A. Land Use		
A.3: The designation of various geographic areas along the shoreline for specific new uses and redevelopment activities could render some existing development non-conforming and result in the eventual displacement of established industrial, residential, or commercial uses. As higher-value residential, live-work, and commercial development occurs in previously industrial areas, certain types of industrial and heavy commercial activities could become more difficult to carry out. As parks and open spaces are developed along the shoreline, enhanced visibility and aesthetic concerns could place more pressure on the area's industries to improve the appearance of open storage areas, facades, and streetscapes.	**A.3:** When the Oakland zoning ordinance is updated, ensure that the new zoning map designations for parcels in the Estuary Plan area reflect the development standards presented on Pages 181-197 of the Draft Estuary Plan.	LS
A.6: Implementation of the Estuary Plan would ultimately reconfigure freeway interchanges along I-880 and construct a new "Tidewater Parkway" between 42nd and 66th Avenues. These changes could have direct land use impacts by displacing existing development located at the sites of proposed on- and off-ramps. Proposed road improvements also could have indirect land use impacts by creating potential new development sites around the relocated interchanges, providing access to areas that currently lack road frontage, and eliminating direct freeway access from parcels located adjacent to on- and off-ramps to be closed or relocated.	**A.6:** Require CEQA review and appropriate environmental documentation prior to undertaking the specific transportation improvements identified in the Estuary Plan, including reconfigured I-880 interchanges, Tidewater Parkway, and BART and light rail improvements.	LS

LS = Less than Significant

TABLE S-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significant Impact	Mitigation Measures	Significance After Mitigation
B. SIGNIFICANT BUT MITIGABLE IMPACTS		
H. Vegetation and Wildlife		
H.4: The development of a pier into the Estuary adjacent to the Lake Merritt Channel could result in an increase in suspended sediments.	**H.4:** Due to the Pacific herring's particular vulnerability during its spawning season, construction scheduling for the pier would be coordinated with wildlife agencies; construction may be halted during spawning season if determined necessary by wildlife agencies.	LS
M. Hazardous Materials		
M.5: Remediation efforts at an identified hazardous waste site could expose workers and the public to hazardous substances.	**M.5:** Hazards to construction workers and the general public during demolition and construction shall be mitigated by the preparation and implementation of site-specific health and safety plans, as recommended by the Occupational Safety and Health Administration.	LS

LS = Less than Significant

TABLE S-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significant Impact	Mitigation Measures	Significance After Mitigation
B. LESS THAN SIGNIFICANT IMPACTS		
A. Land Use		
A.1: Adoption of the Estuary Plan would supplement the new "Waterfront Mixed Use" General Plan designation with more specific and prescriptive designations for discrete geographic areas along the Oakland shoreline. Development consistent with these designations would be in keeping with the overall Citywide structure and "vision" described in the recently adopted Land Use and Transportation Element, as well as the objectives and policies in the 1996 OSCAR Element.	**A.1:** None required.	LS
A.2: The Estuary Plan envisions extensive redevelopment along the Oakland Estuary, with substantial changes from the current land use mix. Implementation of the Plan could change the Citywide land use pattern and create a series of new waterfront "neighborhoods" along the Oakland shoreline.	**A.2:** None required.	LS
A.4: The Estuary Plan would permit mixed-use development in areas that are presently designated for one predominant use. Mixed-use projects could contain potentially incompatible uses, such as housing and night clubs within a single structure, or projects that combine residential and industrial uses in a live-work setting.	**A.4:** None required.	LS
A.5: Redevelopment of land consistent with the Estuary Plan could intensify the level of activity along the Oakland shoreline, thereby affecting land uses on the opposite shores in Alameda and on Coast Guard Island.	**A.5:** None required.	LS

LS = Less than Significant

TABLE S-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significant Impact	Mitigation Measures	Significance After Mitigation
B. LESS THAN SIGNIFICANT IMPACTS		
B. Transportation		
B.2: Development that would occur under the Estuary Plan would increase transit demand.	**B.2:** None required.	LS
C. Population, Housing, and Employment		
C.1: The Estuary Plan would increase the number of housing units in the Estuary Planning Area.	**C.1:** None required.	LS
C.2: The Estuary Plan would result in a net increase in employment development potential within the Estuary Planning Area.	**C.2:** None required.	LS
D. Public Services		
D.1-1: Development consistent with the proposed Estuary Plan would result in an increase in water demand.	**D.1-1:** None required.	LS
D.1-2: Increased water demand would require localized improvements to the water delivery system and could require the addition of new infrastructure such as pumps and storage facilities. The impact is less than significant, since it is mitigated by policies in the recently adopted Land Use and Transportation Element.	**D.1-2:** None required.	LS
D.2-1: Development consistent with the proposed Estuary Plan would result in an increase in flows to the regional wastewater treatment plant.	**D.2-1:** None required.	LS

LS = Less than Significant

TABLE S-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significant Impact	Mitigation Measures	Significance After Mitigation
B. LESS THAN SIGNIFICANT IMPACTS		
D.2-2: Increased sanitary sewer flows would require localized improvements to the sewage collection system and could require the addition of new laterals and collection mains and upgraded pumps, lift stations, and other wastewater infrastructure.	**D.2-2:** None required.	LS
D.2.-3: Development consistent with Estuary Plan could cause the relocation of the San Antonio Creek Wet Weather Treatment Plant and limit EBMUD's ability to expand its pipe storage center at 5601 Oakport Street.	**D.2-3:** None required.	LS
D.3-1: Implementation of the proposed Estuary Plan would result in a slight increase in the amount of impervious surfaces within the Estuary Planning Area. Any increase would be marginal and the amount and rate of runoff would not change significantly.	**D.3-1:** None required.	LS
D.4-1: New development consistent with the proposed Estuary Plan would increase the demand for solid waste services.	**D.4-1:** None required.	LS
D.5-1: Development consistent with the proposed Estuary Plan would result in higher levels of population and employment, thereby increasing the demand for police services. The need for staff, facilities, and equipment would increase.	**D.5-1:** None required.	LS
D.6-1: Development consistent with the proposed Estuary Plan would result in higher levels of population and employment, thereby increasing the demand for fire protection and emergency medical services. The need for staff, facilities, and equipment would increase.	**D.6-1:** None required.	LS

LS = Less than Significant

TABLE S-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significant Impact	Mitigation Measures	Significance After Mitigation
B. LESS THAN SIGNIFICANT IMPACTS		
D.7-1: Development consistent with the proposed Estuary Plan could increase the number of students served by the Oakland Unified School District (OUSD).	**D.7-1:** None required.	LS
D.8-1: Development consistent with the proposed Estuary Plan could result in an increased number of patrons at the Main and branch libraries.	**D.8-1:** None required.	LS
D.9-1: Development consistent with the proposed Estuary Plan would increase the demand for park services.	**D.9-1:** None required.	LS
D.9-2: Development of an Embarcadero Parkway consistent with the proposed Estuary Plan could result in impacts on adjacent park areas and result in additional maintenance and operational costs to the City, Port, or the Park District.	**D.9-2:** None required.	LS
E. Air Quality		
E.2: The proposed Estuary Plan would be consistent with *Clean Air Plan* Transportation Control Measures (TCMs) since the proposed plan is part of the General Plan and the General Plan was determined to be consistent with *Clean Air Plan* TCMs.	**E.2:** None required.	LS
E.3: Implementation of the proposed Estuary Plan would not significantly change future traffic levels and associated CO emissions along roadways within the planning area.	**E.3:** None required.	LS
E.4: Proposed Estuary Plan map changes would encourage a mix of uses that could result in odor nuisance problems at residential receptors.	**E.4:** None required.	LS

LS = Less than Significant

TABLE S-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significant Impact	Mitigation Measures	Significance After Mitigation
B. LESS THAN SIGNIFICANT IMPACTS		
F. Visual and Aesthetic Conditions		
F.1: Development consistent with the Oakland Estuary Plan could degrade or destroy existing scenic views from and of the Estuary Planning Area.	**F.1:** None required.	LS
G. Cultural and Historic Resources		
G.1: Excavation of development sites consistent with the Estuary Plan could unearth paleontologic remains.	**G.1:** None required.	LS
G.2: Excavation of development sites consistent with the Estuary Plan could unearth archaeological resources.	**G.2:** None required.	LS
G.3: Some of the City's historic resources are located within the Estuary Planning Area. Higher density uses are proposed in these areas and redevelopment is encouraged. This could have direct impacts by increasing the pressure to remove or demolish older buildings, including some historic structures.	**G.3:** None required.	LS
G.4: Increased development and more intense development in areas with high concentrations of older structures such as along the lower Broadway spine could have indirect impacts on these structures by changing their context and setting. Even if left intact, the integrity of older buildings could be compromised as larger, modern buildings are erected on adjoining properties.	**G.4:** None required.	LS
G.5: The emphasis in the Estuary Plan on adaptive re-use and live-work development could result in alteration of older buildings and historic structures in a manner that is architecturally incompatible with the structure.	**G.5:** None required.	LS

LS = Less than Significant

TABLE S-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significant Impact	Mitigation Measures	Significance After Mitigation
B. LESS THAN SIGNIFICANT IMPACTS		
H. Vegetation and Wildlife		
H.1: Development consistent with the Oakland Estuary Plan could damage or remove potential habitat for special status species on undeveloped parcels.	**H.1:** None required.	LS
H.2: Development consistent with the Oakland Estuary Plan could trigger impacts on adjacent lands designated for Resource Conservation. Greater levels of noise, traffic, lighting, urban runoff, and human activity could reduce the value of these areas as wildlife habitat.	**H.2:** None required.	LS
H.3: Development consistent with the Oakland Estuary Plan could affect the habitat of certain special status plants and animals and result in the loss of special status plant and animal species.	**H.3:** None required.	LS
I. Hydrology and Water Quality		
I.1: Implementation of the proposed Estuary Plan would result in increased construction activities along the waterfront associated with development and redevelopment of various uses, which in turn could result in water quality impacts to the Estuary and Bay.	**I.1:** None required.	LS
I.2: Implementation of the proposed Estuary Plan would result in a long-term increase in waterfront and water-oriented uses, which in turn could result in water quality impacts to the Estuary and Bay.	**I.2:** None required.	LS

LS = Less than Significant

TABLE S-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significant Impact	Mitigation Measures	Significance After Mitigation
B. LESS THAN SIGNIFICANT IMPACTS		
I.3: Implementation of the proposed Estuary Plan would result in increased open space areas, including parks, trails, habitat areas and enhanced tidal marshes. These uses would alter existing drainage patterns, generally reducing impervious surfaces and decreasing volume of stormwater runoff.	**I.3:** None required.	LS
J. Energy		
J.1: Development consistent with the Estuary Plan would result in a marginal increase in energy consumption.	**J.1:** None required.	LS
K. Geology and Seismicity		
K.1: Adoption of the Plan could result in development at various locations throughout the Estuary Planning Area that could cause structural damage due to soil conditions to new and existing buildings unless properly constructed.	**K.1:** None required.	LS
K.2: In the event of an earthquake, damage from strong ground shaking or ground failure (liquefaction, densification, or landsliding) could affect structures, foundations, and underground utilities that could be developed as a result of Plan adoption. Human injury and life also could be risked.	**K.2:** None required.	LS
L. Noise		
L.1: Implementation of the proposed Estuary Plan would result in future noise levels that are both higher and lower than future noise levels that would occur under future conditions as projected by the recently adopted General Plan and ABAG.	**L.1:** None required.	LS

LS = Less than Significant

TABLE S-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significant Impact	Mitigation Measures	Significance After Mitigation
B. LESS THAN SIGNIFICANT IMPACTS		
L.2: The proposed Estuary Plan encourages residential uses through several mixed-use land use designations (Mixed Use District, Transitional Mixed Use, and Residential Mixed Use), and noise compatibility problems could result due to the proximity of residential, commercial, light industrial, and employment uses.	**L.2:** None required.	LS
L.3: The proposed Estuary Plan would expand the waterfront area designated for parks and open space, and noise compatibility problems could be posed by the proximity of such uses to major noise sources.	**L.3:** None required.	LS
L.4: Implementation of the proposed Estuary Plan could result in future transportation improvements that could create or aggravate noise compatibility problems with sensitive receptors.	**L.4:** None required.	LS
M. Hazardous Waste		
M.1: Proposed land use changes for the Estuary Planning Area include a change to mixed uses that may allow housing as well as commercial operations that may use hazardous materials.	**M.1:** None required.	LS
M.2: Adoption of the proposed Estuary Plan could encourage new business and expansion of existing businesses within the areas designated for change, with associated potential increases in the quantities of hazardous substances used, stored and transported, increasing the potential for accidents or spills and increasing the potential for exposure to workers, the public and the environment.	**M.2:** None required.	LS

LS = Less than Significant

TABLE S-1 (Continued)
SUMMARY OF ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Significant Impact	Mitigation Measures	Significance After Mitigation
B. LESS THAN SIGNIFICANT IMPACTS		
M.3: Adoption of the proposed Estuary Plan would increase the potential for demolition and renovation activities within the Estuary Planning Area. Many of these buildings could contain hazardous building materials and demolition or renovation could result in exposure to hazardous building materials, such as asbestos, lead, mercury or PCBs, with associated public health concerns.	**M.3:** None required.	LS
M.4: Adoption of the proposed Estuary Plan would increase the potential for construction activities, and could increase the likelihood of encountering contaminated soil or groundwater and potentially expose workers and the community to hazardous substances.	**M.4:** None required.	LS
N. Consistency with Adopted Plans and Policies		
N.1: The proposed Estuary Plan would be consistent with federal policies and programs.	**N.1:** None required.	LS
N.2: The proposed Estuary Plan would be consistent with state policies and programs.	**N.2:** None required.	LS
N.4: The proposed Estuary Plan would be consistent with the policies and programs of adjacent jurisdictions.	**N.4:** None required.	LS

LS = Less than Significant

CHAPTER I
INTRODUCTION

This Environmental Impact Report (EIR) describes the environmental consequences of adopting the proposed Oakland Estuary Plan. The report has been prepared by the City of Oakland (the "Lead Agency") pursuant to all relevant sections of the California Environmental Quality Act (CEQA).[1] It is intended to inform City officials, responsible agencies, and the public of the environmental effects of the proposed Estuary Plan.[2] The EIR is intended to publicly disclose those impacts that may be significant and adverse, describe possible measures that mitigate or eliminate these impacts, and describe a range of alternatives to the project.

BACKGROUND

California Government Code Section 65300 requires each city and county in California to adopt a comprehensive, long-range general plan for its physical development. The plan consists of development policies, a land use diagram, and text framing the major proposals. The Government Code requires that General Plans contain seven mandatory elements: land use, circulation, housing, open space, conservation, noise, and safety. The City of Oakland has consolidated some of the State-mandated elements to eliminate redundancies and establish a more integrated approach to long-range planning. Oakland is in the process of comprehensively updating its General Plan for the first time since the 1970s. The Historic Preservation Element was adopted in 1995, the Open Space, Conservation and Recreation Element was adopted in 1996, and the Land Use and Transportation Element was adopted in March 1998. Housing, Safety, and Noise Elements are programmed to be updated during the next two years. The Estuary Plan is designed as a part of the Land Use and Transportation Element of the *General Plan*. Compared to the General Plan, the Estuary Plan has a more focused geographic scope and is more specific in nature.

RELATIONSHIP TO THE LAND USE AND TRANSPORTATION ELEMENT

The environmental impact analysis for the proposed Estuary Plan is presented and analyzed within the context of the Land Use and Transportation Element of the City of Oakland General Plan, which was adopted in March 1998. The Land Use and Transportation Element addresses the long-range development of Oakland through the year 2015. In addition to updating the

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[1] *CEQA Guidelines define the "Lead Agency" as the public agency that has the principal responsibility for carrying out or approving a project. The City of Oakland is the Lead Agency for preparation of this EIR.*

[2] CEQA Guidelines define "Responsible Agencies" as those which have discretionary approval power over aspects of the project for which the Lead Agency has prepared an EIR.

City's Land Use and Transportation Diagram, the Land Use and Transportation Element introduces new strategies, policies, and priorities for Oakland's development and enhancement during the next two decades.

The Estuary Plan is part of the buildout envisioned in the Land Use and Transportation Element. A program-level EIR prepared for the Land Use and Transportation Element (State Clearinghouse No. 97062089, certified by the Planning Commission in January 1998) assessed the environmental impacts of projected growth in Oakland through the year 2015 and included measures designed to mitigate the impacts of development in Oakland.

This EIR for the Estuary Plan is "tiered" from the Land Use and Transportation Element EIR. The CEQA concept of "tiering" refers to the coverage of general environmental matters in broad program-level EIRs, with subsequent narrower EIRs for individual projects or plans that implement the broad program. The "tiered" EIR incorporates by reference the general discussions in the program EIR and concentrates on project-specific issues. CEQA and the *CEQA Guidelines* encourage the use of tiered EIRs to reduce delays and excessive paperwork in the environmental review process. Tiered EIRs accomplish these goals by eliminating repetitive analysis of issues that were adequately addressed in the program EIR and by incorporating those analyses by reference. In this case, the Estuary Plan EIR provides more site-specific details regarding the project, and relies on the 1998 Land Use and Transportation Element EIR to assess more general and comprehensive issues relating to physical development in the City of Oakland.

The tiering of the environmental analysis for the Estuary Plan allows this EIR to rely on the Land Use and Transportation Element EIR for the following: (1) a discussion of general background and setting information for environmental topic areas; (2) overall growth-related issues; (3) issues that were evaluated in sufficient detail in the Land Use and Transportation Element EIR for which no significant new information or change in circumstances exists that would require further analysis; and (4) long-term cumulative impacts. Thus, the Estuary Plan and this EIR should be viewed in conjunction with the Land Use and Transportation Element of the City of Oakland *General Plan* and its accompanying EIR. The program EIR prepared for the Land Use and Transportation Element is hereby incorporated by reference and is available for review during normal operating hours at the City of Oakland Community and Economic Development Agency at 1330 Broadway, Room 310, Oakland, California.

The scope of this Estuary Plan EIR has been focused in accordance with Section 15152 of the CEQA Guidelines to discuss only those impacts of the Estuary Plan not mitigated or avoided as a result of the previous Land Use and Transportation Element EIR. This tiered EIR considers Estuary Plan-specific impacts that were not considered in the Land Use and Transportation Element EIR as well as identifies those impacts that would occur with the implementation of the Estuary Plan that were addressed in the Land Use and Transportation Element EIR.

REQUIRED LEGISLATIVE APPROVALS

Implementation of the proposed Estuary Plan will require approval of a General Plan Amendment by the Oakland City Planning Commission and City Council. State law (Government Code Section 65351) requires that the Planning Commission and City Council each hold at least one public hearing on the amendment before they take formal action. Comments received at the public hearing will be considered by each body before taking formal action to adopt or revise the Estuary Plan. The Final EIR must be certified prior to adoption of the Estuary Plan.

INTENDED USES OF THE EIR

The City of Oakland is acting as the Lead Agency for all environmental review associated with the Estuary Plan. This EIR has been prepared to serve as the CEQA-required environmental documentation for City consideration of the update and to assist the Oakland City Planning Commission and City Council in their review of the document. These bodies will use this EIR along with other information in determining whether to approve, deny, or modify the proposed Estuary Plan.

The EIR may also be used at a future date by the Planning Commission and City Council to evaluate the environmental impacts of subsequent actions that are consistent with the Estuary Plan or are intended to implement the Estuary Plan. The environmental review for future actions may rely soley on this EIR, may reference information in this EIR for a plan or project specific environmental document, or use this EIR for subsequent or supplemental environmental documentation.

As the Lead Agency, the City also intends to use this EIR as the required documentation for approvals that may be required by other responsible agencies, such as the Port of Oakland, the East Bay Municipal Utility District, the Bay Conservation and Development Commission (BCDC), Caltrans, the state Department of Fish and Game, and other agencies not identified at this time. The Estuary Plan also may serve as a basis for revisions and amendments to the BCDC Seaport Plan, the Bay Trail Plan, and planning documents prepared by other regional agencies, such as the Association of Bay Area Governments (ABAG), the Metropolitan Transportation Commission (MTC), and the East Bay Regional Parks District.

ORGANIZATION OF THE EIR

Pursuant to Sections 15140 and 15143 of the *CEQA Guidelines*, an EIR should be organized and written in a manner that allows decision makers and the public to understand the material contained in the document. The focus should be on the significant effects of the project on the environment. Accordingly, this EIR focuses on the information necessary to make an informed decision regarding project approval. The EIR is organized into the following sections:

Summary of Impacts and Mitigation: This Summary highlights the significant environmental impacts that would result from implementation of the proposed Element and lists the mitigation measures needed to reduce the effects to a less-than-significant level.

I. Introduction: This section explains the purpose of the EIR and its organization.

II. Project Description: This section describes the major recommendations of the proposed Estuary Plan and presents quantitative and qualitative data on the project. The text discusses policy changes, land use changes, and transportation network changes within the Estuary Planning Area.

III. Setting, Impacts, and Mitigation: This section presents an impact analysis for all of the topics identified in the Initial Study as being potentially affected by the proposed Estuary Plan. The following topic areas are addressed:

A. **Land Use**, including land use compatibility issues and the potential effects of the Estuary Plan and its associated map changes on long-term land use and development patterns in Oakland.

B. **Transportation and Circulation,** including the effects of project-facilitated land use changes and transportation network changes on local and regional traffic conditions.

C. **Population, Employment and Housing**, including anticipated impacts of the Estuary Plan on population, employment, and housing growth; the balance between jobs and housing; and the displacement of housing by new development.

D. **Public Services**, including the impact of project-facilitated change on Oakland's water system, sewer system, storm drainage system, solid waste capacity, police and fire services, schools, libraries, and parks.

E. **Air Quality**, including the potential air quality impacts of the land use and transportation changes and the population growth facilitated by the project.

F. **Visual and Aesthetic Conditions**, including the effect of the Estuary Plan on urban design, views, and visual character in the Estuary Planning Area.

G. **Cultural and Historic Resources,** including the impact of the Estuary Plan on historic, archaeological, and paleontological resources in Oakland.

H. **Vegetation and Wildlife**, including the potential vegetation and wildlife impacts of projects facilitated by the Estuary Plan, particularly on sensitive habitats and rare, endangered, or threatened species.

I. **Hydrology and Water Quality,** including the impact of project-related development on urban runoff and local water quality conditions.

J. **Energy**, including the impact of the Estuary Plan on fossil fuel consumption and gas and electric infrastructure.

K. **Geology and Seismicity,** including the relationship of long-range development patterns facilitated by the Estuary Plan to local seismic conditions, geologic hazards, and soil resources.

L. **Noise,** including impacts related to the traffic increases projected by the Estuary Plan and impacts associated with existing and projected noise sources.

M **Hazardous Materials,** including the increased risk of exposure to hazardous substances or incidents resulting from project-facilitated development.

N. **Consistency with Adopted Plans and Policies,** describing the relationship between this Estuary Plan and other plans and programs guiding land use and transportation decisions in the Oakland area, including the Alameda County General Plan, the General Plans of adjoining cities, and plans prepared by the Port of Oakland, East Bay Regional Park District, Association of Bay Area Governments, Bay Conservation and Development Commission, Metropolitan Transportation Commission, Alameda County Congestion Management Agency, and other regional, state, and federal agencies.

IV. Alternatives Analysis: This section compares the project (the "preferred alternative") to other alternatives, including a "no project" alternative that would not result in the adoption of the Estuary Plan.

V. Impact Overview: This section describes the growth-inducing effects of the project, the cumulative effects of this project and others underway in the City and region, and the unavoidable or irreversible impacts of the project. The "unavoidable" impacts are those that would remain significant even after mitigation measures are applied.

VI. Report Preparers: This section identifies the persons and organizations involved in preparing this EIR.

A separate document will be prepared for mitigation monitoring purposes. That document will list the mitigation measures included in the EIR and will identify the City departments and agencies responsible for implementing the mitigation measures.

CHAPTER II
PROJECT DESCRIPTION

DEFINITION OF THE PROJECT

The Oakland Waterfront Initiatives Estuary Plan is a land use and transportation plan that will be adopted as part of the City of Oakland *General Plan.* The Estuary Plan establishes the location and intensity of land uses along four miles of waterfront area and provides policies and guidelines related to the intended form, pattern and character of future development. Policies also establish the location and configuration of open space and public access facilities within the area and along the shoreline.

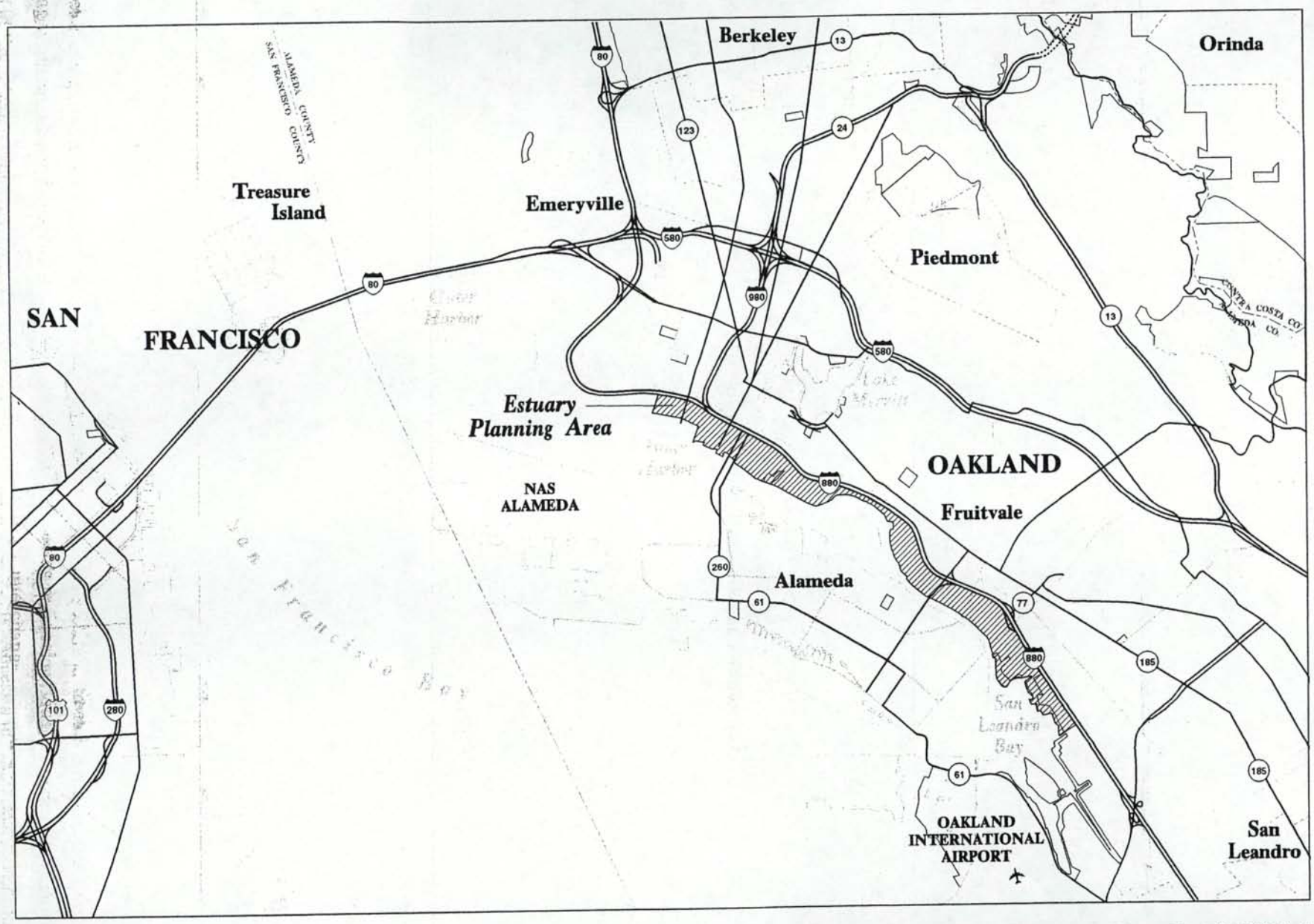
In addition, the Estuary Plan provides policies and recommendations for the improvement of transportation facilities including Interstate 880, streets, bicycle routes, transit and pedestrian ways. An implementation program within the Estuary Plan describes a generalized strategy for the phasing of improvements (including catalyst projects) as well as public improvement costs and potential funding sources.

LOCATION AND SETTING

The Estuary Planning Area is located within the City of Oakland, generally south of Interstate 880, and between Adeline Street on the west and 66th Avenue on the east (see Figure II-1). The area includes lands within the planning jurisdictions of both the City and the Port of Oakland and is a collaborative effort between the two entities. The area represents approximately 1,000 acres of land situated between the Port of Oakland's maritime operations to the west and its airport lands to the east.

The planning area is diverse in character containing a wide range of land uses from maritime and heavy industrial to residential. As military facilities including the Army Depot and the Naval Supply Center are phased out, the Port of Oakland intends to further consolidate its maritime operations in the western reaches of the waterfront. This will create opportunities for changes in land use within the study area. Three sub areas within the Estuary Planning Area are defined for planning purposes (see Figure II-2):

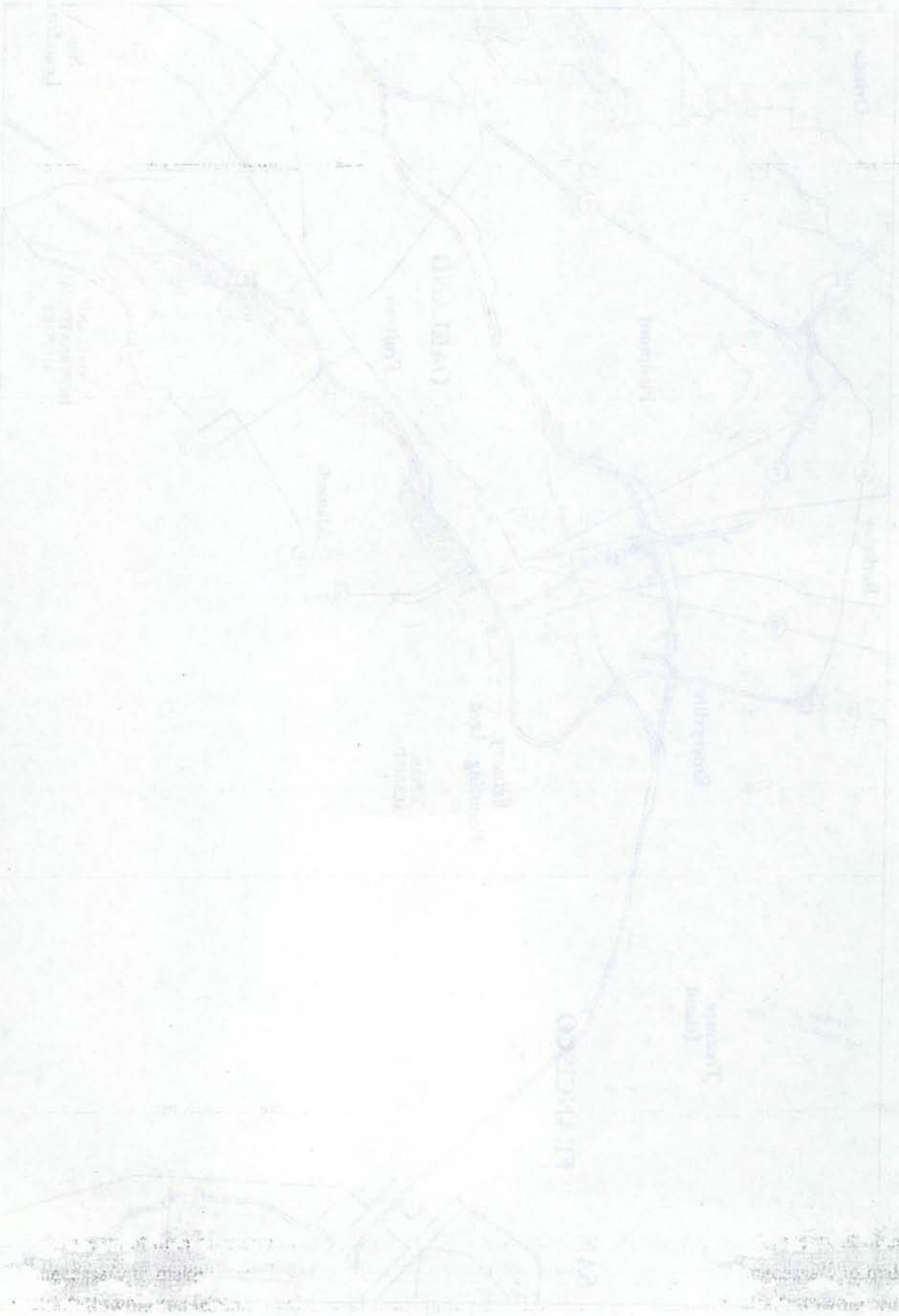
The Jack London District encompasses the area from Adeline Street in the west to Oak Street in the east and includes Jack London Square, the primary waterfront retail district in Oakland.

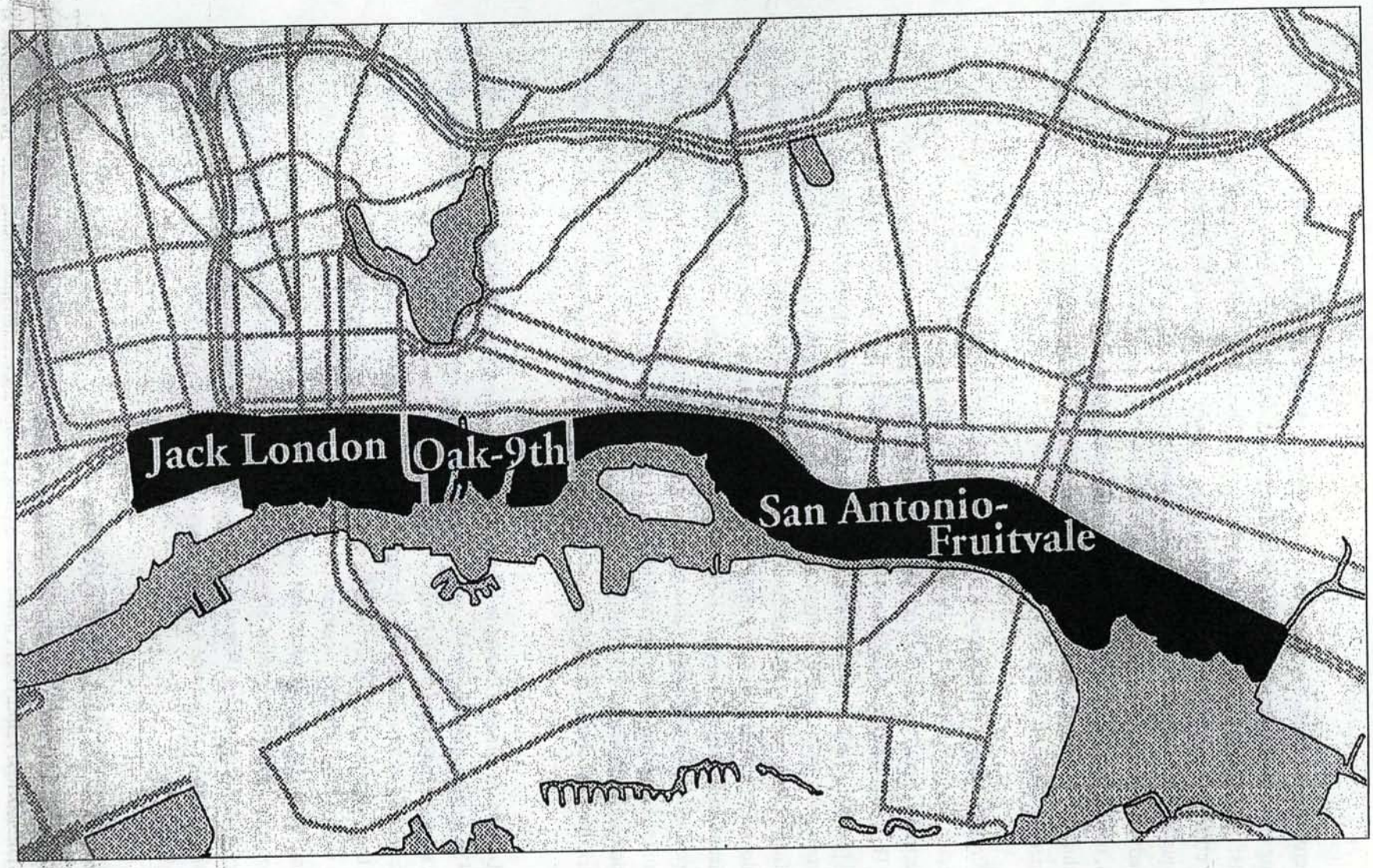


SOURCE: City of Oakland

City of Oakland Estuary Plan EIR / 970224 ■

Figure II-1
Regional Location





SOURCE: City of Oakland

Figure II-2
Estuary Plan Districts

Existing activities in this district include an emerging off-price retail district between Martin Luther King and Washington Streets; a warehouse/loft residential district between Webster and Oak Streets; the City's produce market in the vicinity of Third and Franklin Streets; and the Broadway corridor, which serves as the primary link between the downtown Oakland and Jack London Square. Key objectives for this portion of the planning area include the intensification of the Broadway corridor to create a stronger activity linkages between the Center City and the waterfront, intensification of retail, dining, and entertainment uses in the Jack London Square area, and the further enhancement of the Jack London Waterfront as a public-oriented place for the enjoyment of Oakland residents.

The Oak Street through Ninth Avenue District is bounded by Oak Street on the west and the Ninth Avenue Terminal on the east. Existing land uses include a mix of industrial, warehousing, and the maritime operations of the Port of Oakland at the Ninth Avenue break bulk cargo terminal. The consolidation of cargo operations from the Ninth Avenue terminal to the Army Depot will provide a large tract of waterfront land in public ownership with considerable redevelopment potential. Laney College and the Peralta Community College School District hold significant properties along Lake Merritt Channel. A five-acre enclave of privately held property along Fifth Avenue south of the Embarcadero is currently occupied by a community of artists, artisans and small businesses. Key objectives for this sub-area include the creation of a stronger open space and pedestrian linkage between Lake Merritt and the waterfront along the Channel, and the creation of a major public gathering spaces for large events at the waterfront. The retention and expansion of the Fifth Avenue District as a mixed-use community supportive of live-work, small business and artisan activities also is an important objective within this sub-area.

The San Antonio/Fruitvale District is located along the estuary from Ninth Avenue to 66th Avenue. The area is characterized by a diversity of land uses, long stretches of inaccessible and underutilized waterfront land and a confusing and disorienting circulation system. Additionally, the sub-area serves as a major industrial zone for the City of Oakland and will continue to serve the city in this function. Key objectives for this sub-area include: the clarification of land use policies to reduce conflicts and incompatible relationships; the preservation and intensification of employment centers; the enhancement of the Kennedy Tract as a livable mixed-use neighborhood; and the enhancement of public access opportunities to and along the waterfront. The Estuary Plan's Circulation Plan also calls for the improvement of regional and local transportation facilities to provide a more understandable system of movement by all modes to and through the area.

COMPONENTS OF THE ESTUARY PLAN

The Estuary Plan is comprised of several chapters, each providing policy direction in particular topic areas, including: Land Use, Public Access and Open Space, Transportation,

Estuary Plan calls for transportation improvements to create a better balance of local and regional access, and a clearer and safer system of circulation for cars, pedestrians, bicycles and transit vehicles.

MAJOR CHANGES ENVISIONED BY THE ESTUARY PLAN

The Estuary Plan is providing an updated land use and transportation plan for the planning area that will result in several significant changes from the existing regulatory and transportation framework.

LAND USE CHANGES

The land use changes of the Estuary Plan reflect the evolving nature of the waterfront, as maritime uses are consolidated in the outer harbor, and as heavy industrial uses relocate in proximity to regional transportation facilities. The following provides a general description of the major land use changes recommended by the Estuary Plan (see Figure II-3).

- Within the Jack London District, live-work and loft uses will be encouraged through a residential mixed-use land use designation between Franklin and Oak Streets.

- Within the Oak through 9th District, public open space and a commercial mixed-use designation that encourages small businesses and water-oriented uses including live-work, light industrial and commercial activities, to complement the existing enclave of uses along Fifth Avenue.

- At Union Point, a public open space designation will reflect the proposal to create a 8.5-acre waterfront park that can serve the adjacent San Antonio and Fruitvale neighborhoods, as well as provide a citywide amenity.

- The Con-Agra site and two adjacent properties (i.e., Lone Star and Ready Mix) have been designated as future redevelopment opportunities, with mixed use designations that would encourage residential and/or commercial uses that promote public accessibility and use of the waterfront.

- The Kennedy Tract neighborhood generally between 29th Avenue and Fruitvale Avenue is designated as a mixed-use district to encourage the enhancement of the area as a residential neighborhood, and for compatible employment uses that contribute to the livability and diversity of the area.

- The area generally between 38th Avenue and High Street is designated as a General Commercial area to build on the existing regional serving uses (e.g., Super K Mart) and the planned reconfiguration of the freeway interchange.

Implementation, and Urban Design. Each of these chapters describes existing conditions, the key objectives for change, and the policies aimed at achieving the objectives.

SUMMARY OF PROJECT OBJECTIVES AND THEMES

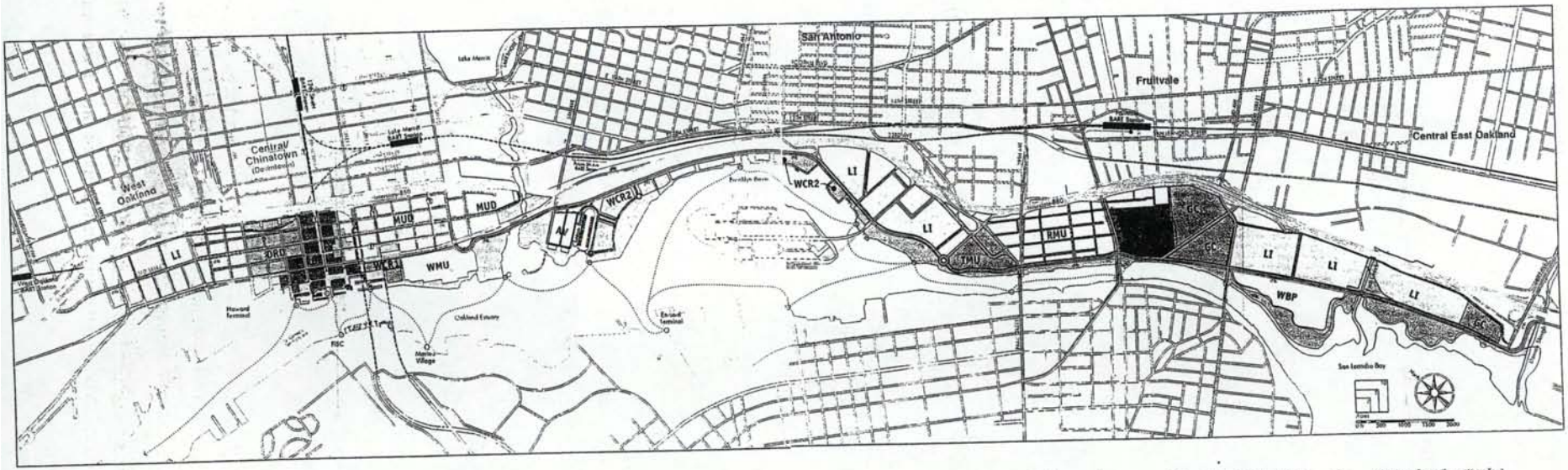
The objectives of the Estuary Planning Area are derived from those developed as part of the General Plan Update, and from the Estuary Plan Advisory Group, representing a broad spectrum of the community. Key objectives for the overall planning area include:

Improve public access to and along the shoreline, and the role of the estuary as a major citywide amenity. Although Oakland has over 12 miles of urban shoreline, the city is not perceived as a waterfront community; there are only limited opportunities for the public to experience the water's edge. The Estuary Plan calls for the creation of a continuous system of promenades, parks and plazas to be created along the waterfront as a combination of public improvements and private development efforts. The Estuary Plan also emphasizes the importance of enhanced pedestrian, bicycle and vehicular linkages between inland areas and the waterfront, to improve public access and to allow for waterfront revitalization to benefit the quality of life and economic development opportunities of the adjacent neighborhoods.

Provide for the revitalization of existing land uses to enhance the amenity of the waterfront and the livability of the city. As the role of the waterfront evolves, and as maritime and heavy industrial uses become consolidated in the outer harbor areas of the City, there are opportunities within the Estuary Planning Area for the infill of new uses, including commercial, light industrial, live-work and residential that will promote a more amenable and livable waterfront district. The design and configuration of these new uses shall be carefully considered to build on the unique qualities of the waterfront and to create a distinctive sense of place, with improved access and visibility to the waterfront.

Maintain and enhance the economic role of the planning area. There are many viable businesses within the planning area that contribute to the economic well-being of Oakland. The land use plan for the area is aimed at preserving and intensifying employment-intensive areas and viable businesses. Even where land use changes are proposed, the Estuary Plan provides for existing uses to remain until they choose to relocate.

Balance local and regional access by all modes of travel to, from and through the area. Successive layers of rail, transit and vehicular transportation facilities within the planning area have served to promote regional through-movement at the expense of local access to and along the waterfront. These facilities have created physical barriers to the waterfront, and have contributed to the creation of a disorienting circulation system. The



RDE - Retail Dining and Entertainment
ORD - Off Price Retail District
MUD - Mixed Use District
RMU - Residential Mixed Use

WCR1 - Waterfront Commercial Recreational
WCR2 - Waterfront Commercial Recreational
WMU - Waterfront Mixed Use
special Overlay District - Produce Market

GC - General Commercial
CR - Commercial Recreation
WBP - Waterfront Business Park
IMU - International Mixed Use

LI - Light Industrial
IND - Industrial
AV - Artisan Village

Parks, Open Space and Promenades
Habitat Preservation

Interstate Freeway
Arterial Roadways
Waterfront Parkway
Local Street

Bay Area Rapid Transit (BART)
Rail (Freight/Passenger)
Downtown Trolley
Light Rail

Waterborne Transit (Ferry, Water Taxi)
Bikeway - Class I
Bikeway - Class II

SOURCE: City of Oakland

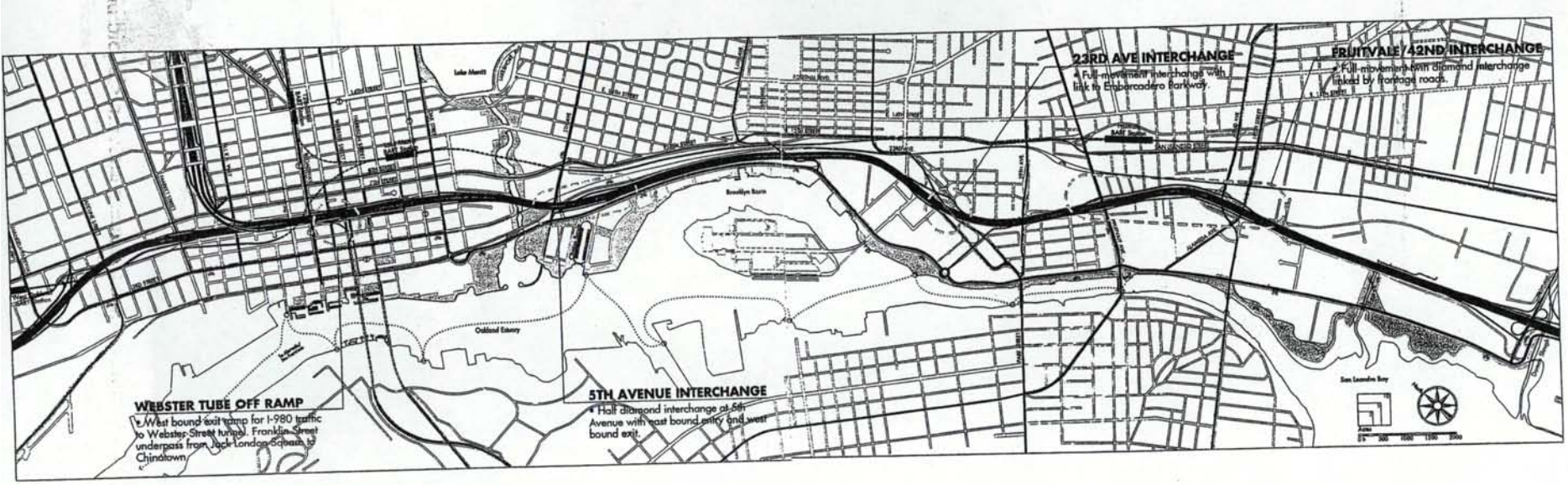
City of Oakland Estuary Plan EIR / 970224 ■

Figure II.3
Land Use Plan

TRANSPORTATION NETWORK CHANGES

The Estuary Plan proposes several major transportation network changes aimed at improving local access to and along the waterfront, while accommodating and clarifying regional circulation and access (see Figure II-4). These transportation changes include:

- Improvements to the Interstate 880/980 Corridor that would upgrade substandard and unsafe interchanges and create a more understandable system of regional access including:
  - Ramp improvements to provide more direct linkage between Interstate 980 and the Webster Street Tube, to reduce the need for surface streets to accommodate regional traffic.
  - The creation of an improved half-diamond interchange at 5th Avenue in conjunction with the seismic upgrade of the 5th Avenue bridge, to allow for the replacement of the existing substandard on and off-ramps connecting to the Embarcadero.
  - The creation of a new full-movement interchange at 23rd Avenue to allow for the consolidation of all on and off-ramps and for regional traffic to more directly access 23rd Avenue and the Park Street Bridge.
  - The creation of half-diamond interchanges at Fruitvale and 42nd Avenues, connected by frontage roads, to replace the existing substandard ramps, and to provide direct freeway access to inland neighborhoods and to the Fruitvale and High Street Bridges.
- Phase-out over time of existing rail spurs, and their replacement with enhanced streets, transit, pedestrian and bicycle ways.
- Improvements to east-west vehicular access within the project area, including the creation of a continuous two to three-lane parkway between 66th Avenue and Alameda Avenue along the existing railroad right-of-way and Tidewater Avenue.
- Enhancement of Third Street as a well landscaped urban street, and its extension westward to link to the Mandela Parkway.
- Improvement of key north-south streets, (e.g., Washington, Franklin, Webster, 5th, 16th, 29th, Fruitvale and High) to provide enhanced local pedestrian, bicycle and vehicular access to the waterfront.
- Improvement of Broadway as a major activity spine linking Jack London Square with the Center City.
- Streetscape improvements that promote enhanced pedestrian and bicycle movement, and that create more livable environments.



JRCE: City of Oakland

Figure II.4
Circulation Plan

- A continuous system of Class 1 and 2 bike routes along the length of the waterfront from Mandela Parkway to 66th Avenue.

- Improved transit access to the waterfront, including:

  - An expanded downtown shuttle along Broadway with connections to Amtrak and the Lake Merritt BART Station, and

  - A rail linkage between the Fruitvale BART Transit Village, the Kennedy Tract Waterfront and Alameda.

CHAPTER III

ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

A. LAND USE

SETTING

CONTEXT

The Estuary Planning Area encompasses about 900 acres and extends in a narrow crescent approximately five miles in length and 500 to 2,500 feet in width along the edge of the Oakland Estuary. Although this section of the waterfront is the most familiar and accessible section of Oakland's shoreline, it represents just a quarter of the City's waterfront land. The balance of the waterfront is contained at the harbor and Metropolitan Oakland International Airport. Functional requirements of the activities in these areas preclude the types of uses recommended by the Estuary Plan.

The Oakland Estuary has figured prominently in the City's history and has served commercial, industrial, and transportation functions dating back to the mid-1800s. The physical features of the area have themselves been shaped by its historic role. Filling, dredging, and shoreline stabilization projects during the late 1800s and early 1900s transformed the Estuary shoreline from a series of inlets and tidal marshes into a linear tidal canal separating Oakland and the City of Alameda. In some locations, land uses along the Oakland side of the Estuary still reflect the initial use of the area for wharves and fishing fleets, ferries and barges, and other waterborne transportation. Until the expansion of the Port of Oakland around World War II, the Estuary Planning Area was the hub of maritime commerce in the Bay Area, particularly for agricultural goods and produce arriving by rail from points throughout the western United States.

The relocation of most maritime functions to the Oakland Harbor, just west of the Estuary Planning Area, brought dramatic changes to the composition of land uses along the Estuary during the last half-century. These changes have been accelerated by physical factors such as construction of the Nimitz Freeway and expansion of the Airport, social factors such as the rise of the automobile and decline of the ferries, and economic factors, such as the shift to a service-based economy and decline in traditional heavy manufacturing. Some of the maritime facilities along the Estuary are now regarded as obsolete and some of the older warehouse and industrial buildings are vacant or underused. Land uses have become more diverse, with hotels, offices,

restaurants, and housing in several locations. Recreational facilities, including waterfront parks and marinas, also have become more prevalent.

Despite these changes and market forces, most of the Estuary shoreline has remained planned and zoned for industrial uses. Until the adoption of the Land Use and Transportation Element in March 1998, the General Plan designation for most of the area was "Manufacturing or Wholesaling" or "Transportation." Most of the area continues to be zoned M-40 (Heavy Manufacturing). Adoption of the Estuary Plan would create new land use designations for this area. Eventually, new zoning regulations would be created to accommodate the desired mix of uses and address potential compatibility issues as the area transitions from industrial to mixed uses.

ESTUARY PLAN LAND USES

For planning purposes, the Estuary Plan is divided into three sub-areas. A description of land uses in each area is provided below.

Jack London District

The Jack London District encompasses 225 acres between Adeline Street on the west and Oak Street on the east. This district presently contains just over 200 multi-family housing units, 80 live-work units, 144 hotel rooms, nearly one million square feet of office space, 700,000 square feet of wholesale and off-price retail space, 400,000 square feet of retail, dining and entertainment space, and more than 1.1 million square feet of industrial and warehouse space. The area also contains more than 300,000 square feet of public land uses, including Port, City, and County facilities. The Port of Oakland is a significant presence in this district and owns 31 acres of land on the water side of the Embarcadero as well as additional properties inland.

The westernmost portion of this area (between Adeline and MLK Jr Way) is predominantly industrial, with scattered office and isolated higher-density housing units. This area does not immediately abut the shoreline and consists of truck and rail-dependent industries and warehouses. East of MLK Jr Way, the character of the area changes. There is a concentration of off-price retailing along Third Street and in the vicinity of Second and Clay Streets, a number of low-rise office buildings, and a large PG&E substation. Closer to Broadway, County office buildings are located just south of the freeway and older retail and dining uses extending towards the shoreline along Broadway. The foot of Broadway has been substantially redeveloped during the last twenty years, with modern office and retail development and other water-oriented uses. Further east, this district transitions into an area of low-rise warehouses, including several buildings that comprise the Oakland Produce Market. Live-work housing, offices, and light industry also are prevalent in this area. Along the water's edge, several large-parcel uses define the character of the area, including the Jack London Village retail center and related parking, a

10-acre vacant site, KTVU studios, and a large condominium complex. Several marinas are located along the shoreline.

This district has experienced the most substantial redevelopment of the three waterfront sub-areas. The development of the Jack London Square office, hotel, retail center, and parking garage has served as a catalyst for projects in the vicinity, including a nine-screen movie theater, additional off-price retail development, live-work projects, and numerous restaurants.

Oak to Ninth District

The Oak to Ninth District encompasses 120 acres and includes two distinct areas divided by the Embarcadero. Inland of the Embarcadero, traditional light industrial and warehouse uses similar to those prevalent in the Jack London District occupy several blocks, with the City's fire fighting training center located adjacent to the Tidal Channel. On the water side of the Embarcadero are a series of large disconnected uses, including Estuary Park, the former Pacific Drydock site, a live-work community along Fifth Avenue, and the Port of Oakland's Ninth Avenue Terminal. The Ninth Avenue Terminal is dominated by warehousing, storage, and transportation activities and is the primary break-bulk cargo handling facility owned and operated by the Port of Oakland.

Most of the land in this district is publicly owned. The Port of Oakland is the primary landowner, although the City and County each have substantial holdings in this area. A large area also is controlled by the railroad.

San Antonio/ Fruitvale District

This is the largest of the three subareas, encompassing 560 acres and extending about three miles from 9th Avenue to 66th Avenue. The land use mix is very diverse and includes an older residential neighborhood, light and heavy industry, parkland, and a range of commercial uses. As a result of dredging projects occurring about 100 years ago, the shoreline in this area is characterized by a narrow stretch of channel punctuated at the ends by larger expanses of water. Along portions of the shoreline, residential and commercial uses in Alameda are quite close on the opposite bank. Along other portions, public uses on Coast Guard Island face the Oakland shore.

This area consists of a series of distinct subareas, each different from the next in its character and land use composition. On the western edge, the Brooklyn Basin shoreline is the narrowest part of the entire Estuary Planning Area. The freeway is very close to the water's edge and development is oriented to the freeway frontage road (The Embarcadero) on one side and the shoreline on the other. Uses include motels, offices, light industrial, and vacant land. Beyond the 16th Avenue overpass, the Estuary Planning Area widens considerably. Inland of the Embarcadero, there is a modern office complex abutted by an area of mixed industrial and

warehouse uses. Other uses, including a private school, artist studios, and various commercial services, are located in this area but the overall character is industrial. Along the corresponding section of shoreline are a specialty retail complex, a marina, and several large vacant sites.

Moving east, there are several large industrial uses, including a flour mill and two concrete batch plants. On the opposite side of 23rd Avenue, land uses become more "fine-grained," with numerous small residential parcels in the Kennedy Tract neighborhood. Intermixed with these uses are auto-service and repair uses, live-work uses, and various commercial services. The waterfront itself is dominated by warehouses, several of which are vacant or underused. East of the Kennedy Tract, a major glass manufacturing operation occupies a 28-acre site and employs some 800 persons. On an adjacent site, the newly developed Super K-Mart occupies a former cannery site. These uses are abutted by various smaller commercial and industrial uses, as well as single family residences along I-880.

The area becomes more homogenous east of High Street, with larger parcels and light manufacturing type uses. A number of construction-related industries, research and development firms, and truck-oriented warehouse and distribution centers are located in this area. Tidewater Business Park, located further east, contains a mix of wholesale and light industrial uses as well as a charter junior high school. Along the water's edge, there are sand and gravel operations, vacant sites, and land used for container storage by the Port of Oakland. To the east, along San Leandro Bay, land along the water has been dedicated as parkland, while land along the Interstate 880 frontage road (Oakport Street) is used by EBMUD and PG&E for various operations and maintenance functions.

SIGNIFICANCE CRITERIA

The State CEQA Guidelines indicate that a project may have a significant effect on land use if it would disrupt or divide the physical arrangement of an established community; conflict with established recreational, educational, religious, or scientific uses in an area; or convert prime agricultural land to urban uses. The Guidelines further indicate that a significant land use impact may occur if a project results in a substantial alteration of the present or planned land use. The latter circumstance may result from adoption of the Estuary Plan. The discussion below describes this impact in greater detail and emphasizes potential land use conflicts resulting from the proposed land use designations and application of the Plan's recommendations to various parts of the shoreline. Where appropriate, the Land Use and Transportation Element EIR is cross-referenced as the source for discussion of such impacts.

IMPACTS AND MITIGATION MEASURES

CHANGES TO CLASSIFICATION SYSTEM

Impact A.1: Adoption of the Estuary Plan would supplement the new "Waterfront Mixed Use" General Plan designation with more specific and prescriptive designations for discrete geographic areas along the Oakland shoreline. Development consistent with these designations would be in keeping with the overall Citywide structure and "vision" described in the recently adopted Land Use and Transportation Element, as well as the objectives and policies in the 1996 OSCAR Element. Thus, this land use impact is less than significant.

The City adopted a new Land Use and Transportation Element in March 1998. At that time, the 1980 Land Use Diagram for the Estuary shoreline was changed from parcel-specific "Manufacturing and Wholesaling," "Transportation," and "Commercial" designations to a broader "Waterfront Mixed Use" designation for the entire area. The impacts associated with the "Mixed Use" designation as opposed to the 1980 designations are addressed on pages III.A-9 and III.A-10 of the recently certified Land Use and Transportation Element EIR.

With the adoption of the Estuary Plan, the Waterfront Mixed Use designation would be retained but would be supplemented by 19 specific designations as indicated in the Estuary Plan document. These designations are:

- Light Industrial (LI-1, LI-2, and LI-3)
- Off-Price Retail
- Retail, Dining and Entertainment (RDE-1 and RDE-2)
- Office
- Waterfront Commercial Recreation (WCR-1 and WCR-2)
- Produce Market
- Mixed Use Loft
- Waterfront Mixed Use
- Planned Waterfront Development (PWD-1, PWD-2, and PWD-3)
- Residential Mixed Use
- Heavy Industrial
- General Commercial (GC-1 and GC-2)

The Estuary Plan defines the overall intent of each district and identifies allowable and conditional uses, maximum heights and floor area ratios, and other provisions as appropriate. Thus, the supplemental designations provide greater direction as to the types of uses to be permitted than is provided by the Land Use and Transportation Element. The finer level of detail allows a more precise analysis of the potential for land use conflicts and displacement of uses than was possible in the Land Use and Transportation Element DEIR. These are addressed in the remaining impact discussions in this section of this EIR as well as other sections of this EIR.

Mitigation Measure A.1: None required.

IMPACTS ON CITYWIDE LAND USE PATTERNS

Impact A.2: The Estuary Plan envisions extensive redevelopment along the Oakland Estuary, with substantial changes from the current land use mix. Implementation of the Plan could change the Citywide land use pattern and create a series of new waterfront "neighborhoods" along the Oakland shoreline. This is a desired outcome of the General Plan and the Estuary Plan and is considered a less-than-significant impact.

Development associated with the Estuary Plan could result in more than 2,000 new households and more than 7,000 new jobs by the Year 2015 within the Estuary Planning Area. Residential areas would be expanded in the Jack London District, at Fifth/Ninth Avenue, and in the Kennedy Tract vicinity. The larger numbers of housing units would have a direct land use impact by displacing existing non-residential uses and an indirect impact by creating attendant demand for local services, such as grocery stores and restaurants. Such development is both accommodated and encouraged by the Estuary Plan.

Commercial development is expected to intensify on all segments of the waterfront. Additional regional retail development is encouraged in the vicinity of High Street and I-880, and visitor-serving retail services and hotels are strongly encouraged at Jack London Square and Ninth Avenue. Depending on citywide land demand, this could affect land use patterns in other parts of the City, such as Downtown and the transportation corridors. Such factors were considered when developing the Citywide Land Use and Transportation Plan. The shift of commercial land uses to the waterfront is consistent with Citywide land use goals and objectives.

Similarly, the departure of heavy industrial uses from the waterfront could create demand for industrial land elsewhere in the City, in locations like the Oakland Army Base or the San Leandro Street corridor. Based on the land use classifications in the recently adopted Land Use and Transportation Element, there is a large enough land supply in the City to accommodate such shifts without a net loss of industry. The number of waterfront industries redesignated for mixed uses in the Estuary Planning Area represents only a fraction of the City's industrial base.

The Estuary Plan would substantially increase the acreage of waterfront parkland in the City. New waterfront parks ranging from small urban plazas and mini-parks to large open areas for sporting events and performances are envisioned. More than 50 acres of new parkland would be added to the City's inventory. This would be a direct land use impact and could result in the displacement of a number of older industrial uses. Such impacts would be minimal, since they would occur over a very long time period and would not take place until the established uses became available for redevelopment.

Mitigation Measure A.2: None required.

LAND USE COMPATIBILITY AND DISPLACEMENT

Impact A.3: The designation of various geographic areas along the shoreline for specific new uses and redevelopment activities could render some existing development non-conforming and result in the eventual displacement of established industrial, residential, or commercial uses. As higher-value residential, live-work, and commercial development occurs in previously industrial areas, certain types of industrial and heavy commercial activities could become more difficult to carry out. As parks and open spaces are developed along the shoreline, enhanced visibility and aesthetic concerns could place more pressure on the area's industries to improve the appearance of open storage areas, facades, and streetscapes. This impact is less than significant due to policies in the Land Use and Transportation Element, objectives and policies in the Draft Estuary Plan, the mitigation measures being implemented through the Land Use and Transportation Element EIR, and an additional measure identified in this EIR.

Map changes that could potentially result in displacement of established land uses are identified in Table III.A-1. These changes are further discussed below for each of the three sub-areas identified in the Estuary Plan.

Eight different types of land use impacts associated with General Plan map changes were described in the Land Use and Transportation Element EIR. The impacts that are most relevant in the Estuary Planning Area relate to the designation of industrial areas for mixed uses (see Impact A.2c on page III.A-25 in the Land Use and Transportation Element EIR) and the designation of institutional areas for commercial uses (see Impact A.2g on page III.A-27 in the Land Use and Transportation Element EIR). The other six impact types described in the Land Use and Transportation Element EIR do not generally apply in the waterfront area.

Jack London District

The greatest land use changes in this subarea are likely to occur along the Broadway spine and in the area extending from Broadway east to Oak Street. The Estuary Plan encourages more intense land uses along Broadway to establish a stronger connection between Downtown Oakland and the waterfront. This is in response to the existing trend towards loft housing in the South-of-Nimitz Area and provides policy support for additional live-work and loft development in this area. Along the shoreline, the Estuary Plan incorporates ongoing plans and programs for the expansion of Jack London Square, the development of additional waterfront housing, and the establishment of new parks and promenades. Construction of parking structures on a number of key sites throughout this district are recommended. Businesses currently on these sites could be displaced as the structures are developed.

TABLE III.A-1
POTENTIAL LAND USE IMPACTS ASSOCIATED WITH THE ESTUARY PLAN

Area	1980 Plan Designation	Existing Zoning	Existing Land Use (1998)	1998 General Plan Designation	Estuary Plan Designation	Comments
Broadway "Spine"	Commercial	C-45/ S-4	Commercial	WMU	RD&E-2	Intensified pedestrian-oriented uses are recommended; redevelopment likely.
Jack London Square Expansion	Commercial	C-45	Commercial	WMU	RD&E-2	Redevelopment of older retail uses and replacement of surface parking with office, retail, hotel, and parking garage uses is recommended.
Produce Market	Manufacturing/ Wholesaling	M-45	Wholesale	WMU	PM-1	Rehabilitation and adaptive reuse of historic warehouses is recommended.
Franklin to Lake Merritt Channel	Manufacturing/ Wholesaling	M-45 M-20/ S-4	Warehouse/ Light Industry	WMU	MUD-1	Transition to a mixed use loft district envisioned; displacement of industry possible
Clinton Basin/ Ninth Avenue	Transportation	M-40	Marine Term. LiveWork Industrial	WMU	PWD-1	Older maritime uses likely to transition to a waterfront neighborhood with new parks, live-work, hotel, and commercial uses
ConAgra/ Lone Star Industries	Manufacturing/ Wholesaling	M-40	Industrial	WMU	PWD-2	Possible long-term transition from heavy industry to higher intensity urban uses
Kennedy Tract	Manufacturing/ Wholesaling	M-40/ M-30	Mixed Res/ Comm/ Ind.	WMU	RMU-1	Uses similar to General Plan "Housing-Business" Mix category; potential long-term displacement of industry by housing
High Street Corridor	Manufacturing/ Wholesaling	M-40	Mixed Comm/ Industrial	WMU	GC-1	Expansion of regional commercial uses likely; possible displacement of warehousing and industry
Tidewater Business Park Area - South	Manufacturing/ Wholesaling	M-40	Industrial	WMU	PWD-3	Potential displacement of warehousing and heavy industry, greater emphasis on office

Implementation of the Estuary Plan would eventually change the land use composition in the eastern part of the Jack London District from warehousing and wholesaling to loft and live-work housing, office, and retail development. During this transition, the industrial or wholesale uses that remain could become subject to greater nuisance complaints from adjacent residential uses. Economic pressures also could result as rents and land prices in the area increase. Such impacts are mitigated both by policies in the Draft Land Use and Transportation Element and by provisions in the Estuary Plan that support the long-term viability of established uses. These are discussed further at the end of this section.

Oak to Ninth District

The Estuary Plan envisions the evolution of the light industrial area between Oak Street and the Tidal Channel into a mixed use district and park, the expansion of Estuary Park, the conversion of the former Pacific Drydock site into a waterfront park, the enhancement of the 5th Avenue live-work community, and the transformation of the Ninth Avenue Terminal into a waterfront commercial district with extensive park, open space, and recreational boating areas. The maritime activities at Ninth Avenue would be relocated, to be replaced by water-oriented uses that could include hotels, conference centers, restaurants, and similar activities.

Land use impacts in this area would be different than those in the Jack London District, since redevelopment would typically consist of large-scale projects that are self-contained. Many of the uses being replaced are regarded as economically obsolete or would be relocated to other parts of the City (e.g., the break-bulk terminal could relocate to the Army Base or a similar site in the Harbor). During the period in which the area transitions from industrial to mixed uses, there may be temporary land use conflicts between new development and existing industrial or maritime development. These conflicts would subside when the transformation of the area has been completed.

San Antonio/ Fruitvale Waterfront

Possible impacts to industrial uses are anticipated at a number of locations along the San Antonio-Fruitvale waterfront, including the Con-Agra flour mill and the adjacent concrete batch plants west of 29th Avenue, several warehouses along the Estuary between 29th Avenue and Fruitvale Avenue, and a number of waterfront businesses in the Tidewater area east of High Street. The Estuary Plan designates these areas for mixed use or waterfront business park development. The Estuary Plan indicates that existing industrial uses would be allowed to continue, but does acknowledge that a transition to other uses is desired for the long term. In other cases, such as the Owens-Brockway site, the Estuary Plan strives to retain industrial uses for the long term.

As in the Jack London and Clinton Basin areas, the potential for land use conflicts would exist as land use transitions take place. The new waterfront parks proposed by the Estuary Plan would

make this area more visible and could place greater pressure on established industries to improve aesthetic conditions or relocate. As new live-work and higher-value commercial development occurs in the area, the potential for conflicts between these uses and traditional heavy industries could result due to existing noise, dust, odor, vibration, and truck traffic conditions.

Estuary Plan Provisions to Avoid Land Use Impacts

The Estuary Plan addresses the potential for impacts in each of the three planning areas and includes specific provisions to avoid significant impacts. In all areas, the Estuary Plan strives to create a broad range and mixture of activities, including viable industrial uses.

In the Jack London area, the Estuary Plan recommends that a strategy for relocating the Produce Market to another site within the City be studied before the buildings are adapted for new uses. In the mixed use / loft district to the east, the Estuary Plan recommends retaining the warehouse character of the area by following various architectural and urban design conventions. The Estuary Plan states that light industrial and warehousing uses would be allowed to remain in this area and calls for setbacks and transitions to adjacent land uses to avoid land use conflicts.

In the Oak to Ninth area, the Estuary Plan calls for retention of viable industrial uses north of the Embarcadero (Policy OAK-10), preservation of the existing Fifth Avenue Point mixed use community (Policy OAK-11), and the relocation of the break-bulk cargo operations from Ninth Avenue to a new location (Policy OAK-12). Development standards are included in the Estuary Plan to establish transitions between industrial activities and more sensitive uses. Implementation measure IMP-13.1 requires preparation of a Specific Plan for this area prior to development.

Along the San Antonio/ Fruitvale waterfront, the Estuary Plan's recommendations are organized by area:

- The Brooklyn Basin area is to be retained as a place for manufacturing and light industry (Policy SAF-2). Residential and live-work uses are to be permitted only where there would not be land use conflicts with existing industry (Policy SAF-3) and the industrial character of the area is to be retained (Policy SAF-4).
- In the Con-Agra area, heavy industrial uses would be allowed to continue; the Estuary Plan specifically states that the intent is not to displace these activities (Policy SAF-5). When redevelopment does occur, the Estuary Plan establishes development standards to ensure that it is compatible with adjacent industries (Policy SAF-7). Policy SAF-9 and Implementation Measure IMP-13.2 require preparation of a Specific Plan prior to redevelopment of the area to more specifically address land use impacts.
- In the Kennedy Tract, the Estuary Plan emphasizes retention of the established residential area, but acknowledges that industry would remain in the area.

- In the Tidewater Business Park, the Estuary Plan recommends that viable industrial and service-oriented uses be retained (Policy SAF-17). Light industrial infill development is encouraged, reducing the potential for future conflicts. Implementation Measure IMP-13.3 requires a Specific Plan prior to the redevelopment of this area.

Land Use and Transportation Element Policies

Potential land use impacts resulting from the new Land Use Map are further avoided through goals, objectives, and policies included in the recently adopted Land Use and Transportation Element. Policies in this Element must be considered when making any future land use decision. The following specific policies from that Element apply:

Policy I/C 4.1:

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 uses.

Policy D10.7:

Locational and performance criteria should be developed for live-work developments

Policy W1.2:

Land uses and impacts generated from such activities should be sensitive to one another and appropriate buffering should minimize the incompatibility of uses.

Policy W2.2:

Appropriate buffering measures for heavy industrial uses and transportation uses adjacent to residential neighborhoods should be developed.

Policy W10.5:

Since the Fruitvale waterfront is and may continue to be an area that has a variety of uses, including industrial, incompatibilities should be mitigated through appropriate site planning and buffering.

The Land Use and Transportation Element EIR identified six mitigation measures to ensure that the land use impacts of the Citywide Element were less than significant. Several of these measures are applicable to the Estuary Plan, including:

Mitigation Measure A.2b: Develop distinct definitions for home occupation, live-work, and work-live operations; develop appropriate locations for these activities and performance criteria for their establishment; and create permitting procedures and fees that facilitate the establishment of those activities which meet the performance criteria.

Mitigation Measure A.2d: Establish standards which designate appropriate levels of noise, odor, light/glare, traffic volumes, or other such characteristics for industrial activities located near commercial or residential areas.

Mitigation Measure A.2e: Develop zoning regulations which permit industrial and commercial uses based upon their compatibility with other adjacent or nearby uses.

Mitigation Measure A.2f: Develop an incentive program to encourage the relocation of non-conforming industrial/ commercial businesses or residential uses to more appropriate locations in the City.

The following additional measure is proposed to ensure that Impact A.3 is less than significant.

Mitigation Measure A.3: When the Oakland zoning ordinance is updated, ensure that the new zoning map designations for parcels in the Estuary Plan area reflect the development standards presented on Pages 181-197 of the Draft Estuary Plan.

Impact A.3 Level of Significance After Mitigation: Less than Significant

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APPLICATION OF MIXED USE DISTRICTS

Impact A.4: The Estuary Plan would permit mixed-use development in areas that are presently designated for one predominant use. Mixed-use projects could contain potentially incompatible uses, such as housing and night clubs within a single structure, or projects that combine residential and industrial uses in a live-work setting. This impact is less than significant because of policies contained in the Land Use and Transportation Element already adopted by the City.

This impact was discussed on Page III.A-30 of the Land Use and Transportation Element EIR. Both the Land Use and Transportation Element and the Estuary Plan acknowledge that mixed use developments may combine activities that are potentially incompatible. Policies that address the avoidance of such incompatibilities are included in the Land Use and Transportation Element (W10.5, N1.5, N2.7, N3.9, N5.1, N8.2, N12.6). These policies also would mitigate the potential for such conflicts within the Estuary Planning Area. The Estuary Plan further avoids the potential for mixed-use conflicts by listing allowable and conditionally allowable uses within various subareas along the waterfront and by establishing setback and height standards for specific districts in the waterfront area.

Mitigation Measure A.4: None required.

IMPACTS ON ALAMEDA AND COAST GUARD ISLAND

Impact A.5: Redevelopment of land consistent with the Estuary Plan could intensify the level of activity along the Oakland shoreline, thereby affecting land uses on the opposite shores in Alameda and on Coast Guard Island. This impact is less than significant, since the new uses along the Estuary would generally have fewer off-site impacts than those that currently exist along the Oakland shoreline and would be required to meet existing noise and design development standards.

In some locations, the Alameda and Coast Guard Island shorelines are only a few hundred feet away from Oakland. Thus, land use changes along the Oakland shoreline have the potential to affect land uses on the opposite shore, particularly as related to factors such as views and noise. Specific impacts are covered in other sections of this EIR. Land uses in Alameda are generally residential east of Park Street (29th Avenue) and include a mix of commercial, residential, and industrial uses west of Park Street. Coast Guard Island is a federal installation with maritime and institutional uses.

In most locations, proposed land uses along the Oakland shoreline would be more compatible with the activities on the facing shore than existing land uses. This is particularly true east of Park Street, where the channel is very narrow and industrial uses in Oakland are now located opposite single-family homes in Alameda. The transition of this segment of the Oakland shoreline from industrial to recreational and mixed uses would reduce the potential for nuisance impacts.

Mitigation Measure A.5: None required.

LAND USE IMPACTS OF TRANSPORTATION PROJECTS

Impact A.6: Implementation of the Estuary Plan would ultimately reconfigure freeway interchanges along I-880 and construct a new "Tidewater Parkway" between 42nd and 66th Avenues. These changes could have direct land use impacts by displacing existing development located at the sites of proposed on- and off-ramps. Proposed road improvements also could have indirect land use impacts by creating potential new development sites around the relocated interchanges, providing access to areas that currently lack road frontage, and eliminating direct freeway access from parcels located adjacent to on- and off-ramps to be closed or relocated. These impacts would be less than significant due to the mitigation measure identified in this EIR.

The Estuary Plan identifies specific transportation improvement projects to improve access to the waterfront, ameliorate safety hazards and congestion on I-880, and clarify regional circulation routes.

Ramp improvements at Webster/Harrison Street, 5th Avenue, 23rd Avenue, and 42nd Avenue could displace established uses and require acquisition of additional right-of-way. The full movement interchanges envisioned at 23rd and 42nd Avenues could affect ingress and egress to existing properties abutting freeway frontage roads and adjacent side streets. The extent of land use impacts cannot be fully assessed at this time because specific ramp alignments have yet to be determined. The Estuary Plan identifies conceptual improvements only and indicates that further study by Caltrans and the City will be required prior to construction of specific capital improvements. Further environmental review would be required at that time.

Construction of a continuous parkway from Jack London Square to 66th Avenue -- including a new "Tidewater Parkway" between High Street and 66th Avenue -- would create potential new development sites in areas that are presently landlocked. Access and visibility improvements, along with higher volumes of traffic along the waterfront, would create opportunities for retail, hotel, and other commercial land uses. The potential for such impacts would be considered in conjunction with specific capital improvement projects as they are proposed.

The Estuary Plan also contemplates the possibility of a new BART station at 5th Avenue. If constructed, such a Station would have a wide range of direct and indirect land use impacts. These impacts would be fully explored through the environmental review process for such a project, if pursued. Similarly, the construction of light rail between Alameda and Fruitvale BART, another possible project considered by the Estuary Plan, would have land use impacts along the route. These impacts would be considered after the feasibility of such a project has been determined.

Mitigation Measure A.6: Require CEQA review and appropriate environmental documentation prior to undertaking the specific transportation improvements identified in the Estuary Plan, including reconfigured I-880 interchanges, Tidewater Parkway, and BART and light rail improvements.

Impact A.6 Level of Significance After Mitigation: Less than Significant

B. TRANSPORTATION AND CIRCULATION

INTRODUCTION

The Estuary Planning Area stretches from Adeline Street on the west to 66th Avenue on the east. Lengthwise the area is bounded by the Estuary on the south and the I-880 freeway on the north.

Since the Estuary Plan was analyzed subsequent to the adoption of the Land Use and Transportation Element EIR, this "update" focuses on the immediate transportation and circulation impacts of the Estuary Plan and how these impacts vary from those identified in the General Plan.

SETTING

The Estuary Planning Area is situated between the Port of Oakland and the Oakland International Airport. This area, once a primarily industrial area, now contains a variety of commercial and residential land uses. Several remaining industrial and maritime facilities remain at the eastern and western ends. The area's workers and residents are contained within a relatively narrow corridor located between the Estuary on the south and the railroad and freeway corridors to the north. While these facilities have served to enhance the accessibility they also have served to restrict local access between the shoreline and Oakland's other "inland" neighborhoods.

ROADWAY SEGMENTS

State Highways

The regional highway network serving Oakland is discussed in greater detail in the Land Use and Transportation Element EIR. The following is a brief description of the Interstate and State Highway facilities in the immediate vicinity of the Estuary.

I-880 (Nimitz Freeway)

I-880 (Nimitz Freeway) is the major freeway along the East Bay between San Jose and Oakland. I-880 defines the northern edge of the Estuary Planning Area where it runs in an east-west direction (in accordance with Oakland's orientation conventions).

I-880 serves as a primary freeway truck access route between the Port of Oakland's marine terminals, the South Bay and the San Joaquin Valley. The westernmost, double decked viaduct section of this freeway was destroyed by the 1989 Loma Prieta earthquake. I-880 has been subsequently rebuilt to the west, along the right-of-way (ROW) of the former Southern Pacific Railroad. The mainline section of this freeway between I-980 and the Bay Bridge was opened to traffic in July 1997. Most intermediate ramps remain closed between the Bay Bridge and the Jack London Square area. This evolving eight years of closures and construction has disrupted local traffic patterns in the vicinity of the northern and middle sections of the Estuary Planning Area.

SR 260 (signed SR 61)

SR 260 (signed SR 61) connects Alameda and Oakland via the Webster Street and Posey Tubes beneath the Inner Harbor. Access to and from these facilities requires traveling on local streets through the Jack London District or Central Chinatown neighborhood.

I-980

I-980 connects I-580 to I-880 through downtown Oakland. From the time of the 1989 Loma Prieta earthquake to July 1997, all through traffic on I-880 between Oakland and San Francisco and Emeryville was diverted through the MacArthur Interchange to I-980.

International Boulevard (East 14th Street) (SR 185)

International Boulevard (East 14th Street) from 42nd Avenue south is designated as SR 185. This roadway provides access from downtown Oakland south to Hayward.

Doolittle Drive (SR 61)

Doolittle Drive (SR 61) provides access between Alameda and the Davis Street interchange in San Leandro via the eastern boundary of Metropolitan Oakland International Airport.

42nd Avenue (SR 77)

42nd Avenue (SR 77) is a four-lane divided, grade separated freeway-like connection that links East 14th Street and I-880. This four lane roadway passes beneath East 12th Street and the parallel railroad right-of-ways. An existing partial diamond interchange allows access to eastbound 12th Street from northbound 42nd Avenue and from eastbound 12th Street to southbound 42nd Avenue.

Local Streets and Roadways

The street and roadway system in Oakland consists of varying grid patterns in the flatlands and the circuitous, winding street pattern necessitated by the topography of the hills. The local street and roadway system ranges from two-lane local streets serving residential areas to four- and six-lane arterials that link the major activity centers in Oakland and provide connections to surrounding jurisdictions.

Using the convention of the hills to the north and the Bay to the south, the major east-west roadways in the Estuary Planning Area include 3rd Street, the Embarcadero, and Oakport Street. The major north-south arterials include Market Street, Broadway, Oak Street, 5th Avenue, Fruitvale Avenue, High Street, and 66th Avenue.

In the Estuary Planning Area west of the Lake Merritt Channel, a traditional street grid pattern exists. East of the channel, the street network is less structured and characterized by curved singular access routes with complex multi-legged intersections and irregular block lengths.

Level of Service

The level of service (LOS) is a qualitative assessment of intersection and roadway operating characteristics on the basis of traffic volumes, capacity and delays, all of which influence motorists' perceptions of traffic conditions. The LOS is generally described in terms of travel time and speed, freedom to maneuver, traffic interruptions, comfort and convenience. The LOS applies quantifiable traffic measures such as average speed, intersection delays, and volume-to-capacity ratios to approximate driver satisfaction. These measures differ by roadway type because the user's perceptions and expectations vary by roadway type.

Individual levels of service are designated by letters "A" (for most favorable) to "F" (for least favorable) with each representing a range of conditions. LOS C represents traffic conditions on urban streets where maneuverability begins to be restricted due to increased traffic volumes, and intersection delays become noticeable. LOS D can be described as conditions where increased traffic affects maneuverability, causes speeds to drop well below the speed limit, and results in long delays at some intersections. LOS E, which is generally the limit of acceptable delay, would occur with excessive delays at some intersections causing traffic to back up into the adjacent intersection. LOS F indicates jammed conditions.

PUBLIC TRANSIT SERVICES

The predominant forms of public transit are AC Transit buses and BART trains, but Oakland is also served by ferries and AMTRAK trains.

AC Transit

AC Transit serves most transit trips within the City of Oakland. Oakland serves as the core of the expansive AC Transit system that serves the greater East Bay from El Sobrante to Milpitas. AC Transit also operates a series of Transbay buses between the East Bay and downtown San Francisco.

AC Transit bus service within the Estuary Planning Area varies. At the western end, in the Jack London District adjacent to downtown Oakland, bus service is extensive and wide-ranging. In the eastern planning districts (Oak to 9th district and in the San Antonio to Fruitvale district), bus service is limited to commute hour service, the three Alameda bridge corridors (Park, Fruitvale, and High) and 66th Avenue. These routes provide indirect access between the Estuary Planning Area and the International Boulevard (14th Street) Corridor and BART.

BART

The Estuary Planning Area is served by five stations - (from west to east) West Oakland, 12th Street/City Center, Lake Merritt, Fruitvale, and Coliseum. Parking is available at West Oakland, Fruitvale and Coliseum. A limited amount of paid parking space is available at the Lake Merritt station. In addition to serving BART trains, the BART stations typically serve as stops for AC transit buses as well.

Ferry

Ferry service to Oakland was reintroduced to Oakland in late 1989 after the Loma Prieta earthquake. Since then, ridership has steadily increased. There are two stops in the vicinity of the Estuary Planning Area at Jack London Square and Main Street, Alameda.

SIGNIFICANCE CRITERIA

According to the State CEQA *Guidelines*, a project would normally have a significant effect on the environment if it would "cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system." For the City of Oakland, the impacts to the local and regional transportation system are described in terms of change in LOS. The current City of Oakland standard is LOS D. Impacts to City streets are considered to be significant if the roadway level of service drops below the City standard.

In addition to the City standard, the CMA has established LOS standards for the regional facilities that are included in the congestion management network. The CMA LOS standard is E, except where F was the LOS originally measured when the program was initiated.

IMPACTS AND MITIGATION MEASURES

This transportation and circulation analysis focuses on the proposed Estuary Plan and the impacts that such a project may reasonably be expected to have on the local and regional circulation network. The following section addresses the potential increases in traffic along specific roadway segments in and around the Estuary Planning Area that may be affected by the implementation of the plan.

IMPACTS

Proposed Roadway, Transit and Infrastructure Improvements

In addition to the transportation improvements identified in the General Plan as priorities for implementation, the Estuary Plan identified several transportation and circulation improvements.

Many of these improvements will require further study. Many too, emphasize a sensitivity to the immediate local character of the Estuary and incorporate streetscape improvements to enhance

the pedestrian environment. Several take into the account the physical limitations of increased roadway capacity in what is an older, mostly built out city.

Third Street Extensions

With the recent removal of the former Western Pacific trackage from 3rd Street there are opportunities to increase the utility of the Third Street corridor. It has been proposed to extend Third Street from Adeline to Mandela Parkway.

On the eastern end of 3rd Street, the Estuary Plan proposes to extend the "pedestrian-oriented street grid" east of Oak Street to the western bank of the Lake Merritt Channel. The Estuary Plan includes extending 3rd Street to a connecting roadway that would pass beneath I-880 along the western bank of the channel. This facility would provide a new vehicular roadway link between the Embarcadero and 7th Street.

Embarcadero Parkway

A continuous waterfront parkway along the Estuary would provide a connection between Oak Street and 66th Avenue and link the various intermediate activity centers. The Estuary Plan indicates that such a facility could be managed as a slow street to discourage through movement of truck traffic.

Pedestrian and Bicycle Circulation Improvements

A connected network of bicycle and pedestrian facilities is proposed to run throughout the length of the Estuary Planning Area and provide north south connections to inland neighborhoods. Class II bicycle lanes are proposed for Third Street, Washington Street, Oak Street, Lake Merritt Channel, Fifth Avenue, Fruitvale Avenue, High Street and Mandela Parkway.

Former Western Pacific Right-of-Way

The Estuary Plan calls for pedestrian scale streetscape enhancements along most of the streets (Embarcadero is not included) in the Jack London District. The former Western Pacific railroad ROW south of Oak Street is proposed to become a roadway west of the Lake Merritt Channel, and a pedestrian bicycle path east of the channel.

Oak Street Grade Separation

The Estuary Plan indicates that the existing railroad grade crossing at Oak Street may require a grade separation over the Union Pacific Railroad in the future. Such an action may also include a reopening of the Madison Street grade crossing now closed.

Expanded Waterborne Transportation Service

While there is existing transbay ferry and recently established water taxi service at Jack London Square, new and expanded maritime passenger services could further serve to anchor and promote waterfront activity centers in Oakland and Alameda.

Area Specific Local Circulators and Shuttles

Several opportunities for surface trolley and bus "shuttle routes" exist in the Estuary Planning Area. Such a service could facilitate remote parking lots and provide additional non-vehicular access to the activity centers proposed in the Estuary Plan. Such facilities could encourage and facilitate access to the waterfront from inland BART stations, and neighborhoods as well as an additional means of linking activity centers along the length of the corridor.

The Estuary Plan also endorses the concept of a historical trolley running on Broadway. Such a trolley could provide additional access to the waterfront and it could also serve to positively change the perception of the area and strengthen linkages with the downtown.

Oakland/Alameda Tube Access Improvements

A new eastbound exit ramp from I-980 to the southbound, Webster Street Tube has been proposed to improve access to the Tube from the freeway and reduce traffic on local Oakland streets. This ramp would provide a direct route between the freeway and the Webster Street Tube. Such a route could serve to reduce the amount of vehicles entering the tube via the portal at Fifth Street and Broadway and via the Webster Street entrance in Chinatown.

Because the way in which I-980 crosses over I-880, and the short distance between this merge point and the Jackson Street off ramp, vehicles traveling eastbound on I-880 will still be unable to use the Jackson Street ramps (including the proposed new direct Webster Tube connection) to access the Alameda or Jack London Square.

The Estuary Plan also calls for an improved channelization and roadway alignment from the northbound Posey Tube to I-880, with a new connection to I-880 via Jackson Street on the south side of I-880.

5th Avenue Realignment and Interchange Improvement

The Estuary Plan recommends that Fifth Street be realigned and straightened to become a major gateway into the 5th Avenue Point and the new activity centers created in the vicinity of Clinton Basin. The proposed half-diamond interchange at 5th Avenue would improve access for vehicles to and from I-880. A half diamond interchange would improve the existing westbound off-ramp and add a new eastbound on-ramp.

New BART Station

A new BART station on the BART property at Fifth and Eighth Streets has been proposed in the Estuary Plan. Such a station could include a major parking structure that would serve to replace the current Laney College surface lots and it could also serve as a catalyst for localized neighborhood redevelopment.

23rd Avenue Interchange

The Estuary Plan calls for improvements at 23rd Avenue. Currently a partial interchange, it is recommended that this location be improved to include a full-movement interchange with a clear link to the Embarcadero Parkway.

Fruitvale/42nd Interchange

The Plan proposes to construct an urban diamond interchange linked by frontage roads at 42nd Avenue. The Plan indicates that such a design would improve access between I-880, the waterfront area, the surrounding neighborhood, and the City of Alameda.

29th Avenue Improvements

The Estuary Plan recommends that 29th Avenue be enhanced as a local connecting street in order to accommodate and encourage pedestrian and bicycle traffic between the planning area and Jingletown, and other San Antonio/Fruitvale neighborhoods.

Fruitvale Avenue Improvements

The Fruitvale Avenue corridor between International Boulevard and the estuary can be redesigned to become an attractive link between the Fruitvale District and the Estuary Planning Area. The existing parallel Union Pacific railroad (former Southern Pacific) to Alameda may be incorporated into the corridor designs to serve as a future transit corridor between the Fruitvale BART station, the Estuary and Alameda.

High Street Improvements

Bicycle and pedestrian improvements to High Street would improve access to the southern portion of the study area.

Provision and Centralized Management of Parking

Special provisions will need to be implemented to insure that adequate parking is provided. A centralized parking management arrangement will insure that special event parking and remote shuttle services plans can be accommodated and effectively administered. Additional parking structures also may be required to meet demand during the buildout of the Jack London District.

Improved Local Circulation

The Estuary Plan calls for improvements to the existing access routes to the Estuary for all modes. In some cases, these access improvements may require large capital outlays, such as the extension of Franklin Street beneath I-880. In other instances minor alterations of street alignments and lighting improvements may suffice.

Methodology

The impact analysis is based upon the travel forecasts generated by the CMA Travel Demand Model. This process is explained in more detail in the Land Use and Transportation Element EIR and is incorporated by reference. Use of the model requires input to the model of a series of assumptions concerning land use and socioeconomic data and transportation improvements based on the land use and socioeconomic data provided by the Estuary Plan.

To develop travel forecasts using the CMA Model, trips are estimated based on trip generation rates for existing and planned land uses. These trips are then distributed through the transportation system by various routes and modes of travel. The model produces forecasts of traffic volumes on the street and highway network and patronage on the transit network for the AM and PM peak hours of travel.

No network modifications were made to the 2010 Tier 1 transportation model used in the General Plan. In order to maintain consistency with the Land Use and Transportation Element EIR, none of the proposed improvements identified in the Estuary Plan (such as the I-880) interchange improvements were included as part of the model network. This approach provides a "worse case" analysis in which all of the proposed development is included in the model with none of the proposed roadway improvements.

Overall, the proposed Estuary Plan would result in approximately 120 additional households and approximately 1,350 fewer jobs than that assumed for the Land Use and Transportation Element analysis (see Section III.C of this EIR). This results in fewer trips generated within the Estuary Planning Area as compared to the number of trips projected as part of the Land Use and Transportation Element EIR. Approximately 1,160 fewer trips would occur during the AM peak hour and approximately 565 fewer trips would occur during the PM peak hour (see Table III.B-1).

Level of Service

Peak hour traffic volumes on the major roadways were reviewed. Using the AM and PM peak hour traffic volumes at several key locations throughout the Estuary Planning Area, the roadway levels of service (LOS) were calculated. The segment evaluation was conducted for the AM and PM peak hour based on the CMA Countywide Model forecasts for Year 2015. Tables III.B-2 and III.B-3 show the peak hour volumes by direction, the corresponding V/C, and the LOS for the 2015 AM and PM peak hours.

TABLE III.B-1
AM AND PM TRIP GENERATION RATE DIFFERENCES

District	AM Peak Hour		PM Peak Hour	
	Land Use and Transportation Element 2015 AM	Estuary Plan 2015 AM	Land Use and Transportation Element 2015 PM	Estuary Plan 2015 PM
Jack London Square	3,495	2,814	4,587	4,032
Oak - 9th Ave.	964	434	1,008	606
San Antonio –Fruitvale	2,801	2,852	3,679	4,070
TOTAL	7,260	6,100	9,274	8,708

The impacts of the Estuary Plan were assessed in comparison to the model results for the Land Use and Transportation Element. For local roadways where the Estuary Plan would result in E or F conditions, a comparison was made to the 2010 CMA baseline Countywide Model data.

For the roadway segments, the Florida DOT Level of Service tables were used (FDOT, 1995). These FDOT tables are in turn derived from the 1994 Highway Capacity Manual. The default tables were modified as necessary to reflect local roadway conditions. For freeways, the FDOT tables were modified to reflect a higher saturation flow rate of 2,300 vehicles per hour per lane, higher travel speeds of 65 mph, and a peak hour factor of 0.98. For arterials, the default LOS tables were not modified.

The tables indicate the facility type as either freeway (Fwy.) or arterial by class (Class 1, 2, or 3). The arterial class is based on the number of traffic signals per mile. The directional volumes are extracted from CMA Countywide Model plots and are most representative of volumes along that segment. The volume to capacity ratio (V/C) is calculated using capacities derived from the FDOT tables based on the facility type.

ROADWAY SEGMENT LEVEL OF SERVICE

Impact B.1: Development pursuant to Estuary Plan would result in the degradation of the level of service along key arterial roadway segments in the Estuary Planning Area vicinity. This would be a significant cumulative impact.

State Highways

The model results for 2015 for both the Land Use and Transportation Element and Estuary Plan indicate that several segments of state highways are forecast to experience congestion during the peak hours of travel. Table III.B-4 illustrates the relatively small differences between the traffic volumes of the approved Land Use and Transportation Element and the traffic volumes

TABLE III.B-2
ROADWAY SEGMENT EVALUATION - 2015 AM PEAK HOUR

Link Location	Facility Types	NB/EB Vol.	NB/EB V/C	SB/WB Vol.	SB/WB V/C	Peak Dir. LOS
State Highways						
Route 13 - west of I-580	FWY	3544	0.79	4128	0.92	E
Route 13 - south of Rte 24	FWY	4360	0.97	3683	0.82	E
Route 24 - west of I-980	FWY	4258	0.47	7381	0.82	D
Route 24 - west of Caldecott Tunnel	FWY	4511	1.00	9841	1.09	F
I-80 – north of Bay Bridge	FWY	4866	0.43	10204	0.91	E
I-580 - west of 106th Ave	FWY	6896	0.76	7724	0.86	E
I-580 - west of Grand Ave	FWY	4706	0.52	8473	0.94	E
I-580 - east of I-80/880	FWY	8783	0.78	7937	0.70	D
I-880 - west of 98th Ave	FWY	7604	0.84	5873	0.65	D
I-880 - west of Oak St.	FWY	7440	0.66	5423	0.48	C
I-980 - south of I-580	FWY	6052	0.54	3949	0.35	C
Route 61 (Doolittle Drive) - west of Hegenberger	Class 1	810	0.43	149	0.08	B
Route 123 (San Pablo Avenue) - east of Stanford Ave	Class 2	1905	1.09	959	0.55	F
Route 260 (Webster-Posey Tubes) - south of I-880	Class 1	2982	1.11	2694	1.43	F
Route 77 (42nd Avenue) - btw. 12th and 14th St.	FWY	1002	0.22	2012	0.45	B
Arterials						
Embarcadero -Broadway to Oak St.	Class 2	130	0.14	778	0.86	E
Embarcadero - Oak St. to 5th	Class 2	247	0.27	800	0.89	F
3rd Street - Mandela Parkway to Oak St.	Class 2	408	0.51	54	0.07	D
Market Street - south of I 880	Class 2	180	0.10	604	0.35	D
Broadway - 13th St. to Jack London Square	Class 3	513	0.30	123	0.07	D
Franklin St. - at 10th St.	Class 3	365	0.14	n/a	0.00	D
Webster Street - at 10th St.	Class 3	n/a	0.00	958	0.37	D
Oak Street - south of I-880	Class 2	323	0.40	270	0.34	D
5th Avenue - at I 880	Class 2	215	0.24	863	0.96	F
23rd Avenue - at I 880	Class 2	1318	0.70	1197	0.63	D
29th Avenue - btw. I 880 and 12th St.	Class 2	550	0.32	1116	0.64	D
Fruitvale Avenue - at I 880	Class 2	681	0.39	813	0.47	D
High Street Bridge	Class 2	1474	1.84	1868	2.34	F
Fruitvale Bridge	Class 2	1256	0.72	1603	0.92	E
Park St. Bridge	Class 2	2422	1.39	2341	1.35	F
66th Avenue - south of I-880	Class 2	527	0.30	744	0.43	D

SOURCE: CMA Countywide Model, 2015 Estuary Plan Forecast model plots, April 1998.

TABLE III.B-3
ROADWAY SEGMENT EVALUATION - 2015 PM PEAK HOUR

Link Location	Facility Types	NB/EB Vol.	NB/EB V/C	SB/WB Vol.	SB/WB V/C	Peak Dir. LOS
State Highways						
Route 13 - west of I-580	FWY	4207	0.93	3845	0.85	E
Route 13 - south of Rte 24	FWY	3894	0.86	4395	0.97	E
Route 24 - west of I-980	FWY	7779	0.86	4226	0.47	E
Route 24 - west of Caldecott Tunnel	FWY	9733	1.08	5791	1.28	F
I-80 – north of Bay Bridge	FWY	6610	0.59	9843	0.87	E
I-580 - west of 106th Ave	FWY	7307	0.81	8064	0.89	E
I-580 - west of Grand Ave	FWY	9323	1.03	5982	0.66	F
I-580 - east of I-80/880	FWY	10442	0.93	6258	0.56	E
I-880 - west of 98th Ave	FWY	8738	0.97	6472	0.72	E
I-880 - west of Oak St.	FWY	7475	0.66	5509	0.49	C
I-980 - south of I-580	FWY	3192	0.28	6938	0.62	C
Route 61 (Doolittle Drive) - west of Hegenberger	Class 1	322	0.17	860	0.46	B
Route 123 (San Pablo Avenue) – east of Stanford Ave	Class 2	2233	1.28	1445	0.83	F
Route 260 (Webster-Posey Tubes) – south of I-880	Class 1	2818	1.49	3251	1.72	F
Route 77 (42nd Avenue) – btw. 12th and 14th St.	FWY	1832	0.41	1507	0.33	B
Arterials						
Embarcadero -Broadway to Oak St.	Class 2	721	0.80	416	0.46	E
Embarcadero - Oak St. to 5th	Class 2	887	0.99	552	0.61	F
3rd Street - Mandela Parkway to Oak St.	Class 2	404	0.51	39	0.05	D
Market Street - south of I 880	Class 2	718	0.41	554	0.32	D
Broadway - 13th St. to Jack London Square	Class 3	671	0.39	132	0.08	D
Franklin St. - at 10th St.	Class 3	258	0.10	n/a	0.00	D
Webster Street - at 10th St.	Class 3	n/a	0.00	1445	0.56	D
Oak Street - south of I-880	Class 2	450	0.56	228	0.29	D
5th Avenue - at I 880	Class 2	813	0.90	377	0.42	F
23rd Avenue - at I 880	Class 2	1172	0.62	1551	0.82	E
29th Avenue - btw. I 880 and 12th St.	Class 2	1074	0.62	764	0.44	D
Fruitvale Avenue - at I 880	Class 2	1020	0.59	591	0.34	D
High Street Bridge	Class 2	1935	2.42	1485	1.86	F
Fruitvale Bridge	Class 2	1560	0.90	1448	0.83	E
Park St. Bridge	Class 2	2506	1.44	2340	1.34	F
66th Avenue - south of I-880	Class 2	1009	0.58	252	0.14	D

SOURCE: CMA Countywide Model, 2015 Estuary Plan Forecast model plots, April 1998.

TABLE II.B-4
STATE HIGHWAY SEGMENT AM AND PM TRAFFIC VOLUMES

Link Location	Land Use and Transportation Element 2015 AM	Estuary Plan 2015 AM	Estuary Plan Traffic Volumes Expressed as a Percentage of Land Use and Transportation Element Traffic Volumes	Land Use and Transportation Element 2015 PM	Estuary Plan 2015 PM	Estuary Plan Traffic Volumes Expressed as a Percentage of Land Use and Transportation Element Traffic Volumes
State Highways						
Route 13 – west of I-580	4,125	4,128	100.1%	4,203	4,207	100.1%
Route 13 - south of Rte 24	4,176	4,360	104.4%	4,268	4,395	103.0%
Route 24 – west of I-980	7,459	7,381	99.0%	7,847	7,779	99.1%
Route 24 – west of Caldecott Tunnel	9,699	9,841	101.5%	9,768	9,733	99.6%
I-80 – north of Bay Bridge	10,229	10,204	99.8%	9,753	9,843	100.9%
I-580 – west of 106th Ave	7,799	7,724	99.0%	8,190	8,064	98.5%
I-580 – west of Grand Ave	8,446	8,473	100.3%	9,912	9,323	94.1%
I-580 – east of I-80/880	8,750	8,783	100.4%	10,506	10,442	99.4%
I-880 - west of 98th Ave	7,655	7,604	99.3%	8,210	8,738	106.4%
I-880 - west of Oak St.	7,330	7,440	101.5%	7,478	7,475	100.0%
I-980 - south of I-580	6,247	6,052	96.9%	6,962	6,938	99.7%
Route 61 (Doolittle Drive) - west of Hegenberger	829	810	97.7%	889	860	96.7%
Route 123 (San Pablo Avenue) - east of Stanford Ave	1,974	1,905	96.5%	2,311	2,233	96.6%
Route 260 (Webster-Posey Tubes) - south of I-880	3,008	2,982	99.1%	3,280	3,251	99.1%
Route 77 (42nd Avenue) - btw. 12th and 14th St.	2,019	2,012	99.7%	1,910	1,832	95.9%

forecasted for the Estuary Plan. None of the state highway segments would experience a deterioration in the level of service as a result of development envisioned under the Estuary Plan, compared to that forecast with development under the Land Use and Transportation Element. The Land Use and Transportation Element EIR identified a degradation in service from LOS E to LOS F on I-580 west of Grand Avenue, compared to existing conditions, although development under the Land Use and Transportation Element would not cause this change. Development forecast under the Estuary Plan would result in less traffic on this segment that that projected under the Land Use and Transportation Element. Therefore, the Estuary Plan would not result in a significant impact on state highways.

In addition, the Land Use and Transportation Element included the following measure to mitigate the impacts to State Highway segments:

> To mitigate the potential impacts of the adoption and implementation of the Land Use and Transportation Element on State Highway segments, the City of Oakland will place the

potentially affected roadway and highway segments in the City's Capital Improvement Project Program to ensure that all potentially available and appropriate State and local funds are identified and the appropriate coordination with other jurisdictions and State Agencies is conducted to prioritize efforts to monitor, and when appropriate and feasible, improve these potentially affected segments.

Arterial Roadways

The 2015 model results indicate that most of the city's arterials in the vicinity of the Estuary Planning Area would provide sufficient capacity to accommodate peak hour conditions at acceptable levels of service.

However, the following key roadway segments would operate at poor peak hour service levels:

- Embarcadero - Broadway to Oak Street(AM/PM)
- Embarcadero - Oak Street to 5th Avenue (AM/PM)
- Fifth Avenue – Embarcadero to Tenth Street (AM/PM)
- 23rd Avenue – I-880 Overcrossing (PM)
- High Street Bridge (AM/PM)
- Fruitvale Bridge (AM/PM)
- Park Street Bridge (AM/PM)

The CMA Countywide model analysis indicates that these seven key arterial links in the model would operate at LOS E or F during the AM/PM peak hour with development that would occur under the Land Use and Transportation Element, and the Estuary Plan would not induce a further degradation of LOS that meets the established criteria for significance. As shown in Table III.B-5, differences between the traffic volumes of the approved Land Use and Transportation Element and the traffic volumes forecasted for the Estuary Plan would be small, and in many cases the volumes with implementation of the Estuary Plan would be less. Of the seven segments where levels of service would be unacceptable in 2015, there would be two where volumes with implementation of the Estuary Plan would increase by more than 1 percent, compared to volumes with implementation of the Land Use and Transportation Element: The Embarcadero between Broadway and Oak Street, and the Fruitvale Bridge. As noted above, the identified deterioration in level of service on the above seven roadway links would occur with development pursuant to the Land Use and Circulation Element and implementation of the Estuary Plan would not result in any additional degradation of LOS. However, because the development under the Estuary Plan would contribute to congestion, this adverse change would be considered a significant cumulative impact. Each affected segment is discussed in more detail below.

TABLE III.B-5
ARTERIAL SEGMENT AM AND PM TRAFFIC VOLUMES

Link Location	Land Use and Transportation Element 2015 AM	Estuary Plan 2015 AM	Estuary Plan Traffic Volumes Expressed as a Percentage of Land Use and Transportation Element Traffic Volumes	Land Use and Transportation Element 2015 PM	Estuary Plan 2015 PM	Estuary Plan Traffic Volumes Expressed as a Percentage of Land Use and Transportation Element Traffic Volumes
Embarcadero -Broadway to Oak St.	828	778	94.0%	671	721	107.5%
Embarcadero – Oak St. to 5th	847	800	94.5%	892	887	99.4%
3rd Street – Mandela Parkway to Oak St.	417	408	97.8%	439	404	92.0%
Market Street – south of I 880	628	604	96.2%	816	718	88.0%
Broadway - 13th St. to Jack London Square	534	513	96.1%	742	671	90.4%
Franklin St. – at 10th St.	334	365	109.3%	257	258	100.4%
Webster Street - at 10th St.	927	958	103.3%	1,433	1,445	100.8%
Oak Street – south of I-880	550	323	58.7%	793	450	56.7%
5th Avenue - at I 880	926	863	93.2%	824	813	98.7%
23rd Avenue - at I 880	1,320	1,318	99.8%	1,537	1,551	100.9%
29th Avenue – btw. I 880 and 12th St.	1,154	1,116	96.7%	1,085	1,074	99.0%
Fruitvale Avenue - at I 880	789	813	103.0%	977	1,020	104.4%
High Street Bridge	2,019	2,012	99.7%	1,910	1,832	95.9%
Fruitvale Bridge	1,846	1,868	101.2%	1,873	1,935	103.3%
Park St. Bridge	1,645	1,603	97.4%	1,621	1,560	96.2%
66th Avenue – south of I-880	2,419	2,422	100.1%	2,510	2,506	99.8%

Embarcadero - Broadway to Oak Street

As described in the Land Use and Transportation Element EIR, this particular portion of the Embarcadero is anticipated to operate at LOS F during the AM and LOS E during the PM peak. In the Estuary Plan, this link remains at LOS E during the AM and PM peak periods. The volume forecast for this link in the Estuary Plan is 6% less from the Land Use and Transportation Element in the AM peak and almost 8% higher during the PM peak.

It should be understood that this section of the Embarcadero has several parallel routes, notably 2nd Street and 3rd Street. Traffic volume projections derived from regional models like the CMA's generally are unable to accurately reflect the dispersed traffic patterns that occur on links such as these.

Embarcadero (Future Parkway) - Oak Street to 5th Avenue

As described in the Land Use and Transportation Element EIR and for the Estuary Plan, this portion of the Embarcadero is anticipated to operate at LOS F during the AM and PM peak periods. The volume forecasts for this link in the Estuary Plan vary by less than 5% from those in the Land Use and Transportation Element EIR. In terms of vehicles, the Estuary Plan predicts 50 fewer vehicle trips during the AM peak and 5 fewer trips during the PM peak.

For comparison purposes, the Alameda CMA 2010 Countywide model forecast 19 fewer vehicle trips during the AM peak commute and 62 more PM peak period trips on this link.

Embarcadero between Oak Street and 5th Avenue at the existing bridge over the Lake Merritt Channel (between Fallon Street and Fifth Avenue), is a two-lane roadway. This roadway is currently the only east-west roadway between the Estuary shoreline and I-880.

With the growth projected for the waterfront area, the two lanes may not accommodate the increased traffic. Because of the channel bridge, I-880 and the lack of a convenient parallel local roadway alternative, this particular link may be subject to and easily disrupted by traffic incidents on I-880, prolonged rail grade crossing closings and special events.

The Estuary Plan identifies the Embarcadero waterfront parkway as a critical link in the overall circulation network. In the Plan, it is proposed that East of Oak Street, the Embarcadero be rebuilt with two travel lanes and a center shared-left turn lane and an adjacent 36-foot wide corridor to accommodate pedestrians and bicyclists.

Introduction and enhanced facilitation of alternative transportation modes along the waterfront, such as buses, shuttle vans, water taxi, and bicycles (including construction of bicycle lanes) may relieve some congestion on the Embarcadero.

The Estuary Plan indicates that traffic on the Embarcadero Parkway could be managed as a "slow street" to discourage through movements of truck traffic. In addition to slow street devices, special truck and turning prohibitions for motor vehicles during peak hours could also serve to discourage through traffic from using this street as a reliever route to I-880.

Fifth Avenue - Embarcadero to East 10th Street

According to 2015 forecasts for both the Land Use and Transportation Element and the Estuary Plan, Fifth Avenue north of the Embarcadero is expected to operate at LOS F during the AM and PM peak periods.

For comparison purposes, the Alameda CMA 2010 Countywide model forecast 20 more vehicle trips during the AM peak commute and 32 fewer PM peak period trips on this link.

Fifth Avenue is an important north-south street connecting the Oak-9th District with Oakland's Chinatown Central neighborhood. For the Estuary Plan, the forecast traffic volumes, compared to the Land Use and Transportation Element forecasts, are approximately 7% less in the AM peak period and 1% less in the PM peak period.

The Estuary Plan calls for a series of enhancements along Fifth Avenue designed to improve access for vehicles, pedestrians and cyclists. Cross sections in the plan call for Fifth Avenue to become a straightened, tree-lined corridor with bike lanes and on-street parking. Two 12-foot travel lanes, with 5-foot bike lanes and recessed parallel parking is proposed.

23rd Avenue and Interchange

In the Land Use and Transportation Element, this particular portion of the Embarcadero is anticipated to operate at LOS E during the AM and LOS E during the PM peak. In the Estuary Plan, this link remains at LOS E during the AM and PM peak periods. The volume differences for the Estuary Plan vary by about 7% from the Land Use and Transportation Element.

The Estuary Plan recommends that 23rd Avenue Bridge and interchange be reconstructed to create a full movement interchange. Such an improvement could help alleviate congestion in the area due to the existing configuration which serves to constrain capacity.

The High Street, Fruitvale, and Park Streets Bridges

In the Land Use and Transportation Element, the High and Park Street Bridges are forecast to operate at LOS F, and the Fruitvale Bridge at LOS E during the AM and PM peak periods. In the Estuary Plan forecast, the three bridge's LOS will remain unchanged. The CMA Countywide Land Use and Transportation Element model run indicates that the volumes on each bridge will be affected only marginally, each by less than 4% or by less than 50 cars in the AM peak and less than 80 vehicles in the PM peak.

For comparison purposes, at the Fruitvale Bridge, the Alameda CMA 2010 Countywide model forecast 55 fewer vehicle trips than the 2015 Estuary Plan model run during the AM peak commute.

It is anticipated that existing levels of congestion would be reduced as Caltrans and the City of Oakland work to improve the adjacent interchanges and connecting ramps along I-880.

As described on pp. III.B-4 to III.B-8, the proposed Estuary Plan would include a number of transportation improvements that would be expected to reduce congestion and improve roadway operations are included in the proposed Estuary Plan, including, among other proposals, construction of new, improved or extended streets, pedestrian and bicycle improvements, increases in alternative modes of transit such as ferries, water taxis, and shuttles, transit improvements, and parking management.

Mitigation Measure B.1: No additional feasible mitigation measures have been identified.

Impact B.1 Level of Significance After Mitigation: Significant and Unavoidable

The improvements included in the proposed Estuary Plan and described on pp. III.B-4 to III.B-8 would reduce congestion on these roadway links. However, given the uncertainty about funding for future transit and roadway improvements, it is not possible to determine that the levels of service would be sufficiently improved to reduce this cumulative impact to a less-than-significant level.

TRANSIT DEMAND

Impact B.2: Development that would occur under the Estuary Plan would increase transit demand. This would be a less-than-significant impact.

The Estuary Plan seeks to minimize the barrier effect of the freeway. At the present time most of the existing regional and local transit corridors are on the north side of the freeway. This situation combined with the existing uses has in the Estuary Planning Area tended to retard the demand for transit services. Any accessibility improvements and enhancements in the area could be expected to increase transit demand.

The Estuary Plan recommends that a management program be established for the Estuary Planning Area to comprehensively and efficiently coordinate transit oriented shuttle services as well as parking.

Additional mitigation measures may include a comprehensive special event analysis to insure that potential AC Transit or dedicated shuttle bus routes, stops and turnouts are incorporated into the initial planning and design efforts. Such initial design details should also serve regular AC Transit service as well.

Because of the Estuary Plan's open space element and the emphasis on recreational shoreline activity centers it may reasonably be expected that special events along the Estuary may cause heavy transit loads. The Estuary Plan indicates that a major event at the waterfront could attract over 50,000 people. The proximity of several major regional cultural, educational and entertainment (particularly the Coliseum) facilities and the proximity of Metropolitan Oakland International Airport and Jack London Amtrak Station may all generate heavy transit demands individually or concurrently. The demands of these special generators are often not associated with traditional commute traffic patterns, and occur during non-peak hours when transit service levels are reduced.

Mitigation Measure B.2: None required.

REFERENCES – Transportation and Circulation

Florida Department of Transportation, *Florida's Level of Service Standards and Guidelines Manual for Planning*, 1995 Edition.

C. POPULATION, HOUSING, AND EMPLOYMENT

SETTING

A complete description of population characteristics and trends for the City of Oakland may be found in the "Trends Report" published by the Office of Planning and Building in March 1995. For the Estuary Planning Area, the 1995 estimated population was 927 persons. The number of housing units in 1995 was 312; this correlates to a ratio of 2.97 persons per household in the Estuary Planning Area.

The Estuary Planning Area has traditionally been an industrial and commercial area. A total of 7,906 jobs were located within the Estuary Planning Area in 1995. This translates into a ratio of 8.53 jobs per resident.

SIGNIFICANCE CRITERIA

Under CEQA, a project will normally have a significant effect on the environment if it would induce substantial growth or concentration of population (Appendix G of the CEQA Guidelines). Additionally, Appendix I of the CEQA Guidelines indicates that a project could have a significant effect on the environment if it alters the location, distribution, density, or growth rate of the population of an area. Appendix I also indicates that if a project affects existing housing or creates a demand for additional housing, such effects could be considered significant.

IMPACTS AND MITIGATION MEASURES

INCREASED HOUSING CAPACITY

Impact C.1: The Estuary Plan would increase the number of housing units in the Estuary Planning Area. This is a less-than-significant impact.

The number of new housing units that could be constructed within the Estuary Planning Area under the Estuary Plan is slightly greater than the number of housing units assumed in the recently adopted Land Use and Transportation Element for the Estuary Planning Area. It is estimated that a total of approximately 2,500 housing units would exist in the Estuary Planning Area by the Year 2015. The Land Use and Transportation Element EIR estimated that approximately 2,380 housing units would be developed in the Estuary Planning Area; thus, development under the Estuary Plan could result in an increase of approximately 120 housing units over the number of housing units previously envisioned. This is not a significant change in projection over a 20-year period.

It is estimated that the population of the Estuary Planning Area would be approximately 7,250 persons in the Year 2015; this would result in a ratio of 2.9 persons per household. As with the number of housing units, the population of the Estuary Planning Area under the Estuary

Plan would be slightly greater than the expected population assumed in the recently Land Use and Transportation Element.

The increase in households and population with the Estuary Planning Area should not be considered a significant impact in and of itself. However, indirect impacts on land use, transportation, noise, public services, and other environmental factors could occur as new housing is built. These potential impacts are addressed in other sections of this EIR.

The increase in housing units as a result of the Estuary Plan should contribute to the positive impact on the City's ability to meet the regional "fair share" housing allocations prescribed by ABAG.

Mitigation Measure C.1: None required.

INCREASED EMPLOYMENT GROWTH POTENTIAL

Impact C.2: The Estuary Plan would result in a net increase in employment development potential within the Estuary Planning Area. This is a less-than-significant impact.

The increase in employment within the Estuary Planning Area would be less than the increase in employment that was assumed in the recently adopted Land Use and Transportation Element. It is anticipated that the number of jobs within the Estuary Planning Area would be approximately 15,330 under the Estuary Plan compared to approximately 16,685 jobs under the recently adopted Land Use Transportation Element. Therefore, since the impact associated with increased employment has been mitigated to a less-than-significant level by the adoption of policies and other measures outlined in the Land Use and Transportation Element EIR, the increase in employment resulting from the implementation of the Estuary Plan is considered to be a less-than-significant impact.

Mitigation Measure C.2: None required.

D. PUBLIC SERVICES

INTRODUCTION

This section of the EIR describes the impact of the proposed Estuary Plan on public services in the Estuary Planning Area. These services include water, sewer, storm drainage, solid waste, police, fire, schools, libraries, and parks. A summary of Oakland's existing services is included in the recently certified Land Use and Transportation Element EIR, which is incorporated by reference. Information on existing conditions is drawn primarily from Technical Report #5, "Oakland Community Services," which was prepared as a resource document for the Land Use and Transportation Element.

Since there are nine distinct sub-topics covered in this section, the format is somewhat different than the other sections of this EIR. Setting, Impacts, and Mitigation Measures are presented sequentially for each public service topic.

D.1 POTABLE WATER

This section of the EIR considers water supply and distribution only. Water quality issues are addressed separately, in Section III.I.

SETTING

Like the rest of Oakland, the Estuary Planning Area receives its water from the East Bay Municipal Utility District (EBMUD), a publicly owned utility created in 1923. EBMUD has water rights to 325 million gallons per day, although the supply may be curtailed during drought conditions. Untreated water from EBMUD reservoirs is transported to the Orinda Filter Plant, where it is chlorinated and piped to covered reservoirs or storage tanks. The closest reservoir to the Estuary Planning Area is on 23rd Avenue. Consumers in the Estuary Planning Area are served by water mains and pumping plants that vary in terms of pipe diameter, material, and condition. EBMUD supplied approximately 40 million gallons per day (gpd) to Oakland in 1996, of which the Estuary Planning Area is a small portion.

Assembly Bill 2673 (1994) assures that water service to Oakland will not be compromised as a result of growth in the outlying parts of the EBMUD service area. The Bill specifies that the highest degree of water service must be provided to existing customers within the service area. The second highest degree goes to new development within the existing service area.

SIGNIFICANCE CRITERIA

According to the CEQA Guidelines, Appendix G, a project would be normally have a significant effect if it would encourage activities that result in the use of large amounts of water or use water in a wasteful manner. Based on the CEQA Guidelines checklist, a project could also have a

significant effect on a public utility if it would interfere with or substantially change the demand for utility services, generate a need for new utilities, or require substantial alteration to utility systems. Thus, the Estuary Plan would have an impact on water services if its implementation would require the extension or reconstruction of major water lines to serve additional development or the addition of new EBMUD reservoirs or storage capacity. The Plan's impact also would be significant if it proposed levels of development that were beyond EBMUD's ability to meet the additional demand.

IMPACTS AND MITIGATION MEASURES

WATER DEMAND

Impact D.1-1: Development consistent with the proposed Estuary Plan would result in an increase in water demand. This is a less-than-significant impact due to existing policies in the adopted OSCAR Element that require water conservation and encouraged reclaimed water use.

The increase in water demand associated with the proposed Estuary Plan can be estimated by applying multipliers to the growth increments for each major land use type. Based on a sampling of multipliers in project EIRs, the following figures were used:

- 260 gallons per day (gpd) for each new residence
- 0.12 gpd per square foot (SF) for retail space
- 0.15 gpd/ SF for office space (corresponding to the "service" and "other" economic sectors)
- 0.40 gpd/SF for manufacturing and wholesaling space

Applying these multipliers to the population and employment projections for the proposed Estuary Plan, the corresponding increase in water demand would comprise about 13 percent of the increased demand anticipated for development under the Land Use and Transportation Element.

As part of the 1996 Open Space, Conservation and Recreation (OSCAR) Element, the City adopted policies and actions associated with potable water consumption. These policies, which are identified below, would reduce impacts on potable water consumption that could occur as a result of development pursuant to the Estuary Plan. Impacts are to be mitigated primarily by embarking on more aggressive conservation and reclamation measures and by supporting EBMUD's efforts to manage its supply so that older parts its service area remain well served. The following policies and actions have been included in the OSCAR Element of the General Plan and will continue to be implemented by the City:

OSCAR Policy CO-4.1:

Emphasize water conservation and recycling strategies in efforts to meet future demand.

OSCAR Action CO-4.1.1:

Issue Administrative Instructions to implement the water conservation strategies and programs outlined in the 1991 East Bay Municipal Utility District Urban Water Management Plan at the local level. Develop a strategy to reduce the City's water consumption by 20 percent by 2005.

OSCAR Action CO-4.1.2:

Maintain regular contact with EBMUD to promote public education and outreach on water conservation.

OSCAR Policy CO-4.2:

Require use of drought-tolerant plants to the greatest extent possible and encourage the use of irrigation systems which minimize water consumption.

OSCAR Policy CO-4.3:

Promote the use of reclaimed wastewater for irrigating landscape medians, cemeteries, parks, golf courses, and other areas requiring large volumes of non-potable water.

OSCAR Action CO-4.3.1:

Provide staff assistance to EBMUD as needed in its implementation of programs to reclaim and recycle wastewater from the regional treatment plant and its wet weather facilities and expand the use of such water on public landscaped areas, including City parks and medians.

OSCAR Action CO-4.3.2:

Study the feasibility of amending the Oakland Municipal Code to require the use of reclaimed water for irrigation on developments exceeding a certain threshold, or to require that new irrigation systems be designed so that they can be switched over to reclaimed water when it becomes economically feasible.

OSCAR Policy CO-4.4:

Encourage regional development patterns which make environmentally sound use of water resources.

OSCAR Action CO-4.4.1:

Actively participate in the review of development proposals beyond the EBMUD Service Area which could significantly impact Oakland's water supply or delivery system. Adopt resolutions and prepare correspondence to EBMUD as appropriate to ensure that Oakland maintains a reliable future water supply at a reasonable cost.

Mitigation Measure D.1-1: None required.

CAPITAL IMPROVEMENT NEEDS

Impact D.1-2: Increased water demand would require localized improvements to the water delivery system and could require the addition of new infrastructure such as pumps and storage facilities. The impact is less than significant, since it is mitigated by policies in the recently adopted Land Use and Transportation Element.

Many of the City's water mains are 8 inches or less in diameter and are quite old. In targeted growth areas, such lines would need to be upgraded to provide adequate pressure for fire flow. The extent and cost of such improvements would be determined on a case by case basis in the future as development is proposed.

Most of the water delivery lines serving the Estuary Planning Area, were constructed in the 1920s and 1930s. Fire flow requirements have increased substantially since that time. Pipeline improvements, whether replacements or extensions, may be required for large developments in the Estuary Planning Area.

The recently adopted Land Use and Transportation Element includes policies that are intended to address potential impacts on water transmission, storage, and delivery systems resulting from development in the Estuary Planning Area. Impacts are to be mitigated primarily by requiring that the adequacy of infrastructure be considered prior to approving development, and by prioritizing and building capital improvements consistently with the City's development goals. The following measures are included in the Land Use and Transportation Element:

Policy I/C1.9:

Adequate public infrastructure should be ensured within existing and proposed industrial and commercial areas to retain viable 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 T5.1:

Funding for infrastructure projects should be long-term and include operating and maintenance as well as capital development.

Policy T5.3:

Prioritize infrastructure improvements to prevent deterioration of existing infrastructure, using public safety concerns as the primary criteria for decision making.

Policy D4.1:

Development activities should be supported through infrastructure improvements Downtown.

Policy N7.2:

Infrastructure availability, environmental constraints and natural features, emergency response and evacuation times, street width and function, prevailing lot size, predominant development type and height. scenic values, distance from public transit, and desired

neighborhood character are among the factors that could be taken into account when developing and mapping zoning designations or determining "compatibility." These factors should be balanced with the citywide need for additional housing.

Priority Implementation Agenda Item a1:

Establish procedures to link the General Plan to the City's investments and resource allocations including the adopted budget, the capital improvements program and bond measures.

Mitigation Measure D.1-2: None required.

D.2 SANITARY SEWER

SETTING

BACKGROUND

The first sewage collection lines in Oakland were constructed in the 1880s and carried both stormwater and sanitary sewage. Most of the system's trunk lines were enlarged and expanded during the 1920s and 1930s to handle increased stormwater flows and to mitigate flooding. These lines continued to empty into the Bay, creating unhealthful conditions in the water, sludge buildup along the shoreline, and sewage odors in nearby neighborhoods. Although funding for a treatment plant was approved in 1946, it was not until 1961 that the regional wastewater plant and shoreline interceptor were in operation. During the 1960s and 1970s, storm sewers and sanitary sewers were separated, reducing wet weather flows at the treatment plant.

Sanitary sewage in the Estuary Planning Area flows to the regional wastewater treatment plant located southwest of the I-580/I-80 interchange. As of 1997, the plant has a dry weather capacity of 120 MGD while the average annual dry weather flow is about 80 MGD. The plant can provide secondary treatment for a maximum flow of 168 MGD and primary treatment for a maximum wet weather flow of 415 MGD. After treatment, the effluent is discharged into deep water in the Bay from a submerged outfall pipe located adjacent to the Bay Bridge. Overall, wastewater services operate with surplus capacity during dry weather and reach the limits (or exceed) capacity during very wet weather.

EBMUD's projections for future flows at the wastewater plant are based on assumptions about the amount of development that will take place within the service area. In areas considered to be fully developed, including the Estuary Planning Area, a 20 percent increase in sanitary flow was assumed to take possible higher densities into consideration. EBMUD is presently expanding treatment plant capacity to meet the projected increase in demand and to meet new water quality requirements. The expansion involves the construction of four new wet weather treatment

plants, 7.5 miles of new interceptors, and expansion of the main treatment plant. One of these plants was opened in late 1996 at the mouth of the Lake Merritt Tidal Channel.

The East Bay Municipal Utility District has three facilities in the Estuary Planing area: (1) the San Antonio Creek Wet Weather Treatment Plant (WWTP) at 225 5th Avenue; (2) the Oakport WWTP at 5597 Oakport Street; and (3) the Oakport Storage Center at 5601 Oakport Street.

SIGNIFICANCE CRITERIA

According to the CEQA Guidelines, Appendix G, a project would be normally have a significant effect if it would extend a sewer trunk line with capacity to serve new development. Based on the CEQA Guidelines checklist, a project could also have a significant effect on a public utility is it would interfere with or substantially change demand for utility services, generate a need for new utilities, or require substantial alteration to such systems. Thus, the Estuary Plan would have an impact on sanitary sewer services if its implementation would require the extension or reconstruction of major sewer lines to serve additional new development or the addition of new EBMUD treatment plant capacity, or if it proposed levels of development that were beyond EBMUD's ability to meet the additional demand.

IMPACTS AND MITIGATION MEASURES

WASTEWATER DEMAND

Impact D.2-1: Development consistent with the proposed Estuary Plan would result in an increase in flows to the regional wastewater treatment plant. Because the Estuary Plan projects a lower increment of growth than was assumed by EBMUD in its own projections for wastewater flow, the impact is less than significant.

The increase in wastewater capacity associated with the proposed Estuary Plan can be estimated based on the projection of water demand shown in Section III.D1 of this EIR. Based on typical wastewater generation figures, approximately 80 percent of the water used would enter the wastewater system. The increases in wastewater generation within the Estuary Planning Area was part of the overall increase described in the Land Use and Transportation Element EIR. Since development in Oakland would be within the projected increases in wastewater generation made by EBMUD, any increase from the Estuary Planning Area also would be within EBMUD's projections. Therefore, the impact is projected to be less than significant.

As part of the 1996 Open Space, Conservation and Recreation (OSCAR) Element, the City adopted actions associated with wastewater generation and treatment. The actions set forth below are intended to address potential impacts on the wastewater treatment plant resulting from future population and employment growth. Although the impacts are expected to be less than significant, the following actions are already in place to assist in reducing any impacts:

OSCAR Action CO-4.1.1:

Issue Administrative Instructions to implement the water conservation strategies and programs outlined in the EBMUD Urban Water Management Plan to reduce the City's water consumption by 20 percent by 2005. (Reductions in water consumption will reduce the amount of water reaching the wastewater treatment plant, thereby extending the capacity of the plant to accommodate additional development.)

OSCAR Action CO-5.3.11:

Reduce water pollution from sanitary sewer collection and treatment systems, including wastewater collection lines and the regional treatment plant. Continue the systemwide improvement program to correct infiltration and inflow problems in the East Bay Municipal Utility District and City sewer system.

Mitigation Measure D.2-1: None required.

CAPITAL IMPROVEMENT NEEDS

Impact D.2-2: Increased sanitary sewer flows would require localized improvements to the sewage collection system and could require the addition of new laterals and collection mains and upgraded pumps, lift stations, and other wastewater infrastructure. This impact is less than significant, as it is mitigated through policies in the recently adopted Land Use and Transportation Element.

The project would not directly result in extension of wastewater collection facilities, and would not extend any sewer trunk lines. However, increased development in the Estuary Planning Area would require investment in new or upgraded sanitary sewer infrastructure. Some of the sub-basins in the EBMUD sewer system are already at capacity and would require new pumps, lift stations, and electrical components before substantial new development could occur. Larger collection mains could be required to handle more intense levels of development. A continued investment would be needed to correct infiltration and inflow problems. Projects within the 25-year capital improvement program might need to be re-prioritized depending on where development activity was taking place. Some of the local costs would be offset by sewer hook-up fees, which the City collects from developers as projects are constructed.

The recently adopted Land Use and Transportation Element includes policies to address potential impacts on wastewater collection systems resulting from development in the targeted "change" areas. Potential impacts are to be avoided by requiring that the adequacy of infrastructure be considered prior to approving development, and by prioritizing and building capital improvements consistently with the City's development goals. The following policies are included in the Land Use and Transportation Element:

Policy I/C1.9:

Adequate public infrastructure should be ensured within existing and proposed industrial and commercial areas to retain viable 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 T5.1:

Funding for infrastructure projects should be long-term and include operating and maintenance as well as capital development.

Policy T5.3:

Prioritize infrastructure improvements to prevent deterioration of existing infrastructure, using public safety concerns as the primary criteria for decision making.

Policy D4.1:

Development activities should be supported through infrastructure improvements Downtown.

Policy N7.2:

Infrastructure availability, environmental constraints and natural features, emergency response and evacuation times, street width and function, prevailing lot size, predominant development type and height. scenic values, distance from public transit, and desired neighborhood character are among the factors that could be taken into account when developing and mapping zoning designations or determining "compatibility." These factors should be balanced with the citywide need for additional housing.

Priority Implementation Agenda Item a1:

Establish procedures to link the General Plan to the City's investments and resource allocations including the adopted budget, the capital improvements program and bond measures.

Mitigation Measure D.2-2: None required.

Impact D.2-3: Development consistent with Estuary Plan could cause the relocation of the San Antonio Creek Wet Weather Treatment Plant and limit EBMUD's ability to expand its pipe storage center at 5601 Oakport Street. This is a less-than-significant impact due to policies in the Estuary Plan.

The Estuary Plan includes recommendations for the improvement and development of areas in the Estuary Planning Area the currently include EBMUD facilities. Although these facilities are not specifically identified as part of the proposed "Illustrative Plan" for the Oak to 9th Avenue are or in the San Antonio/Fruitvale areas, the Estuary Plan does recognize the need for these important services. The Estuary Plan includes a Regulatory Framework that includes several actions and recommendations that ensure that all of the necessary public facilities and services

are maintained during implementation of the Estuary Plan. Implementation Action 13.1 requires preparation of a Specific Plan for the area between Estuary Park and Ninth Avenue. This detailed planning effort provides the mechanism to conduct detailed analysis of existing facilities, such as the EBMUD plant, evaluate the costs and benefits of relocation, and the make informed decisions about whether the relocation should be considered or if the existing facility can be maintained in its current location without compromising the integrity of the surrounding development plans. Furthermore, the Regulatory Framework identifies this area as PWD-1 Planned Waterfront Development, which allows light industrial uses and other uses that are "consistent with the objectives and policies of the Estuary Plan" and "compatible with the adjacent uses." Likewise, the Oakport Pipe Storage Yard is identified as GC-2 General Commercial in which light industrial uses and outdoor storage is conditionally permitted.

Mitigation Measure D.2-3: None required.

D.3 STORM DRAINAGE

SETTING

Prior to urbanization, storm drainage in Oakland was achieved by creeks and streams running from the Oakland Hills to the estuary and Bay. As the City developed, the initial drainage system combined sanitary and storm sewers in a network of pipes. The two functions were later isolated to enable wastewater to be treated and to prevent continued overflow of the wastewater plant during wet weather. Further improvements and changes were made during the 1960s and 1970s for flood control purposes. Channelization, culverting, and rerouting of many of the City's creeks occurred at this time.

The City's storm drains feed into larger facilities owned and maintained by the Alameda County Flood Control and Water Conservation District (ACFCWCD). County facilities in Oakland include drainage channels, pipelines, and culverts; flood control dams; erosion control devices; pumping stations; and other outlet facilities such as tide gates.

SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines indicates that a project will have significant impact if it will "cause substantial flooding, erosion, or siltation." Appendix I further indicates that a project's impact may be significant if it results in a need for new utility systems, or substantial alterations to utilities. In this regard, the proposed Estuary Plan would have a significant impact if it either increased the risks of flooding and erosion, or required substantial changes to Oakland's storm drainage infrastructure.

IMPACTS AND MITIGATION MEASURES

INCREASED DEVELOPMENT

Impact D.3-1: Implementation of the proposed Estuary Plan would result in a slight increase in the amount of impervious surfaces within the Estuary Planning Area. Any increase would be marginal and the amount and rate of runoff would not change significantly. Thus, the impact would be less than significant.

The amount of impervious surface in the Estuary Planning Area is not expected to change substantially. Although individual parcels may be developed with higher density or more intense uses, most of these parcels are already impervious. Flood hazards would not be expected to increase and existing storm drainage facilities would handle runoff from development sites within the Estuary Planning Area.

Mitigation Measure D.3-1: None required.

D.4 SOLID WASTE

SETTING

Most of the solid waste in the City (as well as the Estuary Planning Area) is collected by Waste Management of Alameda County and is transported to the Davis Street Transfer Station in San Leandro via solid waste collection vehicles. Waste is then transported to the Altamont Landfill in eastern Alameda County for disposal. Construction and demolition debris is normally hauled by contractors or construction companies to asphalt and concrete recycling centers in Oakland or to the Vasco Road Landfill north of Livermore.

SOLID WASTE DISPOSAL SITES

The Altamont Landfill is owned and operated by Waste Management of Alameda County. The landfill is located on a 1,500-acre site in eastern Alameda County. Only a portion of the site is permitted for use as a landfill, and some of the remainder of the site is not suitable for landfill use due to its sloping terrain. At the end of 1996, the Landfill had 13,970,000 tons of capacity. At the current rate of fill, this capacity should be sufficient for ten years.

The Vasco Road Landfill is owned and operated by Browning-Ferris Industries. In the early 1990s, it received about 500,000 tons of waste a year, about half of which was construction and demolition debris. Waste comes mostly from Alameda County. At the end of 1996, the remaining capacity was 9,496,000 tons. This capacity is projected to be sufficient to last 16 years.

In 1997, the County took initial steps towards expanding the capacity of the Altamont Landfill. The target now being pursued is addition of 80 million tons of capacity to the landfill in two phases of 40 million tons each. This would provide sufficient capacity through the year 2030. The Alameda County Board of Supervisors has approved a Conditional Use Permit which authorizes disposal of up to 2.9 million tons of waste per year at the landfill. However, additional permits are required before the expansion can occur.

The lifetime of both the Altamont and Vasco Landfills will be extended if the City meets the source reduction and recycling goals described below. Aggressive programs during the last six years have resulted in substantial reductions in the tonnage disposed at the landfills during the past six years. However, it is worth noting that some of the gains have been offset by an increase in the density of the waste being disposed. In other words, the tonnage of waste has decreased at a faster rate than the volume of waste. The County Waste Management Authority may place a greater emphasis on construction and demolition debris recycling during the coming years to further reduce both the tonnage and volume of waste being landfilled.

SPECIAL WASTE AND HOUSEHOLD HAZARDOUS WASTE

In addition to the conventional waste generated by homes and businesses, a significant amount of the solid waste generated in Oakland requires special handling, such as incinerator ash, auto shredder residue, refrigerators, tires, mattresses, and furniture, and household hazardous waste (leftover paint, household cleansers, pesticides, motor oil, and pool chemicals, among others). Solid waste generated by the land uses in the Estuary Planning Area contribute to these special and household hazardous wastes. There is a permanent disposal facility for such items on East 7th Street operated by the County Waste Management Authority.

WASTE DIVERSION AND SOURCE REDUCTION

Assembly Bill 939 established the California Integrated Waste Management Board and required the preparation of countywide integrated waste management plans. Using a 1990 base year, the plans set a goal of decreasing solid waste deposited to landfills by 25 percent by 1995 and 50 percent by 2000. Oakland adopted its Source Reduction and Recycling Element in 1992 to achieve compliance with AB 939 at the local level. The Element includes a number of components to achieve the State goals, including public education.

In 1996, recycling activities in Oakland resulted in the diversion of 34 percent of the solid waste generated in the City. A variety of solid waste types have been targeted to achieve the 50 percent goal by the year 2000. Newspaper, plastic, glass, and aluminum are collected curbside in residential areas. High grade paper is collected at selected office buildings, with drop-off and buy-back centers located in or near Oakland. Since yard waste represents 13.5 percent of the waste generated in Oakland, the City initiated a yard waste collection program which should

facilitate a large increase in the diversion rate. Food waste represents 10 percent of the waste stream and may also be targeted in the future.

SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines states that a project would normally have a significant effect on the environment if it would conflict with adopted environmental plans and goals of the community where it is located, or breach published national, state, or local standards relating to solid waste or litter control. Based on these criteria, the proposed Estuary Plan would have a significant impact if it would interfere with the waste diversion levels mandated by AB 939 or result in a substantial need for new, altered, or expanded solid waste services not met by the proposed Element.

IMPACTS AND MITIGATION MEASURES

INCREASED WASTE STREAM

Impact D.4-1: New development consistent with the proposed Estuary Plan would increase the demand for solid waste services. The impacts would be mitigated to a less-than-significant level by continuing implementation of the City's Source Reduction and Recycling Element and the implementation of the measures included in the Land Use and Transportation Element EIR.

The population and employment growth associated with the proposed Estuary Plan would be less than the growth assumed for the Estuary Planning Area in the Land Use and Transportation Element EIR. Increased construction activities in the Estuary Planning Area would increase the disposal volumes of concrete, asphalt, and demolition debris. Certain types of waste requiring special handling, such as asbestos and toxic remediation byproducts, also may increase.

The impact of the development in the Estuary Planning Area would be less than significant, provided that the City continued to implement its Source Reduction and Recycling Element, implements Mitigation Measures D.4-1a, D.4-1b, and D.4-1c identified in the Land Use and Transportation Element EIR, and ensured that solid waste collection and disposal rates were adequate to cover the cost of service delivery.

Mitigation Measure D.4-1: None required.

D.5 POLICE SERVICES

SETTING

A description of police services in the City of Oakland is included in the Land Use and Transportation Element EIR. This document is hereby incorporated by reference. Police services in the Estuary Planning Area are similar to the police services provided to the rest of the City of Oakland.

SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines states that a project would normally have a significant effect on the environment if it would interfere with emergency response plans or emergency evacuation plans. Based on the Guidelines checklist, a project could also result in a significant effect if it were to substantially increase the demand for governmental services or requires alteration of these services. The proposed Estuary Plan would have a significant impact on police services if it substantially increased the demand for these services or required major alterations to Police Department operations.

IMPACTS AND MITIGATION MEASURES

INCREASED SERVICE DEMAND

Impact D.5-1: Development consistent with the proposed Estuary Plan would result in higher levels of population and employment, thereby increasing the demand for police services. The need for staff, facilities, and equipment would increase. This is a less-than-significant impact due to policies in the Land Use and Transportation Element and the measures included in the Land Use and Transportation Element mitigation monitoring program.

Development in the Estuary Planning Area would contribute to the increased demand for police services throughout Oakland. Policies in the Land Use and Transportation Element (Policies N13.1 and N13.5) address potential impacts on police services resulting from the increased level of population and employment. Impacts are to be mitigated primarily by expanding law enforcement services commensurate with growth, and assessing the need for additional police services as individual projects are proposed. In addition to these policies, the Land Use and Transportation Element EIR identified five measures to further mitigate police services demand. These policies and measures are applicable to the Estuary Planning Area and would result in an impact that is less than significant.

Mitigation Measure D.5-1: None required.

D.6 FIRE SERVICES

SETTING

A description of fire services in the City of Oakland is included in the Land Use and Transportation Element EIR. This document is hereby incorporated by reference. Fire services in the Estuary Planning Area are similar to the fire services provided to the rest of the City of Oakland.

SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines states that a project would normally have a significant effect on the environment if it would interfere with emergency response plans or emergency evacuation plans. Based on the Guidelines checklist, a project could also result in a significant effect if it were to substantially increase the demand for governmental services or requires alteration of these services. The proposed Estuary Plan would have a significant impact on fire services if it substantially increased the demand for these services or required major alterations to Fire Department operations.

IMPACTS AND MITIGATION MEASURES

INCREASED SERVICE DEMAND

Impact D.6-1: Development consistent with the proposed Estuary Plan would result in higher levels of population and employment, thereby increasing the demand for fire protection and emergency medical services. The need for staff, facilities, and equipment would increase. This is a less-than-significant impact due to policies in the Land Use and Transportation Element and the measures included in the Land Use and Transportation Element mitigation monitoring program.

Development in the Estuary Planning Area would contribute to the increased demand for fire services throughout Oakland. Policies in the Land Use and Transportation Element (Policies N13.1, N2.2, N7.2, N13.5, and T3.8) address potential impacts on fire services resulting from the increased level of population and employment. Impacts are to be mitigated primarily by expanding fire protection services commensurate with growth, and assessing the need for such services as individual projects are proposed. In addition to these policies, the Land Use and Transportation Element EIR identified four measures to further mitigate fire services demand. These policies and measures are applicable to the Estuary Planning Area and would result in a less-than-significant impact.

Mitigation Measure D.6-1: None required.

D.7 SCHOOL SERVICES

SETTING

The City of Oakland is served by the Oakland Unified School District (OUSD). The City and OUSD boundaries are coterminous. A description of school services is included in the Land Use and Transportation Element EIR, which is incorporated by reference.

SIGNIFICANCE CRITERIA

Classroom overcrowding constitutes a significant impact on the environment if the overcrowding results in physical changes to the environment, such as new school construction. Minor changes in annual operating budgets and cash flows (fiscal impacts) are not considered to be environmental impacts and are therefore not discuss in this section.

IMPACTS AND MITIGATION MEASURES

INCREASED ENROLLMENT

Impact D.7-1: Development consistent with the proposed Estuary Plan could increase the number of students served by the Oakland Unified School District (OUSD). This impact is less than significant due to policies in the Land Use and Transportation Element and the measures included in the Land Use and Transportation Element EIR.

Development in the Estuary Planning Area would contribute to the increased demand for school services throughout Oakland.

The Land Use and Transportation Element includes two policies (Policy N13.2 and Policy N13.3) that recognize the important relationship between the City and the School District. These policies are as follows:

Policy N13.2:

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 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, funding 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 N13.3:

High quality child care should be available throughout Oakland, appropriately sited and designed based on its capacity and attributes. The City should consider, when appropriate and feasible, requiring major development projects to provide on- or off-site facilities or other means to address potential child care inadequacies and encourage the inclusion of

child care centers in major residential and commercial developments near transit centers, community centers, and schools.

In addition to this policy, the Land Use and Transportation Element EIR identified the following nine measures to further mitigate the demand for school services:

- To reduce overcrowding, the School District should periodically conduct a review and evaluation to determine if the following measures are feasible to implement:

  1) reassigning students among district schools to account for changing population and new development; and

  2) more efficient use of underutilized and/or abandoned school facilities.

  If these measures do not reduce overcrowding, OUSD may have to expand existing schools or construct new schools. All of these measures would require varying amounts of funding.

  If current sources of funding including the existing school mitigation fees (developer school impact fees), and increases in state funding are insufficient to pay for the cost of these mitigating overcrowding, the OUSD should formulate and implement specific measures to raise additional funds. Funding sources which may be considered by OUSD include:

  1) adjustment of school mitigation fees on commercial and residential development;

  2) the creation of special assessment or Mello Roos districts or annexation to a Community Facilities District;

  3) sale of surplus OUSD property; and

  4) any other funding mechanisms available to the OUSD by state law or local ordinances, including those measures identified in the OUSD's 1996 Developer Fee Justification Study.

- In reviewing major land use or policy decisions, the City will consider the availability of police and fire protection services, park and recreational services, schools, and library services in the affected areas and the impact of the project on the current service levels. The City will consult with the School District regarding potential school impacts early in the planning process.

- Support the School District's efforts to use local bond issues and voter approved assessment districts as a means of providing adequate school facilities.

- Where feasible and appropriate, encourage the inclusion of child care centers in major residential and commercial developments near transit centers, community centers, and schools.

- Continue to assist the Oakland Unified School District in securing all of the fees, grants, and other financial resources possible.

- Work with the School District to coordinate land use and school facility planning and continue efforts by the City to collect impact fees and monitor the school capacity impacts of new development.
- The Office of Parks and Recreation, Real Estate Division of the Office of Public Works, and the Oakland Unified School District should assess the use of City and school-owned parcels for use as civic, institutional, or recreational facilities.
- Support state and federal legislation to promote affordable, safe, high-quality child care, including children with special needs.
- The District should develop, in coordination with the City, a Master Facilities Plan, which shall be periodically updated. The Plan shall provide a comprehensive view of the District's current and projected facilities, alternatives to reduce overcrowding, and financing options.
- After the approval of the Master Facilities Plan, the City and District shall enter into an MOU that shall establish a continuing procedure for coordinating residential and commercial development and exploring the imposition of mutually agreed upon reasonable and feasible mitigation measures to reduce the impacts on school facilities.

This policy and these measures are applicable to the Estuary Planning Area and would result in an impact that is less than significant.

Mitigation Measure D.7-1: None required.

D.8 LIBRARY SERVICES

SETTING

A description of library services in the City of Oakland is included in the Land Use and Transportation Element EIR, which is incorporated by reference. Although no libraries currently exist in the Estuary Planning Area, residents and workers from the Estuary Planning Area can use any of the other libraries in Oakland.

SIGNIFICANCE CRITERIA

The CEQA Guidelines checklist indicates that a project could have a significant effect if it results in the need for new or altered government services. Because libraries are a government service, adoption of the Estuary Plan would have a significant effect if it would interfere with the provision of existing or planned library services, allow new development without appropriate increases in staffing and facilities, or result in a substantial need for new, altered, or expanded library services without mitigating these needs. Because the City does not have a service standard for libraries, the ratio of square feet to population is used here as an indicator of adequacy.

IMPACTS AND MITIGATION MEASURES

INCREASED PATRONAGE

Impact D.8-1: Development consistent with the proposed Estuary Plan could result in an increased number of patrons at the Main and branch libraries. The potential increase in usage without provisions for new facilities is a less-than-significant impact due to the measures included in the Land Use and Transportation Element EIR.

Development in the Estuary Planning Area would contribute to the increased demand for library services within the Estuary Planning Area and in adjacent neighborhoods (West Oakland, downtown, Fruitvale). Since no library currently exists within the Estuary Planning Area, the impacts to library service likely would be greater than in other parts of Oakland. To mitigate this impact, the Land Use and Transportation Element EIR included a measure that addresses the demand for library services. This measure is applicable to the Estuary Planning Area and would result in a less-than-significant impact.

Mitigation Measure D.8-1: None required.

D.9 PARK AND RECREATION SERVICES

SETTING

Existing public access and open space within the Estuary Planning Area includes the Martin Luther King Regional Shoreline, the Fruitvale Fishing Pier, Estuary Park, and public access to the Estuary in the Jack London Square area.

In 1996, Oakland adopted a new Open Space, Conservation, and Recreation (OSCAR) Element, including an ambitious strategy to increase the amount of parkland in many of the City's flatland neighborhoods. Many of the Element's policies and programs address measures to achieve on a level of service goal of 4 acres of local-serving parkland per 1,000 residents in the City.

SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines states that a project would normally have a significant impact if it would conflict with established recreational uses of an area. The Guidelines checklist indicates that a project could also have a significant impact if it were to result in the need for new or enlarged parks (or recreational facilities). Thus, impacts of the Estuary Plan would be considered significant if they required the addition of new parks, the expansion of existing parks, or the relocation or disruption of an existing park.

IMPACTS AND MITIGATION MEASURES

INCREASED SERVICE DEMAND

Impact D.9-1: Development consistent with the proposed Estuary Plan would increase the demand for park services. This impact is less than significant due to existing policies in the City's OSCAR Element and the increase in parkland acreage included in the Estuary Plan.

Development consistent with the Estuary Plan is projected to increase the population of the Estuary Planning Area by about 6,300 by the year 2015. To maintain the City's level of service standard, another 25 acres of local serving parkland would need to be provided to serve this growth increment. The Estuary Plan includes over 25 acres of additional parkland within the Estuary Planning Area (see Table III.D-1).

TABLE III.D-1
PARKLAND IN THE ESTUARY PLANNING AREA

	ACRES	
	Existing	**Proposed**
Jack London District		
Meadow Green	1.0	1.0
Broadway Plaza	2.5	2.5
Webster Street Green	0	1.4
Marina Green	0	1.0
Shoreline Promenade	0	5.0
Oak to 9th Avenue District		
Estuary Park	11.5	11.5
Open Meadow	0	11.0
Clinton Basin	0	8.4
Crescent Park	0	11.0
Channel Park	0	4.4
Fruitvale/San Antonio District		
Union Point Park	0	8.5
Kennedy Tract Promenade	0	4.2
MLK Regional Shoreline	35	35.0
TOTAL	50.0	104.9

As part of the 1996 Open Space, Conservation and Recreation (OSCAR) Element, the City adopted policies and actions associated with parks and recreational facilities. These policies, which are identified below, would further reduce park and recreation impacts that could occur as a result of development pursuant to the Estuary Plan. The following policies and actions have

been included in the OSCAR Element of the General Plan and will continue to be implemented by the City:

OSCAR Policy REC-3.1:

Use level of service standards of 10 acres of total parkland and 4 acres of local-serving parkland per 1,000 residents as a means of determining where unmet needs exist and prioritizing future capital investments.

OSCAR Policy REC-3.2:

Follow a systematic process in allocating park and recreation funds. In general, allocate the greatest expenditures to those areas with the greatest unmet needs and place a priority on projects that maximize reductions in deficiency for the amount of money spent. However, maintain the flexibility to consider such factors as site opportunities, the availability of grants or matching funds, and linkages to other kinds if projects.

OSCAR Policy REC-3.3:

Consider a range of factors when locating new parks or recreational facilities, including local recreational needs, projected operating and maintenance costs, budgetary constraints, surrounding land uses, citizen wishes, accessibility, the need to protect or enhance a historic resource, and site visibility.

OSCAR Policy REC-4.1:

Provide for ongoing, systematic maintenance of parks and recreational facilities to prevent deterioration, ensure public safety, and permit continued public use and enjoyment.

OSCAR Policy REC-6.1:

Promote joint use agreements and similar arrangements between the City, the Oakland Unified School District, and other public agencies to maximize the use of school and other non-park recreational facilities during non-school hours.

OSCAR Policy REC-6.2:

Encourage public-private partnerships as a means of providing new recreational facilities on privately-owned sites. Promote joint use partnerships with local churches, private recreational service providers, and local non-profits.

OSCAR Policy REC-6.3:

In areas where park deficiencies exist, pursue recreational use of open space at surplus schools, military bases, utility and watershed properties, and transmission and transportation corridors. Recreational uses in such locations should not conflict with the functional use of the property and should be compatible with prevailing environmental conditions.

OSCAR Policy REC 7-1:

Provide diverse recreational activities for all ages, with a progression of programs from youth to adulthood. Equitably distribute programs throughout all Oakland neighborhoods.

OSCAR Policy REC-10.1:

Continue to provide General Fund support for park and recreational services, acknowledging the importance of these services to the quality of life in Oakland.

OSCAR Policy REC-10.2:

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.

OSCAR Policy OS-2.5:

Increase the amount of urban parkland in the seven flatland planning areas, placing a priority on land in areas with limited public open space, land adjacent to existing parks, land with the potential to provide creek or shoreline access, land with historical or visual significance, land that can be acquired at no cost or reduced cost, land in areas with dense concentrations of people or workers, and land that is highly visible from major streets or adjacent to public buildings.

Mitigation Measure D.9-1: None required.

Impact D.9-2: Development of an Embarcadero Parkway consistent with the proposed Estuary Plan could result in impacts on adjacent park areas and result in additional maintenance and operational costs to the City, Port, or the Park District. These are less-than-significant impacts due to existing policies in the City's OSCAR Element and the draft Estuary Plan.

Creation of new park spaces, extension of Embarcadero Parkway to 66th Avenue and creation of additional pedestrian and bicycle trails would increase the use and appreciation of the Estuary Planning Area by residents of Oakland and the larger region. These new facilities would require ongoing maintenance and may require certain operational expenses for either the City, the Port, or the Park District. The increased number of people coming to the area or using the new roadways as a means to access the Estuary or other areas of the City could potentially conflict with established recreational uses in the area.

These potential impacts are less than significant because the following policies in the City's OSCAR Element would ensure that the potential impacts do not occur:

OSCAR Policy REC-3.2:

Follow a systematic process in allocating park and recreation funds. In general, allocate the greatest expenditures to those areas with the greatest unmet needs and place a priority on projects that maximize reductions in deficiency for the amount of money spent.

However, maintain the flexibility to consider such factors as site opportunities, the availability of grants or matching funds, and linkages to other kinds if projects.

OSCAR Policy REC-4.1:

Provide for ongoing, systematic maintenance of parks and recreational facilities to prevent deterioration, ensure public safety, and permit continued public use and enjoyment.

OSCAR Policy REC-6.2:

Encourage public-private partnerships as a means of providing new recreational facilities on privately-owned sites. Promote joint use partnerships with local churches, private recreational service providers, and local non-profits.

OSCAR Policy REC-10.1:

Continue to provide General Fund support for park and recreational services, acknowledging the importance of these services to the quality of life in Oakland.

OSCAR Policy REC-10.2:

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.

In addition, the draft Estuary Plan includes a series of detailed implementation steps for the implementation, operation and maintenance of additional public open spaces and transportation of the Estuary Plan. Further, the Plan calls for the preparation of more detailed "plan-line" studies to establish the specific rights of way for the Embarcadero Parkway which may be used to identify and mitigate any potential impacts to adjacent uses caused by the proposed Parkway that cannot be identified based upon the general level of detail and specificity about the proposed Parkway in the Estuary Plan.

Mitigation Measure D.9-2: None required.

E. AIR QUALITY

SETTING

METEOROLOGY

The Bay Area's climate, as with all of California coastal environs, is dominated by the strength and position of the semi-permanent high pressure center over the Pacific Ocean near Hawaii. It creates cool summers, mild winters, and infrequent rainfall; it drives the cool daytime sea breeze and maintains comfortable humidities and ample sunshine. Temperatures in Oakland average 58°F annually, ranging on the average from the mid-40s on winter mornings to the mid-70s in late summer afternoons. Daily and seasonal variations of temperature are small because of the moderating effects of the nearby ocean. In contrast to the steady temperature regime, rainfall is highly variable and confined almost exclusively to the "rainy" period from early November to mid-April. Oakland averages 18 inches of precipitation annually, but because much of the area's rainfall is derived from the fringes of mid-latitude storms, a shift in the annual storm track of a few hundred miles can mean the difference between a very wet year and near drought conditions.

Winds in the Oakland area are typically out of the west, west-northwest, and northwest (about 50 percent of the time). All other wind directions occur no more than seven percent of the time, individually, and calm conditions occur during eight percent of annual observations. Annual average wind speeds are approximately nine miles per hour (CARB, 1984). Winds in the Oakland area display several characteristic regimes. During the day, especially in summer, winds are from the southwest through northwest at 8 to 10 miles per hour as air is funneled through the Golden Gate and then diverges across the entire Bay Area. At night, especially in winter, the land becomes cooler than the ocean, and an offshore wind of 2 to 4 miles per hour develops from the Oakland Hills toward the Bay. After sunrise and after sunset, there is usually a period of light and disorganized wind flow, as one wind regime dissipates and the replacing regime has not yet become fully established. The net effect of the prevailing wind pattern is that the Oakland area is rapidly ventilated in the daytime with clean marine air, resulting in correspondingly good air quality. The air stagnation at night during the winter creates a strong potential for elevated air pollution levels, but the air draining off the hills toward the Bay is relatively unpolluted. Nighttime air quality also is usually healthful in the East Bay area.

In addition to the winds that govern the horizontal rate and trajectory of air pollutants, the Bay Area experiences two characteristic temperature inversions that control the vertical depth through which pollutants can be mixed. The first type of inversion occurs when the daytime onshore flow of marine air is capped by a massive dome of warm air that acts like a giant lid over the region. As the clean ocean air moves inland, pollutants from the urbanized area are generated in the lower layer of cool air with minimal dilution from the upper layer of warm air. As the lower layer travels towards the inland valleys and movement slows down, the pollutants in the air undergo photochemical transformations due to the sunlight and create unhealthful

levels of smog, mainly due to ozone. The second type of inversion occurs at night as cool air pools in low elevations while the air aloft remains warm Shallow radiation inversions are formed, especially in winter, that trap pollutants near intensive traffic sources (such as freeways, shopping centers, etc.) and form localized violations of clean air standards called "hot spots." Although inversions can occur during all seasons of the year, the summertime regional capping inversion and the localized winter radiation inversion are the most dominant. The seasonal split in inversion intensity thus contributes to the different air quality climate found in summer and winter in Oakland.

AMBIENT AIR QUALITY STANDARDS

The Clean Air Act Amendments of 1970 established national ambient air quality standards, and individual states retained the option to adopt more stringent standards and to include other pollution species. California had already established its own air quality standards when Federal standards were established, and because of the unique meteorological problems in the state, there is considerable diversity between state and federal standards currently in effect in California, as shown in Table III.E-1.

The ambient air quality standards are intended to protect the public health and welfare and they incorporate an adequate margin of safety. They are designed to protect those segments of the public most susceptible to respiratory distress, known as sensitive receptors, such as asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollution levels somewhat above the ambient air quality standards before adverse health effects are observed.

EXISTING AMBIENT AIR QUALITY

The Bay Area Air Quality Management District (BAAQMD) operates a regional monitoring network which measures the ambient concentrations of six criteria air pollutants: ozone (O_3), carbon monoxide (CO), inhalable particulate matter (PM_{10}), lead (Pb), nitrogen dioxide (NO_2), and sulfur dioxide (SO_2).

Existing and probable future levels of air quality in Oakland can be generally inferred from ambient air quality measurements conducted by the Bay Area Air Quality Management District (BAAQMD) at its monitoring stations. Table III.E-2 is a five-year summary of monitoring data from BAAQMD's Alice Street station in Oakland and BAAQMD's monitoring station at County Hospital in San Leandro. Data from the San Leandro station are included because the Alice Street monitoring station does not monitor PM_{10} concentrations. Table III.E-2 compares measured pollutant concentrations with state ambient air quality standards, which are more stringent than the corresponding federal standards.

TABLE III.E-1
STATE AND FEDERAL AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	SAAQS /a,c/	NAAQS /b,c/
Ozone	1 hour	0.09 ppm	0.12 ppm
Carbon Monoxide	1 hour	20 ppm	35 ppm
	8 hour	9.0 ppm	9 ppm
Nitrogen Dioxide	1 hour	0.25 ppm	NA
	Annual	NA	0.053 ppm
Sulfur Dioxide	1 hour	0.25 ppm	NA
	3 hour	NA	0.5 ppm
	24 hour	0.04 ppm	0.14 ppm
	Annual	NA	0.03 ppm
Inhalable Particulate Matter (PM_{10}) /d/	24 hour	50 $\mu g/m^3$	150 $\mu g/m^3$
	Annual	30 $\mu g/m^3$	50 $\mu g/m^3$
Sulfates	24 hour	25 $\mu g/m^3$	NA
Lead	30 day	1.5 $\mu g/m^3$	NA
	Calendar Quarter	NA	1.5 $\mu g/m^3$
Hydrogen Sulfide	1 hour	0.03 ppm	NA
Vinyl Chloride	24 hour	0.010 ppm	NA

/a/ SAAQS stands for State Ambient Air Quality Standards (California). SAAQS for ozone, carbon monoxide, sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, and inhalable particulate matter (PM10) are values that are not to be exceeded. All other state standards shown are values not to be equaled or exceeded.

/b/ NAAQS stands for National Ambient Air Quality Standards. NAAQS, other than ozone, and those based on annual averages or annual arithmetic means, are not to be exceeded more than once a year. The ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one.

/c/ ppm = parts per million by volume; µg/m3 = micrograms per cubic meter; NA = Not Applicable

/d/ Revised NAAQS for ozone and a new NAAQS for fraction of PM10 that is 2.5 microns or less (called PM2.5) are expected to be adopted by the U.S. Environmental Protection Agency before the end of 1997.

SOURCE: Bay Area Air Quality Management District (1996)

TABLE III.E-2
OAKLAND AMBIENT AIR QUALITY MONITORING SUMMARY, 1991 - 1996

Pollutant	Standard /a/	Number of Days Standards were Exceeded and Maximum Concentration Measured					
		1991	1992	1993	1994	1995	1996
Downtown Oakland Data:							
Ozone							
1-Hour	>0.09 ppm	0	0	1	0	1	0
Max. 1-Hour Conc. (ppm) /b/		0.06	0.08	**0.11**	0.06	**0.11**	0.09
Carbon Monoxide							
1-Hour	>20 ppm	0	0	0	0	0	0
8-Hour	>9 ppm	0	0	0	0	0	0
Max. 1-Hour Conc. (ppm)		8	7	7	7	5	7
Max. 8-Hour Conc. (ppm)		6.1	4.6	4.9	5.5	3.9	3.9
San Leandro Data:							
Inhalable Particulates (PM_{10})							
Max. 24-hr. Conc. ($\mu g/m^3$) /c/	>50 $\mu g/m^3$	**123**	**56**	**51**	**62**	47	**59**
Exceedances/Samples[3]		4/26	2/61	1/61	1/61	0/61	1/61
Annual Geometric Mean ($\mu g/m^3$)	30 $\mu g/m^3$	29.3	22.7	18.1	18.7	16.9	21.3

/a/ State standard, not to be exceeded.
/b/ conc. = concentration; ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter
/c/ Indicates the number of exceedances and the number of samples taken in a given year.

NOTE: **Bold** values are in excess of applicable standard. "NA" indicates that data is not available.

SOURCE: California Air Resources Board, *Summary of Air Quality Data,* 1991-1996. BAAQMD Monitoring Stations, Alice Street, in Oakland and County Hospital in San Leandro.

Ozone (O_3)

O_3 is not emitted directly into the atmosphere but is a secondary air pollutant produced in the atmosphere through a complex series of photochemical reactions involving hydrocarbons (HC) and nitrogen oxides (NO_x). O_3 is a regional air pollutant because its precursors are transported and diffused by wind concurrently with O_3 production by the photochemical reaction process.

O_3 causes eye and respiratory irritation, reduces resistance to lung infection, and may aggravate pulmonary conditions in persons with lung disease. Table III.E-2 shows that exceedance of the state standard occurred on two days in Oakland between 1991 and 1996, and exceedance of the less stringent federal standard of 0.12 ppm for one hour did not occur during the last five years, according to published data.

Carbon Monoxide (CO)

CO is an odorless, invisible gas usually formed as the result of incomplete combustion of organic substances. Approximately 80 percent of the CO emitted in Alameda County comes from motor vehicles (CARB, 1997). High levels of CO can impair the transport of oxygen in the bloodstream and thereby aggravate cardiovascular disease and cause fatigue, headaches, and dizziness. Table III.E-2 shows that no exceedances of state CO standards were recorded between 1990 and 1995. Measurements of carbon monoxide (CO) show low baseline levels with the hourly maximum averaging less than 50 percent of the allowable state standard. Similarly, maximum 8-hour CO levels are 3 to 5 parts per million (ppm) below their allowable 8-hour exposure.

Inhalable Particulate Matter (PM_{10})

PM_{10} consists of inhalable particulates that can cause adverse health effects. PM_{10} can include certain substances, such as sulfates and nitrates, that can cause lung damage directly, or can contain absorbed gases (e.g., chlorides or ammonium) that may be injurious to health. Table III.E-2 shows that exceedances of the state PM_{10} standard occur relatively infrequently in San Leandro. PM_{10} concentrations in Oakland would be expected to be similar to those measured in San Leandro.

Other Criteria Air Pollutants

The standards for NO_2, SO_2, and lead are being met in the Bay Area, and the latest pollutant trends information suggests that these standards will not be exceeded in the foreseeable future (ABAG and BAAQMD, 1994).

AIR POLLUTION SOURCES

Motor vehicles are the primary source of air pollution in the basin and in Oakland. Motor vehicles account for approximately 50 percent of the ROG, 70 percent of the NOx (both O_3 precursors), and 80 percent of the CO emitted in Alameda County (CARB, 1997). Construction and demolition, paved road dust, windblown dust, and residential fuel combustion generate approximately 80 percent of the PM_{10} emissions in Alameda County. Table III.E-3 summarizes the relative contribution of mobile, stationary and diffuse areawide sources of emissions in Alameda County. Stationary sources of emissions include large industrial facilities as well as smaller sources such as service stations, dry cleaners, wastewater treatment plants, etc. Residential uses also contribute to air emissions from paints and solvents, fireplaces, heating and landscaping equipment. Although the contribution from any single residence is minimal, the cumulative contribution from a relatively high density of residences in a major urban area can make this a non-negligible emission source.

TABLE III.E-3
ALAMEDA COUNTY EMISSIONS INVENTORY (1995)

Source Category	ROG	NOx	SOx	CO	PM_{10}
On-Road Mobile	53%	68%	22%	81%	6%
Other Mobile /a/	7%	20%	59%	12%	5%
Industrial Activities	22%	8%	17%	<1%	11%
Miscellaneous /b/	18%	4%	2%	6%	78%
Daily Emissions (tons/day)	116	114	9	762	34

/a/ Construction equipment, ships, trains, planes, lawn equipment.
/b/ Fires, road dust, construction dust, paints & solvents, pesticides.

ROG = reactive organic gases
NOx = nitrogen oxides
SOx = sulfur oxides
CO = carbon monoxide
PM_{10} = respirable particulate matter with 10-micron diameter or less

SOURCE: California Air Resources Board (1997)

Oakland has identified 17 major sources of air emissions (sources emitting more than 100 pounds per day). They are mapped in Technical Report No. 7 for the City's Open Space Conservation and Recreation program as part of the General Plan update. Major stationary sources are concentrated along the Interstate 880 corridor and along the Oakland Estuary. Because the BAAQMD has strictly regulated major stationary sources of air emissions, their contribution to the total emissions burden has decreased significantly within the last several decades, such that smaller, non-smokestack sources generate the largest fraction of such emissions.

SENSITIVE RECEPTORS

Land uses such as schools, children's day care centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality. Residential areas are considered more sensitive to air quality conditions compared to commercial and industrial areas because people generally spend longer periods of time at their residences, with associated greater exposure to ambient air quality conditions. Recreational uses also are considered sensitive due to the greater exposure to ambient air quality conditions and because

the presence of pollution detracts from the recreational experience. These sensitive uses are distributed throughout the City.

REGULATORY FRAMEWORK AND PLANNING CONSIDERATIONS

Federal Standards

The 1977 Clean Air Act required that regional planning and air pollution control agencies prepare a regional Air Quality Plan to outline the measures by which both stationary and mobile sources of pollutants can be controlled in order to achieve all standards within the deadlines specified in the Clean Air Act. For the Bay Area Air Basin, the Association of Bay Area Governments (ABAG), the Metropolitan Transportation Commission (MTC), and the BAAQMD jointly prepared a *Bay Area Air Quality Plan* in 1982 which predicted attainment of all federal clean air standards within the basin by 1987. This forecast was somewhat optimistic in that attainment of federal clean air standards did not occur throughout the entire air basin until 1991.

The Bay Area Air Basin attainment status with respect to federal standards is summarized in Table III.E-4 The San Francisco air basin was redesignated in June 1995 as an "attainment" area for the federal O_3 standard, although the U.S. Environmental Protection Agency announced plans in December 1997 to redesignate the Bay Area "nonattainment" for ozone. In April 1998, the air basin was redesignated as an "attainment" area for the federal CO standard, since it has met the criteria for redesignation. For PM_{10}, the basin is "unclassified" at present, awaiting a possible revision of PM_{10} standards to include only very fine particulate matter (less than 2.5 $\mu g/m^3$).

State Standards

In 1988, California passed the California Clean Air Act (AB-2595) which, like its federal counterpart, called for designations of areas as attainment or nonattainment (but in reference to State Ambient Air Quality Standards rather than national standards). The Bay Area Air Basin attainment status with respect to state standards is summarized in Table III.E-4 The San Francisco Bay Area Air Basin has been designated as nonattainment for State Ambient Air Quality Standards for O_3 and PM_{10} (BAAQMD, 1996).

The 1988 California Clean Air Act (CCAA) also required development of air quality plans and strategies to reduce ground-level O_3 levels in the Bay Area. The *Bay Area 1991 Clean Air Plan* (1991 CAP) included a comprehensive strategy to reduce air pollutant emissions and focused on control measures to be implemented during the 1991 to 1994 period. It also included control measures to be implemented from 1995 through 2000 and beyond. The *Bay Area 1994 Clean Air Plan* (1994 CAP) included changes in the organization and scheduling of some 1991 CAP measures and also included eight new stationary and mobile source control measures. The 1994 CAP covered the period from December 1994 to 1997. The goals of the 1994 CAP were to reduce the health impacts from ozone levels above the State ambient standard and to comply

TABLE III.E-4
CRITERIA POLLUTANT ATTAINMENT STATUS FOR THE CITY OF OAKLAND

Pollutant	Ambient Standards	
	California	Federal
Ozone	Nonattainment	Attainment /a/
Carbon Monoxide		
- 1-Hour	Attainment	Attainment
- 8-Hour	Attainment	Attainment
Nitrogen Dioxide		
- Annual Average	--	Attainment
- 1-Hour	Attainment	--
Sulfur Dioxide		
- Annual Average	--	Attainment
- 24-Hour	Attainment	Attainment
- 1-Hour	Attainment	--
Inhalable Particulates (PM_{10})		
- Annual Arithmetic Mean	--	Attainment
- Annual Geometric Mean	Nonattainment	--
- 24-Hour	Nonattainment	Unclassified

/a/ In December 1997, the U.S. Environmental Protection Agency announced plans to redesignate the Bay Area "nonattainment" for ozone. This change has not taken effect as of April 1998.

SOURCE: Bay Area Air Quality Management District (1998)

with the CCAA. The CCAA requires air districts that exceed the state ozone standard to reduce pollutant emissions by five percent per year, calculated from 1987, or take all feasible measures to achieve emission reductions. Since the Bay Area attained the state CO standard in 1993, the CCAA planning requirements for CO nonattainment areas no longer apply to the Bay Area. The control measures included in the 1994 CAP constitute all feasible measures for the reduction of ozone precursor emissions in the Bay Area.

For state air quality planning purposes, the Bay Area is classified by the CCAA as a *serious* non-attainment area for ozone. The *serious* classification triggers various plan submittal requirements and transportation performance standards. One such requirement is that the Bay Area update the CAP every three years to reflect progress in meeting the air quality standards and incorporate new information regarding the feasibility of control measures and new emission

inventory data. The Bay Area's record of progress in implementing previous (1994 CAP) measures must also be reviewed. Based on revisions to the 1994 CAP, the 1997 CAP was updated and adopted December 17, 1997. New and revised control measures in the 1997 CAP apply to stationary sources, mobile sources, and transportation control measures (TCMs).

The California Air Resources Board (ARB) is the state agency responsible for regulating air quality. ARB responsibilities include establishing State Ambient Air Quality Standards, emissions standards and regulations for mobile emissions sources (e.g., autos, trucks, etc.), and overseeing the efforts of county-wide and multi-county air pollution control districts, which have primary responsibility over stationary sources. The Bay Area Air Quality Management District (BAAQMD) is the regional agency responsible for air quality regulation within the San Francisco Bay Area Air Basin. The BAAQMD regulates air quality through its permit authority over most types of stationary emission sources and through its planning and review activities.

SIGNIFICANCE CRITERIA

According to state CEQA *Guidelines,* a project would normally have a significant effect on the environment if it would: result in an exceedance of any ambient air quality standard, contribute substantially to an existing or projected air quality exceedance, expose sensitive receptors to substantial pollutant concentrations, or conflict with adopted environmental plans and goals of the community where it is located.

CEQA Guidelines Section 15125(b) states that an EIR shall discuss "any inconsistencies between a proposed project and applicable general plans and regional plans. Such regional plans include, but are not limited to, the applicable Air Quality Management Plan (or State Implementation Plan)...". The BAAQMD (1996) indicates that a General Plan must show consistency with regional plans and policies affecting air quality to claim a less-than-significant impact on air quality. Specific area plans should receive the same scrutiny as general plans with respect to consistency with regional air quality plans. For a specific area plan such as the Estuary Plan to be consistent with the most recently adopted Clean Air Plan (CAP), which is currently the 1994 CAP, the Estuary Plan must show over the planning period of the plan that:

a) population growth for the jurisdiction will not exceed the values included in the current Clean Air Plan, and

b) the rate of increase in VMT for the jurisdiction is equal to or lower than the rate of increase in population.

IMPACTS AND MITIGATION MEASURES

Three approaches are used to assess the significance of air emissions increases related to the Estuary Plan. The first is to evaluate the consistency of population and traffic increases resulting from implementation of the Estuary Plan with planned regional growth that is accounted for in

regional air quality planning (*Bay Area Clean Air Plan).* The second approach is to use air quality modeling to estimate whether emissions associated with Plan-related additional growth would cause violations of the ambient state and federal standards on a regional as well as local basis. The third approach is to evaluate the potential for nuisance odors and localized emissions as a result of land use changes in the proposed Estuary Plan. Regional air quality impacts are evaluated based on the regional analysis prepared for the recently certified Land Use and Transportation Element EIR. It uses the URBEMIS3 model to estimate ozone precursor and PM_{10} (both regional pollutants) emissions produced by mobile sources. Local impacts are assessed using the CALINE4 model to estimate CO (a localized pollutant) emissions along roadways produced by mobile sources.

REGIONAL EMISSIONS

Impact E.1: Implementation of the Estuary Plan would not be consistent with population and VMT assumptions used in air quality planning, and would result in increased regional emissions of criteria air pollutants. This would be a significant impact.

Within the Estuary Planning Area, the population is projected to increase by 436 persons, which would be a part of the overall population increase associated with General Plan implementation. The projected 2015 population resulting from implementation of the recently adopted General Plan Land Use and Transportation Element would exceed ABAG's *(Projections 96)* 2015 population by 7,815 persons. Since the Clean Air Plan (CAP) is based on ABAG population projections, an exceedance of ABAG projections also is an exceedance of the population values used in the CAP. If population growth is greater than assumed in the CAP emission inventory, then population-based emissions also are likely to be greater than assumed in the CAP. Consequently, attainment of the State air quality standards would be delayed. Therefore, like the General Plan Land Use and Transportation Element, the proposed Estuary Plan would not be consistent with air quality planning and would have a significant air quality impact.

The 1988 California Clean Air Act, Section 40919(d), requires regions to implement "transportation control measures to substantially reduce the rate of increase in passenger vehicle trips and miles traveled." Based on the population projections for the recently adopted Land Use and Transportation Element, the projected population growth rate between 1995 and 2015 under ABAG projections is 0.2% per year and under the recently adopted Land Use and Transportation Element is 0.3% per year. The vehicle miles traveled (VMT) growth rate is estimated at 0.5% to 0.6% per year,[1] which exceeds the projected population growth rate of the recently adopted Land Use and Transportation Element. A Plan showing a VMT growth rate that is greater than the

[1] The VMT growth rate is based on 1990 and 2015 VMT estimates for Planning Area 1 of Alameda County (which includes Oakland, Berkeley, Alameda, Piedmont, Emeryville, and Albany) generated by the CMA model. Projected population increase associated with implementation of the proposed Estuary Plan also were used in the CMA model runs for 2015.

population growth rate would be considered to be hindering progress towards achieving this performance objective, and thus, be inconsistent with regional air quality planning. This would represent a significant air quality impact.

Implementation of the recently adopted Land Use and Transportation Element would result in additional traffic increases in the City that could result in regional air quality impacts. Since traffic generated by the proposed Estuary Plan is part of the overall traffic increase associated with implementation of the existing General Plan, mobile source emissions associated with implementation of the General Plan also would include mobile source emissions associated with the proposed Estuary Plan. Mobile source emissions associated with the General Plan are presented in Table III.E-5. These emissions increases would exceed BAAQMD project-specific significance thresholds for reactive organic gases, NOx and PM_{10}, and would contribute to continued exceedance of applicable state O_3 and PM_{10} standards in the region. However, such increases from projected growth actually would be less than would occur if this growth occurred elsewhere in the basin (e.g., in outlying areas). The CMA model indicates that average trip length for the Oakland area (4.8 miles/trip) would be less than the basinwide average trip length (7.6 miles/trip), and the reduction in trip lengths could more than offset daily mobile source emissions attributable to regional growth. In addition, future traffic levels within the Estuary Planning Area are projected to be less in some areas than assumed under the existing General Plan. Although there would still be an overall increase in mobile source emissions under the General Plan, the proposed Estuary Plan would help to reduce these projected increases. For example, the Estuary Plan includes a high percentage of live-work units that generate fewer trips per unit than traditional housing units.

TABLE III.E-5
ESTIMATED DAILY REGIONAL EMISSIONS (2015)

Future Development Scenario	Carbon Monoxide (CO)	Reactive Organic Gases (ROG)	Nitrogen Oxides (NOx)	Sulfur Oxides (SOx)	Inhalable Particulates (PM10)
General Plan Buildout (2015)	5,841	430	1,066	48	1,305
BAAQMD Significance Thresholds	550	80	80	150	80

SOURCE: Orion Environmental Associates, 1997.

Existing City of Oakland policies that pertain to air quality are contained in the Open Space, Conservation, and Recreation (OSCAR) Element as well as the recently adopted Land Use and Transportation Element. These policies, which would help to reduce potential regional and local air quality emissions by encouraging use of transit, alternative transportation modes, and sustainable development patterns, also would be implemented as part of future development within the Estuary Plan Area and include the following:

Open Space, Conservation, and Recreation (OSCAR) Element

Policy CO-12.1:

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, 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:

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:

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:

Require that development projects be designed in a manner which reduces potential adverse air quality impacts. This may include: (1) the use of vegetation and landscaping to absorb carbon monoxide and to buffer sensitive receptors; (b) the use of low-polluting energy sources and energy conservation measures; (c) designs which encourage transit use and facilitate bicycle pedestrian travel.

Policy CO-12.5:

Require new industry to use best available control technology to remove pollutants, including filtering, washing, or electrostatic treatment of emissions.

Policy CO-12.6:

Require construction, demolition and grading practices which minimize dust emissions.

Policy CO-12.7:

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.

Land Use and Transportation Element

Objective T2

Provide mixed use, transit-oriented development that encourages public transit use and increases pedestrian and bicycle trips at major transportation nodes.

Policy T2.2

Transit-oriented developments should be pedestrian oriented, encourage night and day time use, provide the neighborhood with needed goods and services, contain a mix of land uses, and be designed to be compatible with the character of surrounding neighborhoods.

Policy T2.5

Take advantage of existing transportation infrastructure and capacity that is underutilized. For example, where possible and desirable, convert unused travel lanes to bicycle or pedestrian paths or amenities.

Policy T2.6

Link transportation facilities and infrastructure improvements to recreational uses, job centers, commercial nodes, and social services (i.e., hospitals, parks, or community centers).

Policy T3.2

The City should promote and participate in both local and regional strategies to manage traffic supply and demand where unacceptable levels of service exist or are forecast to exist.

Policy T3.8

The City, in constructing and maintaining its transportation infrastructure, shall 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 environment, public safety, economic development, health, and social equity impacts.

Policy T4.1

The City will require new development to incorporate design features in their projects that make use of alternative modes of transportation more convenient.

Policy T4.2

Through cooperation with other agencies, work to create incentives to encourage travelers to use alternative transportation options.

Policy T4.3

Encourage transit operators to reduce waiting times for users by coordinating schedules and maintaining intervals of fifteen (15) minutes or less between buses during daytime periods.

Policy T4.4

Support light rail or trolley bus along appropriate arterial streets in high travel demand corridors.

Policy T4.6

Alternative modes of transportation should be accessible for all of Oakland's population.

Policy T4.7

Where rail lines (including sidings and spurs) are to be abandoned, first consideration should be given to acquiring the line for transportation and recreational uses, such as bikeways, footpaths, or public transit.

Policy T6.1

Collector streets shall be posted at a maximum speed of 25 miles per hour, except where a lower speed is dictated by safety and allowable by law.

Policy T6.2

Design of the streetscape, particularly in neighborhoods and commercial centers, should be pedestrian-oriented.

Policy T6.3

The waterfront should be made accessible to the pedestrians and bicyclists in Oakland's neighborhoods.

Policy D3.2

New parking facilities should not be incorporated into the design of any project in a manner that discourages pedestrian activity.

Policy W2.1

All recreational activity sites along the waterfront should be connected to each other to create continuous waterfront access. Safe and direct automobile, bicycle, and pedestrian access between the waterfront and adjacent neighborhoods should be created and strengthened.

Policy W2.7

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 W12.4

Higher residential densities should be permitted in appropriate areas along the estuary where design and development intensity allows for the preservation of public views, vistas,

open space, and waterfront access. Access to transportation corridors and transit should be promoted.

Policy 12.5

Development along the estuary shore should reflect higher intensity mixed use activities and areas at Jack London Square. The balance of development along the estuary should be of lower intensity than at Jack London Square; however, high density nodes of development may be appropriate at key locations. Access to transportation corridors and transit should be provided.

The following measure was recently adopted as a General Plan policy as part of the Land Use and Circulation Element update process, and this policy would help to further reduce potential regional and local air quality emissions:

- To the extent permitted by law, large new development within the Estuary Planning Area shall be required to implement Transportation Control Measures (TCMs) as recommended by the Bay Area Air Quality Management District.

Mitigation Measure E.1: No additional measures beyond those already included in the OSCAR Element and the Land Use and Transportation Element are feasible.

Impact E.1 Level of Significance After Mitigation: Significant and Unavoidable.

Since the Clean Air Plan (CAP) is based on ABAG population projections, an exceedance of ABAG projections is also an exceedance of the population values used in the CAP. If population growth is greater than assumed in the CAP emission inventory, then population-based emissions also are likely to be greater than assumed in the CAP. Consequently, attainment of the State air quality standards would be delayed. Therefore, the proposed Estuary Plan as part of the General Plan would not be consistent with air quality planning and would have a significant air quality impact.

Consistency with Clean Air Plan

Impact E.2: The proposed Estuary Plan would be consistent with *Clean Air Plan* Transportation Control Measures (TCMs) since the proposed plan is part of the General Plan and the General Plan was determined to be consistent with *Clean Air Plan* TCMs. This would be a less-than-significant impact.

The objectives and policies of the recently adopted Land Use and Transportation Element were determined to be consistent with the objectives and TCMs outlined in the *Clean Air Plan,* and this determination is discussed in detail on pages III.E-17 through III.E-20 in the *Oakland*

General Plan Land Use and Transportation Element Draft EIR. This discussion is incorporated herein by reference.

As mentioned in the *Oakland General Plan Land Use and Transportation Element Draft EIR,* the "Transit First" resolution (passed by the City Council on October 29, 1996) is reflected in the recently adopted policies of the Land Use and Transportation Element and is consistent with the *Clean Air Plan* objectives and TCMs.

Mitigation Measure E.2: None required.

Localized Air Quality

Impact E.3: Implementation of the proposed Estuary Plan would not significantly change future traffic levels and associated CO emissions along roadways within the planning area. This would be a less-than-significant impact.

A microscale impact analysis was conducted along 16 roadway links distributed throughout the planning area. Service level operation (used as an indicator of travel speed) was calculated as part of the transportation analysis in this report. A Caltrans screening approach, which is based on the CALINE4 model, was used to estimate CO concentrations along these roadway links (Caltrans, 1988). Carbon monoxide concentrations were calculated at a distance of 25 feet from the edge of each roadway to determine impact potential, and based on worst-case conditions (peak hour traffic and theoretical minimum atmospheric mixing).

Table III.E-6 compares the one-hour CO exposures for future General Plan buildout (2015) conditions with future Estuary Plan buildout (2015) conditions during the AM and PM peak hours. Significance of localized CO emissions from mobile sources are determined by modeling the ambient CO concentration under future conditions and comparing the resulting one-hour concentrations under both the General Plan and Estuary Plan to the respective state and federal CO standards. A detailed impact analysis using the BAAQMD screening model indicates that the state and federal one-hour ambient standards for CO would not be violated along selected roadway links during worst-case atmospheric conditions (wintertime conditions when CO concentrations are typically their greatest of the year). Modeling results indicate that CO concentrations would be reduced due to attrition of older, high polluting vehicles, improvements in the overall automobile fleet, and improved fuel mixtures (as a result of on-going state and federal emissions standards and programs for on-road motor vehicles).

Future (2015) eight-hour CO exposures associated with the General Plan buildout conditions were determined to be less-than-significant in the *Oakland General Plan Land Use and Transportation Element Final EIR*. Similar to the Estuary Plan's effect on the one-hour CO

TABLE III.E-6
ESTIMATED WORST-CASE EXISTING AND FUTURE CO CONCENTRATIONS ALONG SELECTED ROADWAYS

Roadway Link	Peak Hour	Existing General Plan (2015)	Proposed Estuary Plan (2015)
Embarcadero -Broadway to Oak St.	AM	7	6
	PM	6	6
Embarcadero - Oak St. to 5th Ave.	AM	7	6
	PM	7	7
3rd Street - Mandela Parkway to Oak St.	AM	6	6
	PM	6	6
Market Street - south of I-880	AM	6	6
	PM	6	6
Broadway - 13th St. to Jack London Square	AM	6	6
	PM	6	6
Franklin St. - at 10th St.	AM	5	5
	PM	5	5
Webster Street - at 10th St.	AM	6	6
	PM	6	6
Oak Street - south of I-880	AM	6	6
	PM	6	6
5th Avenue - at I-880	AM	7	7
	PM	7	6
23rd Avenue - at I-880	AM	6	6
	PM	7	7
29th Avenue - between I-880 and 12th St.	AM	6	6
	PM	6	6
Fruitvale Avenue - at I-880	AM	6	6
	PM	6	6
High Street Bridge	AM	8	8
	PM	8	8
Fruitvale Bridge	AM	7	7
	PM	7	7
Park St. Bridge	AM	9	9
	PM	9	9
66th Avenue - south of I-880	AM	6	6
	PM	6	6
Background Levels (included in above numbers)	AM	5.2	5.2
	PM	5.2	5.2
State CO Standard	1 Hour	20 ppm	20 ppm
Federal CO Standard	1 Hour	35 ppm	35 ppm

SOURCE: Orion Environmental Associates, 1997.

exposures, eight-hour CO exposures would not significantly change with implementation of the proposed Estuary Plan. Therefore, future CO exposures with the existing General Plan and proposed Estuary Plan would be less than significant.

Mitigation Measure E.3: None required.

Odor Nuisance Problems

Impact E.4: Proposed Estuary Plan map changes would encourage a mix of uses that could result in odor nuisance problems at residential receptors. This would be a less-than-significant impact due to policies in the recently adopted Land Use and Transportation Element.

Where residential uses would be located directly above or directly downwind of commercial uses, residents could be subject to nuisance odors associated with restaurants or other commercial uses that generate odors or fumes. Use of afterburners in restaurants and/or roof vents would help reduce the potential for such effects.

If residential uses are located above parking garages (such as in transit center village developments), residents could be subject to exhaust odors generated by parking cars in the garage. As warm exhaust fumes leave a parking garage and rise along the sides of a building, they could then re-enter open windows of upstairs residential units. Because such a process would tend to be intermittent, it would not likely cause air quality standards to be violated. There may, however be brief periods when exhaust odor could be detectable, especially if a large number of cars are "cold-started" at the same time and are running inefficiently. Such nuisance potential could be reduced by provision of adequate openings in the parking garage walls to help increase ventilation and dispersion of exhaust emissions generated within a parking garage.

The following measure was recently adopted as a General Plan policy as part of the Land Use and Circulation Element update process, and this policy would reduce potential nuisance odor problems to a less than significant level:

- Where residential development would be located above commercial uses, parking garages, or any other uses with a potential to generate odors, the odor-generating use should be properly vented (e.g., located on rooftops) and designed (e.g., equipped with afterburners) so as to minimize the potential for nuisance odor problems.

Mitigation Measure E.4: None required.

REFERENCES - Air Quality

Association of Bay Area Governments (ABAG) and the Bay Area Air Quality Management District (BAAQMD), *Improving Air Quality Through Local Plans and Programs*, October 1994.

Bay Area Air Quality Management District (BAAQMD), Information Provided Through BAAQMD Internet Site (www.baaqmd.gov), 1998.

Bay Area Air Quality Management District (BAAQMD), *BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans*, 1996.

Bay Area Air Quality Management District (BAAQMD) *Bay Area 1997 Clean Air Plan*, December 1997.

California Air Resources Board (CARB), Information Provided Through CARB Internet Site, 1997.

California Air Resources Board (CARB), *California Surface Wind Climatology*, 1984.

Caltrans, *Air Quality Technical Analysis,* 1988.

City of Oakland, *Oakland General Plan Land Use and Transportation Elements Final EIR*, 1998.

F. VISUAL AND AESTHETIC CONDITIONS

This section of the EIR describes the impact of the proposed Estuary Plan on visual and aesthetic conditions in the Estuary Planning Area. The analysis includes a summary of the Estuary Planning Area's existing visual and aesthetic setting, a description of impacts resulting from adoption of the Plan, and measures to mitigate these impacts. For a discussion about these issues on a more comprehensive, city-wide scale than provided in this EIR, refer to the information contained in the Land Use and Transportation Element EIR which is incorporated by reference.

SETTING

OVERVIEW

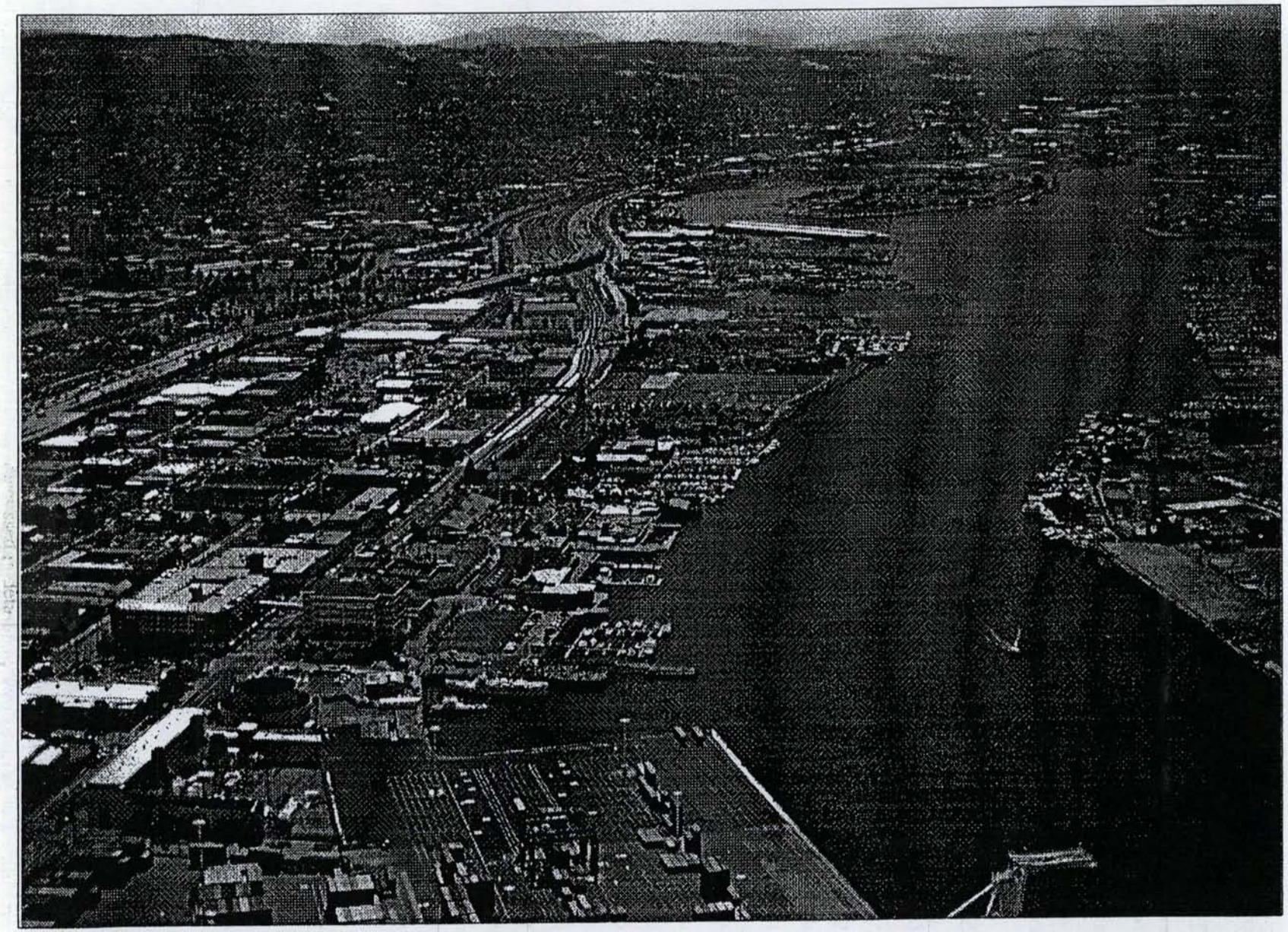
Views and vistas of some sort are afforded from almost everywhere in Estuary Planning Area. With a distance of just five miles from the Oakland shoreline to the crest of the Oakland hills and the prominence of distant landmarks, the Estuary Planning Area's setting provides a variety of interesting view opportunities (see Figures III.F-1 and III.F-2).

Views play an essential role in the quality of the experience of the Area because they are at once a primary attraction and a primary deterrent to visiting it. With its remarkable waterfront views of both natural and urban landscapes, many visitors are drawn to the Area for that reason alone or to be on the edge of the city and enjoy the "remote" perspective that it can afford. At the same time, its "edge" quality is emphasized by the weak visual corridors it has with the rest of the City and the obvious visual obstructions such as the elevated I-880 freeway. The Area offers views of three distinct land use types: working industry, urbanized commercial and residential, and natural landscape.

Although individual areas contain unique buildings and high street activity, the overall visual quality of the Area is still chaotic. Visual quality tends to be highest at the foot of Broadway and in the four or five blocks of shoreline that have been redeveloped. Following the shoreline to the southeast, the water's edge includes a mix of parking lots, open storage, marine uses, houseboats, and industrial buildings that do not take full advantage of the water's presence. The Fruitvale waterfront, extending southeast from Brooklyn Basin to High Street, is more solidly industrial in character, with uses like a concrete batch plant and flour mill defining the visual profile.

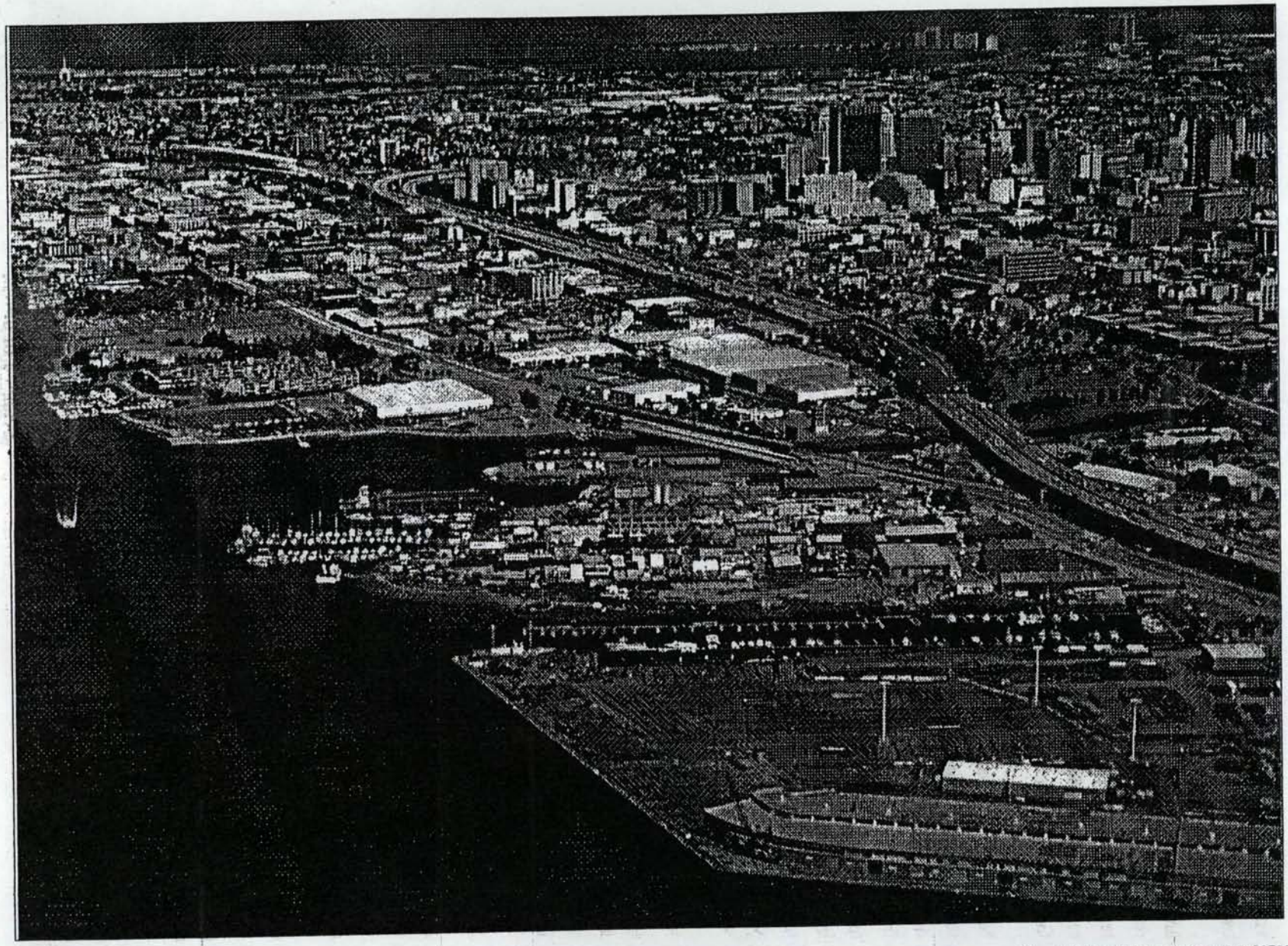
VIEWS

Short-range views vary widely throughout the Area. Such views range from that of large paved parking lots, industrial structures surrounded by fencing, and the heavy and obstructive mass of Interstate 880 to the stimulating retail area of Jack London Square and the peaceful natural waterfront along San Leandro Bay. The streetscape throughout the Area also varies greatly, thus providing a wide range of visual experiences for the pedestrian, bicyclist, or passing vehicle passenger. Narrow, tree-lined streets bordered by residential uses offer cohesive and unobtrusive



SOURCE: City of Oakland

Figure III.F-1
Aerial Photograph of Estuary Planning Area
Looking Southeast



SOURCE: City of Oakland

Figure III.F-2
Aerial Photograph of Estuary Planning Area
Looking North

visual experiences. Conversely, wider streets lacking trees and bordered by irregular industrial building forms that do not provide a solid streetwall can be visually disconcerting.

Many streets are unimproved with sidewalks that are discontinuous, thus reflecting the dominant role of industry and warehousing throughout the Area. Although substantial effort is being made to transform industrial areas into more widely accessible urban uses, including retail, dining, entertainment, office, and residential, the streetscape has remained largely devoid of amenity. Generally, the Area has an obvious lack of street trees, street furniture, and lighting.

Medium range views afforded are also diverse. The cranes of the Howard Terminal from the intersections of Water and Washington Streets, and Water and Clay Streets, provide the most dramatic juxtapositions of scale and activity between the working and urban waterfronts. The high-rises of downtown Oakland along the Broadway corridor, visible throughout the Area, emphasize its distinct scale and low-density character. Closer to the waterfront, views of boats, both berthed and moving along the water, emphasize the Area's "remote" quality and provide a unique visual experience, as do the Area's natural landscape and open spaces. This range of views also offers the visual excitement of watching large ships pass and individuals using the water for recreation such as windsurfing.

Perhaps one of the most attractive qualities of the Area is its long-range views. These views range from the mundane, such as the high-rise residential building in Emeryville to important and/or unique local landmarks such as the Bay Bridge, downtown Oakland and San Francisco skylines, U.C. Berkeley campus, and Oakland hills. These views act as a major draw to the Estuary shoreline and reinforce the importance of its location.

SIGNIFICANCE CRITERIA

According to the CEQA Guidelines, a project will normally have a significant impact on the environment if it would have a "substantial, demonstrable negative aesthetic effect," including obstruction of a scenic view or public view, or impairment of an existing view by introducing an aesthetically offensive visual feature.

It is important to note that most of the impacts listed below would also result without adoption of this plan. The reason they are highlighted here is because the proposed Plan includes a policy emphasis to encourage redevelopment in targeted geographic areas. Generally, the proposed Plan would have a lesser visual impact than the existing Land Use and Transportation Element of the General Plan, as it includes fewer acres for urban uses and designates some of the City's more visually sensitive areas for resource conservation.

IMPACTS AND MITIGATION MEASURES

IMPACTS TO SCENIC VIEWS

Impact F.1: Development consistent with the Oakland Estuary Plan could degrade or destroy existing scenic views from and of the Estuary Planning Area. However, adoption of the Plan alone would not increase the potential for impacts. Policies proposed as part of the Plan and existing policies in the OSCAR Element of the General Plan would provide general mitigation. This impact would be less-than-significant.

Some views, such as of the Oakland hills, downtown Oakland, or the Estuary, could potentially be degraded or completely blocked by intensified development in the Estuary Planning Area. The Plan also proposes new open spaces, streetscape improvements, and enhancement of visual corridors to the Bay that would improve the visual quality of the Area. The type of development that could occur in most cases is development that is already permitted by the current land use designation. Impacts are generally associated with the specific sites where redevelopment is being encouraged. Visual impacts associated with projects in these areas would continue to be monitored on a case-by-case basis as development applications are received.

The following specific policies in the proposed Estuary Planning Area would provide mitigation for future visual impacts[1]:

Policy JL-9:

Establish a well-structured system of water oriented-spaces.

Policy JL-12:

Maintain and enhance view corridors to the Estuary, and to the working waterfront.

Policy JL-13:

Improve the streets with the Jack London District as an integral part of the public open space and public access system, providing clear linkages between inland areas and the waterfront.

Policy OAK-1:

Establish a system of waterfront open spaces focused on the mouth of the Lake Merritt Channel and composed of a sequence of individual large parks.

Policy OAK-2:

Coordinate with public agencies in the area to extend the open space system to Lake Merritt.

---

1 Policies listed here refer only to one of the three districts identified in the proposed Estuary Planning Area as indicated by the policy's prefix. JL = Jack London District, OAK = Oak to Ninth Street District, and SAF = San Antonio/Fruitvale District.

Policy SAF-12:

Maintain a character of small-scale buildings within a fine-grain urban pattern.

The following specific policies in the adopted OSCAR Element of the General Plan provide mitigation for future visual impacts:

Policy OS-10.1:

Protect the character of existing scenic views in Oakland, paying particular attention to: (a) views of the Oakland Hills from the flatlands; (b) views of downtown and Lake Merritt; (c) views of the shoreline; and (d) panoramic views from Skyline Boulevard, Grizzly Peak Boulevard, and other hillside locations.

Policy OS-9.1:

Design new development to preserve natural topography and terrain. Enhance prominent topographic features where appropriate by parks, plazas, or architectural expressions.

Policy OS-9.2:

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.

Policy OS-9.3:

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.

Policy OS-10.2:

Encourage site planning for new development which minimizes adverse visual impacts and takes advantage of opportunities for new vistas and scenic enhancement.

Mitigation Measure F.1: None required.

G. CULTURAL AND HISTORIC RESOURCES

SETTING

OVERVIEW

The recently certified Land Use and Transportation Element EIR and the Historic Preservation Element of the General Plan provide an overview of cultural and historic resources in the City of Oakland. This overview includes information on paleontological resources, Native American resources, resources from the Spanish-Mexican period, and resources from various phases of the City's history and is incorporated by reference.

HISTORIC AND CULTURAL RESOURCES IN THE ESTUARY PLANNING AREA

The Estuary Planning Area includes a large concentration of 19th century buildings in the lower Broadway and west waterfront area, an early 20th century industrial area around the Produce Market, and scattered historic sites and buildings to the east along the San Antonio and Fruitvale waterfronts. Although the area only contains four sites on the National Register and three more on the Local Register (all in the Jack London area), the waterfront includes numerous eligible buildings as well as buildings that may lack individual significance but may be collectively significant. Examples include the Jingletown (South Kennedy Tract) neighborhood near 29th Avenue, the old maritime buildings at the Ninth Avenue Terminal, and some of the older brick industrial buildings in the South-of-Nimitz area and along the Fruitvale waterfront. Major designated historic resources along the Estuary shoreline are listed in Table III.G-1.

TABLE III.G-1
HISTORIC RESOURCES WITHIN THE ESTUARY PLANNING AREA

Structure/ Site	Address	National Register	Local Register
USS Potomac	1660 Embarcadero	Yes	Yes
Oakland Iron Works	552-92 Second Street	Yes	Yes
USS Hoga	FDR Memorial Pier	Yes	Yes
Lightship WAL-605. Relief	Oakland Estuary (Brooklyn Basin)	Yes	Yes
Western Pacific Depot	Third/ Washington	No	Yes
Heinolds First and Last Chance Saloon	90 Jack London Square	No	Yes
Posey Tube Portal	415 Harrison Street	No	Yes

SOURCE: Oakland Historic Preservation Element, 1994

SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines states that a project will normally have a significant effect on the environment if it will "disrupt or adversely affect a prehistoric or historic archaeological site or property of historic or cultural significance to a community or ethnic group or social group, or a paleontological site except as part of a scientific study." Disruption or adverse effects to an archaeological site is further defined in Appendix I of the CEQA Guidelines as alteration or destruction of the site, including both physical and aesthetic effects. These criteria have been incorporated in CEQA as amended by Public Resources Code 21083.2(g). This law requires a lead agency to make a determination of whether a project will have a significant effect on archaeological resources and whether such resources are "unique" under the law.

"Unique" resources are defined as those which contain information needed to answer important scientific research questions, have special and particular qualities (such as being the "oldest" or "best available example of" the resource), or are directly associated with a scientifically recognized important prehistoric or historic event or person. Appendix K of the CEQA Guidelines provides further direction in evaluating important archaeological resources.

Potentially significant impacts on historic resources are considered to be present when the historic character or integrity of a resource may be diminished as a result of the Land Use designations or development policies included in the proposed General Plan. The "historic character" of a resource includes all of the visual qualities that establish its links to its historic associations, including architectural style, and the historic uses of the land, structures, and setting. On a parcel-specific basis, potentially significant impacts are considered to be present when the proposed plan policies and land use designations:

- represent a change from the historic use of a structure or property;
- encourage an increase in development densities; or
- permit alterations to the historic character of land uses or structures.

The City of Oakland currently considers an impact to be significant if it has the potential to disqualify an existing or Potential Designated Historic Property from Landmark or Preservation District eligibility or if it may have substantial adverse effects on the property's character-defining elements, unless adequately mitigated (Historic Preservation Element, Policy 3.8).

IMPACTS AND MITIGATION MEASURES

IMPACTS ON PALEONTOLOGICAL REMAINS

Impact G.1: Excavation of development sites consistent with the Estuary Plan could unearth paleontologic remains. Some of these remains could have scientific importance. However, adoption of the proposed Estuary Plan would not significantly affect these resources due to General Plan policies. This is a less-than-significant impact.

Some of the paleontological resources discovered in Oakland have been within the Estuary Planning Area. If fossils are unearthed during future excavations, existing controls and practice require that a qualified paleontologist should be consulted so that the resource is not damaged or destroyed. The decision to extract the resource, preserve the resource in place, or sacrifice the resource should be made at that time, depending on its significance.

Mitigation Measure G.1: None required.

IMPACTS ON ARCHAEOLOGICAL REMAINS

Impact G.2: Excavation of development sites consistent with the Estuary Plan could unearth archaeological resources. Some of these remains could have scientific or cultural importance. This would be a less-than-significant impact due to existing development requirements, the policies of the Historic Preservation Element, and a measure identified in this EIR.

Some of the areas targeted for redevelopment and intensification may contain Native American and other archaeological remains. Moreover, excavation and reconstruction on sites within the Estuary Planning Area may unearth the remnants of previous buildings or their contents. This type of impact would be considered significant if the resource is deemed archaeologically important. Oakland has standard development conditions of approval and environmental review procedures to protect these resources. Mitigation measures are typically incorporated into projects if it is believed those projects could damage archaeological resources. A policy has been adopted by the City in its Historic Preservation Element and is identified below.

> Historic Preservation Policy 4.1:
>
> To protect significant archaeological resources, the City will take special measures for discretionary projects involving ground disturbances located in archaeologically sensitive areas.

Mitigation Measure G.2: None required.

RISK OF DEMOLITION

Impact G.3: Some of the City's historic resources are located within the Estuary Planning Area. Higher density uses are proposed in these areas and redevelopment is encouraged. This could have direct impacts by increasing the pressure to remove or demolish older buildings, including some historic structures. This impact is less than significant due to existing policies in the Historic Preservation Element, the policies in the Land Use and Transportation Element, and proposed policies in the Estuary Plan.

The Estuary Plan places a strong emphasis on redevelopment within the Estuary Planning Area, which was developed more than a century ago and contains many older buildings and sites. In addition to the properties listed in Table III.G-1, there are additional buildings that may be eligible for National or Local Register listing. These buildings would generally be at greater risk of demolition, as they are not currently protected with a landmark designation.

Recognizing the risk of redevelopment to the City's historic resources, Oakland adopted a Historic Preservation Element in 1994. The Element seeks to use historic preservation to foster economic vitality and quality of life in Oakland and increase the number of protected structures through additional research, inventories, and public awareness; create regulatory and financial incentives for preservation; and encourage the protection, rehabilitation, and restoration of historic buildings. The Element includes 24 policies and 66 actions to achieve its objectives. The most relevant policies are identified below.

Historic Preservation Policy 1.3:

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.

Historic Preservation Policy 2.1:

The City will use a combination of incentives and regulations to encourage the 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.

Historic Preservation Policy 2.4:

Demolitions and removals involving Landmarks or Preservation Districts will generally not be permitted or be subject to postponement unless certain findings are made. Alterations or new construction involving Landmarks or Preservation Districts will normally be approved if they are found to meet Secretary of the Interior Standards for the Treatment of Historic Properties or if certain other findings are made.

Historic Preservation Policy 2.5:

Properties which definitively warrant preservation but which are not Landmarks or Preservation Districts will be eligible as Heritage Properties....Demolition, removal, or Specified Major Alterations of Heritage Properties may normally be postponed for up to 120 days.

Historic Preservation Policy 2.6:

Landmarks and all properties contributing or potentially contributing to a Preservation District will be eligible for all of the following preservation incentives: Mills Act contracts; use of the State Historic Building Code; conservation easements; broader range of conditional uses; transferable development rights; priority for community and economic

development assistance; eligibility for acquisition, rehabilitation, or development assistance from a possible historic preservation revolving fund; and fee waivers.

Historic Preservation Policy 3.1:

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 public or private projects requiring discretionary City actions.

Historic Preservation Policy 3.4:

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.

Historic Preservation Policy 3.5:

For additions or alterations to Heritage Properties or Potential Designated Historic Properties requiring discretionary permits, the City will normally require that either: (1) the design match or be compatible with the property's existing or historical design; (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; (2) the public benefits of the proposed project outweigh the benefit of retaining the original structure, or make the finding that (3) the existing design is undistinguished, has not historical or cultural significance and does not warrant retention and the proposed design is compatible with the character of the neighborhood.[1]

Historic Preservation Policy 3.8:

For purposes of environmental review under the California Environmental Quality Act, the following properties constitute the City of Oakland's Local Register of Historical Resources:

1) Properties which have been designated as City of Oakland Landmarks, Heritage Properties, or Preservation Districts; and

2) Any property rated as an "A" or "B" or determined to contribute or potentially contribute to an Area of Primary Importance by the Oakland Historical and Architectural Inventory.

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.[1]

[1] Policies 3.5 and 3.8 are being revised as shown here to provide greater clarity to the intent of the policies. The revisions were approved by the Planning Commission on June 3, 1998 and will be considered by the City Council for final adoption in July 1998.

Complete demolition of a Historical Resource will normally be considered a significant impact 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. Measures appropriate to mitigate significant effects to a Historic Resource may include one or more of the following measures depending on the extent of the proposed addition or alteration.

1) Modification of the project design to avoid adversely affecting the character defining elements of the property.

2) Relocation of the affected historic resource to a location consistent with its historical or architectural character.

If the above measures are not feasible, then the following measures may be considered:

3) Modification of the project design to include restoration of the remaining historic character of the property.

4) Modification of the project design to incorporate or replicate elements of the building's original architectural design.

5) Salvage and preservation of significant features and materials of the structure in a local museum or within the new project.

6) Measures to protect the historic resource from effects of on-site or other construction activities.

7) Documentation in a Historic American Buildings Survey report or other appropriate format: photographs, oral history, video, etc.

8) Placement of a plaque, commemorative marker, or artistic or interpretive display on the site providing information on the historical significance of the resource.

9) Contribution to a Facade Improvement Fund, the Historic Preservation Revolving Loan Fund, the Oakland Cultural Heritage Survey, or other program appropriate to the character of the resource.

In addition to these policies, the recently adopted Land Use and Transportation Element includes additional policies which ensure that historic resources are protected from adverse impacts. The following policies are included in the Draft Element:

Policy D1.11:

The Produce Market should be recognized and preserved as California's last example of an early 20th century produce market. Should the wholesale distribution of produce be relocated to another site, the integrity and vitality of this unique district should be preserved in its reuse if economically viable.

Policy W8.7:

Development in the (Jack London waterfront) area should be designed to enhance direct access to and along the water's edge....Traditional and historic buildings and structures are character-defining and should be preserved, adapted for new uses, or integrated into new development, where feasible.

Policy N10.5:

Identify locations of interest and historic significance by markers, signs, or by other means.

Policy N11.3:

Locations that create a sense of history and community within the City should be identified and preserved where feasible.

The proposed Estuary Plan includes several policies to preserve historic resources.

Policy JL-4:

Preserve the historic character of the Produce District, and encourage activities that create a vital and viable urban mixed-use district.

Policy JL-11.2:

Enhance the historic boat basin.

Policy OAK-11:

Preserve and expand the existing Fifth Avenue Point community as a mixed-use district of artists and artisan studios, small businesses, and water-dependent activities.

Policy SAF-10:

Encourage preservation and expansion of the affordable residential neighborhood in the Kennedy Tract.

Mitigation Measure G.3: None required.

EFFECTS OF INCREASED DEVELOPMENT INTENSITY

Impact G.4: Increased development and more intense development in areas with high concentrations of older structures such as along the lower Broadway spine could have indirect impacts on these structures by changing their context and setting. Even if left intact, the integrity of older buildings could be compromised as larger, modern buildings are erected on adjoining properties. This impact is less-than-significant due to existing policies in the Historic Preservation Element and in the Land Use and Transportation Element.

Future development throughout the Estuary Planning Area, and especially within areas identified for change, could reduce the value of older structures even if those structures were left standing and unaltered. Several policies from the Historic Preservation Element address this issue.

Historic Preservation Policy 3.1:

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 public or private projects requiring discretionary City actions.

In addition, the recently adopted Land Use and Transportation Element contains policies which further ensure the protection of historic resources. These policies generally prevent impacts on the character and context of older buildings abutted by adjacent development:

Policy D1.1:

The characteristics that make downtown Oakland unique, including its strong core area; proximity to destinations such as the Jack London waterfront, Lake Merritt, historic areas, cultural, arts, and entertainment activities; and housing stock, should be enhanced and used to strengthen the downtown as a local and regional asset.

Policy D2.1:

Downtown development should be visually interesting, harmonize with its surroundings, respect and enhance important views in and of the downtown, respect the character, history, and pedestrian-orientation of the downtown, and contribute to an attractive skyline.

Policy N11.4:

The City encourages rehabilitation efforts which respect the architectural integrity of a building's original style.

Mitigation Measure G.4: None required.

ADAPTIVE REUSE AND LIVE-WORK

Impact G.5: The emphasis in the Estuary Plan on adaptive re-use and live-work development could result in alteration of older buildings and historic structures in a manner that is architecturally incompatible with the structure. With the current design review procedures in place, this impact is less than significant.

The Estuary Plan specifically identifies loft and live-work housing as a form of shelter to be encouraged and supported in the future. Many of Oakland's older industrial buildings, some of which may be historically significant, could be converted to residential space. Such conversions could result in alterations and additions that are not compatible with the original structure. The City's Design Review requirements and the following policy currently address this issue.

Policy N11.4:

The City encourages rehabilitation efforts which respect the architectural integrity of a building's original style.

Mitigation Measure G.5: None required.

IMPACTS TO NINTH AVENUE TERMINAL

Impact G.6: Implementation of the Estuary Plan would result in the creation of an eleven acre "Crescent Park" at the site of the Ninth Avenue Terminal and demolition of the Terminal building. The Ninth Avenue Terminal building is rated "B+" by the Oakland Cultural Heritage survey and has been determined eligible for the National Register of Historic Places. This would be a significant impact.

The Ninth Avenue Terminal has been evaluated by the Oakland Cultural Heritage Survey and has been determined eligible for the National Register of Historic Places and the California Register of Historic Resources. The terminal building was built in 1927 and is the last remaining example of prewar municipal port buildings in Oakland. The property's historic character and B+ rating places the property on the City's list of Potential Designated Historic Properties. Policy 3.8 of the City's Historic Preservation Element establishes a local threshold for significance, which identifies any significant change or demolition of the property as a significant environmental impact.

At the time that development is proposed for the site, certain potential mitigations may be required to lessen the impact, such as:

- Modification of the project design to include restoration of a portion of the historic character of the property.
- Modification of the project design to incorporate or replicate elements of the building's original architectural design.
- Salvage and preservation of significant features and materials of the structure in a local museum or within the new project.
- Documentation in a Historic American Buildings Survey report or other appropriate format: Photographs, oral history, video, etc.
- Placement of a plaque, commemorative marker, or artistic or interpretive display on the site providing information on the historical significance of the resource.
- Contribution to a Facade Improvement Fund, the Historic Preservation Revolving Loan Fund, the Oakland Cultural Heritage Survey, or other program appropriate to the character of the resource.

Mitigation Measure G.6: No additional measures beyond those already identified are feasible.

Impact G.6 Level of Significance After Mitigation: Significant and Unavoidable.

Even with the addition of the mitigation measures, the demolition of the Ninth Avenue Terminal would be considered a significant unavoidable impact under Policy 3.8 of the City's Historic Preservation Element.

H. VEGETATION AND WILDLIFE

This section of the EIR describes the impact of the proposed Estuary Plan on vegetation and wildlife in the Estuary Planning Area. The analysis includes a summary of the Estuary Planning Area's existing plant and animal resources, a description of impacts resulting from adoption of the Plan, and measures to mitigate these impacts.

SETTING

OVERVIEW

Very little of the native landscape remains intact in Oakland. Even in the City's parks and open spaces, much of the native vegetation has been overtaken by exotic and introduced species. When the City was first settled, groves of coast live oak lined the shoreline. Much of the shoreline was marshy--San Leandro Bay was a vast wetland and Alameda was connected to the mainland. While deer, racoon, rabbits, and other mammals remain in the City today, most of the animal population consists of species that have adapted to an urban environment.

The redwood groves were logged between 1840 and 1860, to be replaced in some locations by eucalyptus "plantations" around the turn of the century. Most of the oaks were removed, and in later years the field crops and orchards were replaced by non-native street trees, shrubs, and grasses. Dredging and filling of the tidal marshes began as early as 1859 and accelerated during the ensuing years with the deepening of the estuary channel (1870s) and the extension of the Oakland Estuary to San Leandro Bay (1901).

Virtually the entire Estuary shoreline between Jack London Square and High Street has been fully urbanized. However, there may be remnants of wetland vegetation in a number of isolated locations, including portions of the Lake Merritt Tidal Channel and East Creek Slough. Most of the wetlands east of High Street are contained within Martin Luther King Junior Regional Shoreline Park. The Estuary shoreline includes a number of large vacant parcels, some of which contain shoreline grassland or urban vegetation. Vacant land within the area may provide habitat for mice and a variety of birdlife. Because of the area's location between the Lake Merritt and San Leandro Bay bird refuges, a large number of shorebirds may travel through the area.

PLANT AND ANIMAL COMMUNITIES

Wetlands

The Estuary Planning Area's wetlands usually form a transitional zone between terrestrial and aquatic habitat areas. They have critical ecological importance and are one of the City's most valuable natural resources. Most marine life in the bay depends on wetlands either directly or indirectly for sustenance and survival. Along the shoreline, the primary habitat is "estuarine" wetlands which are dominated by cordgrass and pickleweed.

The estuarine wetlands are characterized by salt marshes and mudflats. They are found along the shoreline of San Leandro Bay (including Fan, Damon, and Arrowhead Marshes). All of San Leandro Bay is classified as an estuarine wetland. At high tide, the Bay consists of about 600 acres of open water; at low tide, open water is reduced to about 100 acres and extensive mudflats are exposed. The San Leandro Bay salt marshes once encompassed 2,000 acres but have been reduced to about 70 acres by landfill and drainage projects. The lacustrine wetlands are characterized by marsh grasses (tule, bulrush, sedge, cattails, etc.) and are characterized by low salinity and low oxygen levels. Similar plants are found in the riverine and palustrine wetlands.

The San Leandro Bay wetlands provide habitat for a wide range of animal life. Clams, crabs, barnacles, sea stars, sea cucumbers, snails, mussels, worms, and plankton may be found on the lowest exposed areas. At high tide, these organisms provide food for striped bass, sturgeon, and other bay fish. At low tide, they provide food for water birds such as clapper rails, avocets, egrets and blue herons, ducks, gulls, sandpipers, dunlins, curlews, plovers, grebes, willets, dowitchers, yellowlegs, and whimbrels. Several of the bird species have been given special status by the state or federal governments due to their declining population. These are profiled later in this chapter. These species may be threatened by a loss of habitat, pesticide contamination and runoff, and predation by domestic animals.

Since 1988, herring spawning has occurred along the Oakland waterfront. Adult herring tend to return to the same site to spawn each season. Herring are filter feeders, which are sensitive to suspended sediments. The Pacific herring is not itself listed as a rare, threatened or endangered species, but the herring provides food for listed species, including the California least tern.

Urban Habitat

Urban vegetation consists of the trees, shrubs, and grasses that have been planted in residential yards, in cemeteries, along streets, on median strips, on public lands, and in commercial and industrial developments. The canopy and density of vegetation varies depending on the species planted and the landscape design. In addition to providing nesting and feeding areas for wildlife, trees in the urban environment help improve air quality, abate noise, conserve energy, absorb runoff, and beautify the City.

Of the rare, threatened and endangered vascular plants identified in the Land Use and Transportation Element EIR, only one, the marsh gumplant, was specifically identified in the general Estuary Planning Area (specifically San Leandro Bay). Similarly, only one special status animal species, the California brown pelican, was identified in the Estuary Planning Area (specifically San Leandro Bay).

SIGNIFICANCE CRITERIA

Section 15065 (a) of the California Environmental Quality Act (CEQA) Guidelines specifies that a lead agency shall find that a project may have a significant effect on the environment when the project has the potential to "substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number of restrict the range of a rare or endangered species...." Appendix G of the CEQA Guidelines provides examples of impacts that normally are considered significant. These include those that would "substantially affect a rare or endangered species of animal or plant or the habitat of the species;" "interfere substantially with the movement of any resident or migratory fish or wildlife species;" or "substantially diminish habitat for fish, wildlife, or plants."

Given these standards, a project would be considered to have a significant adverse impact on plant and animal resources if it would result in substantial disruption to, or destruction of, any special status species, their habitat, or their breeding grounds. Impacts would be considered significant if they caused a change in species composition, abundance, or diversity beyond that of normal variability. The measurable degradation of sensitive habitats (e.g., wetlands or riparian areas) resulting directly from implementation of a project would also be considered significant. Impacts would be considered cumulatively significant when the incremental effects of the individual project when viewed together with past projects, other current projects, and probable future projects, would substantially affect the resource.

IMPACTS AND MITIGATION MEASURES

Vegetation and wildlife impacts could occur as development consistent with the proposed Oakland Estuary Plan takes place on sites with significant biotic resources. As the Plan is implemented, the amount of developed land would increase and the undeveloped acreage in open space and vegetated land would decrease. Impacts to plants and animals could result as trees are removed, habitats are disturbed, and human activity encroaches into previously undisturbed areas. New construction along the shoreline could disturb special status species and diminish habitat value for other plants and animals.

DIRECT LOSS OF HABITAT

Impact H.1: Development consistent with the Oakland Estuary Plan could damage or remove potential habitat for special status species on undeveloped parcels. This is a less-than-significant impact due to existing policies in the OSCAR Element, proposed policies in the Estuary Plan, and CEQA requirements for subsequent environmental review.

Redevelopment along the Oakland Estuary shoreline could result in the removal of trees, shrubs, grass, and other vegetation that presently supports animal life. Although these areas were also designated for development in the 1980 General Plan, the proposed Plan emphasizes their

redevelopment with more intense uses and could act as a catalyst for new development. Subsequent site specific environmental studies for each projects would be required prior to redevelopment to assess the specific impacts on vegetation and wildlife.

Construction-related impacts on vegetation and wildlife could result from adoption of the Plan. These impacts include direct mortality of resident species from construction activity, habitat loss or degradation, and disturbance of nests. These impacts and any other impacts on sensitive habitat or special status species may be determined and mitigated on a project specific basis as future development is proposed on specific sites.

As part of the 1996 OSCAR, the City adopted a series of policies associated with impacts to biotic resources. These policies, which are identified below, would mitigate some of the localized biotic resource impacts that could occur as a result of development. Specific mitigation measures would still need to be developed for future projects in environmentally sensitive areas.

OSCAR Policy CO-8.1:

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 unmitigatable adverse impacts.

OSCAR Policy CO-9.1:

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.

OSCAR Policy CO-11.1:

Protect wildlife from the hazards of urbanization, including loss of habitat and predation by domestic animals.

OSCAR Policy CO-11.2:

Protect and enhance migratory corridors for wildlife. Where such corridors are privately owned, require new development to retain native habitat or take other measures which help sustain local wildlife population and migratory patterns.

Mitigation Measure H.1: None required.

DISTURBANCE TO RESOURCE CONSERVATION AREAS

Impact H.2: Development consistent with the Oakland Estuary Plan could trigger impacts on adjacent lands designated for Resource Conservation. Greater levels of noise, traffic, lighting, urban runoff, and human activity could reduce the value of these areas as wildlife habitat. This is a less-than-significant impact due to existing policies in the OSCAR Element.

The proposed Oakland Estuary Plan promotes the redevelopment of land near the Oakland shoreline with higher intensity, higher value land uses. While new waterfront park and open space areas may provide some new habitat for shorebirds on former industrial or maritime sites, the increased presence of people (and domestic animals) near the shoreline could have undesirable impacts on adjacent wildlife preserves along San Leandro Bay and in Lake Merritt Channel. Development of trails and park facilities in or adjacent to these preserves could introduce light, noise, and trash into inaccessible areas, potentially disturbing feeding and nesting behavior. Although no wetlands have been designated for development, intensified passive recreational uses and activities on nearby upland sites could alter the quantity and quality of runoff into the wetlands and produce adverse impacts. Elevated levels of oil, grease, heavy metal, and fertilizer could enter the wetlands, creeks, and ultimately San Francisco Bay.

Oakland's wetlands may provide habitat for special status species, including the clapper rail, least tern, and burrowing owl. Development in and around these areas could contribute to the cumulative loss of habitat for these species. Field surveys of future development sites may be required to determine whether project-level mitigation is necessary.

As part of the 1996 OSCAR, the City adopted a series of policies associated with biotic resources. These policies, which are identified below, mitigate this impact.

> OSCAR Policy CO-5.3:
>
> 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.
>
> OSCAR Action CO-5.3.5:
>
> Continue to use the environmental review process to ensure that future road construction and dredging projects incorporate measures to protect water quality in potentially impacted lakes, creeks, wetlands, and nearshore waters. Consider developing standard mitigation measures for future road improvement and dredging projects in collaboration with Caltrans and the Port.

OSCAR Policy CO-6.5:

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.

OSCAR Policy CO-8.1:

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 unmitigatable adverse impacts.

OSCAR Action CO-8.1.2:

Work with the Port to establish buffers or mandatory setbacks on the perimeter of wetlands.

Mitigation Measure H.2: None required.

SPECIAL STATUS SPECIES

Impact H.3: Development consistent with the Oakland Estuary Plan could affect the habitat of certain special status plants and animals and result in the loss of special status plant and animal species. This is a less-than-significant impact due to existing policies in the OSCAR Element.

The loss of large trees could occur as development consistent with the Plan takes place. Although Oakland's tree removal ordinance requires a permit before large trees are removed, adverse impacts are still possible. Impacts to trees could either be direct, through tree cutting, or indirect, through construction, grading, or irrigation changes in their vicinity.

As part of the 1996 OSCAR, the City adopted a series of policies associated with biotic resource impacts. These policies, which are identified below, mitigate this impact.

OSCAR Policy CO-7.4:

Discourage the removal of large trees on already developed sites unless removal is required for biological, public safety, or public works reasons

Mitigation Measure H.3: None required.

IMPACTS TO SPECIES IN ESTUARY

Impact H.4: The development of a pier into the Estuary adjacent to the Lake Merritt Channel could result in an increase in suspended sediments. This is a significant impact.

Construction of the proposed pier could increase sedimentation (due to dust and erosion) into San Francisco Bay, which could affect the Pacific herring, and, in turn, affect the California least tern, which is a state and federally endangered species. The Pacific herring, which is not a listed species but which provides food for the California least tern and other listed species, is found in the Estuary. Filter feeders such as herring are sensitive to suspended sediments, and impacts to its food supply could affect the California least tern.

Mitigation Measure H.4: Due to the Pacific herring's particular vulnerability during its spawning season, construction scheduling for the pier would be coordinated with wildlife agencies; construction may be halted during spawning season if determined necessary by wildlife agencies.

Impact H.4 Level of Significance after Mitigation: Less than Significant.

I. HYDROLOGY AND WATER QUALITY

SETTING

SURFACE WATERS

The Estuary Planning Area lies within the overall regional drainage of San Francisco Bay. Average annual rainfall varies within the City of Oakland from about 16 to 26 inches going west from the Bay towards the hills. The Oakland Estuary is located along the eastern margin of San Francisco Bay, and the plan area encompasses about six miles of shoreline, from the Inner Harbor area to Brooklyn Basin to San Leandro Bay.

The Estuary was originally a tidal slough originating in a vast marsh that stretched from Lake Merritt to Brooklyn Basin. In the beginning of the century, it was dredged to separate Oakland from Alameda, formerly a peninsula and now an island, and to form the Estuary as it is today. Today Lake Merritt remains hydrologically connected to the Estuary through tidal gates at the Seventh Street Pump Station. East of Brooklyn Basin, the Estuary is a narrow man-made waterway until it opens into San Leandro Bay (City of Oakland, 1993).

Surface waters in the Estuary is influenced by both freshwater and marine water. It receives freshwater inflow from a combination of natural creeks, man-made storm water drainage facilities, and direct sheet flow to the Bay. It is also influenced by the marine waters of the Bay and subject to tidal currents. Sediments from Oakland's shoreline and creeks are carried by the tidal current to shoals and sand bars, causing silting of the shipping channels. In the Inner Harbor area, the shipping channel is periodically dredged by the Port of Oakland to maintain adequate depth for shipping.

The Oakland Estuary is considered part of Lower San Francisco Bay, which is identified by the Regional Water Quality Control Board (RWQCB) as significant surface waters in the Water Quality Control Plan for the San Francisco Bay Basin (California RWQCB, 1995). The designated existing beneficial uses of Lower San Francisco Bay in the Water Quality Control Plan consist of: ocean/commercial/sport fishing, estuarine habitat, industrial service supply, fish migration, navigation, preservation of rare and endangered species, water contact recreation, noncontact water recreation, shellfish harvesting, and wildlife habitat.

WATER QUALITY

Water quality in the Oakland Estuary is strongly influenced by past and present urban uses in the region. Pollutant sources include both point and nonpoint discharges into the Estuary. There are about five permitted point source discharges into the Estuary, which are regulated by the RWQCB under the National Pollutant Discharge Elimination System program (NPDES; discussed below under Regulatory Framework). These discharges are subject to discharge prohibitions, water quality conditions, monitoring, reporting and other requirements to protect

water quality. The major nonpoint source discharge into the Estuary is stormwater runoff, which is also regulated by the RWQCB under the NPDES program to protect water quality (also discussed below).

Other nonpoint sources include dredging activities, marine vessel waste, infiltration/inflow from sewage pipes, accidental spills or leaching of hazardous materials, and construction activities. These sources are also subject to regulation to protect water quality, through the federal, state and local regulations, and ongoing programs are being implemented to improve and protect water quality of Oakland's waters, as discussed below.

REGULATORY FRAMEWORK AND PLANNING CONSIDERATIONS

Federal

The major federal legislation governing the water quality in the Oakland Estuary is the Clean Water Act as amended by the Water Quality Act of 1987. The objective of the Clean Water Act is "to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." It requires states to establish water quality standards to protect designated uses for all waters of the nation. Implementation of many aspects of this Act under the U.S. Environmental Protection Agency has been delegated to individual states, although the U.S. Army Corps of Engineers has jurisdiction over certain sections of the Act, including activities relating to wetlands and dredging.

State

The Porter-Cologne Water Quality Control Act (Division 7 of the California Water Code) provides the basis for water quality regulation within California. This Act established the authority of the State Water Resources Control Board (SWRCB) and the nine Regional Water Quality Control Boards (RWQCB). The SWRCB administers water rights, water pollution control and water quality functions throughout the state, while the RWQCBs conduct planning, permitting and enforcement activities. The plan area lies within the jurisdiction of the RWQCB, San Francisco Bay Region.

The Act allows the SWRCB to adopt statewide water quality control plans, which establish water quality objectives for specific water bodies. In the San Francisco Bay region, the Water Quality Control Plan (1995 Basin Plan) is the RWQCB's master policy document containing descriptions of the legal, technical, and programmatic basis of water quality regulation in the region (California RWQCB, 1995). The Act also authorizes the RWQCBs to administer waste discharge requirements through the National Pollutant Discharge Elimination System (NPDES) program; this program established a permitting process to determine effluent limitations and quality requirements for discharges to receiving waters. Certification from the RWQCB is also required when a proposed activity may result in discharge into navigable waters or for dredging

and disposal activities under the federal Clean Water Act. In the San Francisco Bay Region, the RWQCB has also included permit requirements for stormwater runoff under the NPDES program since 1991. In the plan area, the stormwater program is administered by the Alameda Countywide Clean Water Program.

Local

Alameda County

The Alameda Countywide Clean Water Program consists of 17 participating agencies, including the City of Oakland, that are cooperatively complying with RWQCB requirements to prevent stormwater pollution and to protect and restore wetland habitat. Implemented since 1991, this program includes a stormwater management plan through reduction of discharge of pollutants in stormwater and urban runoff, public information and participation, construction site controls, illicit discharge identification and elimination, monitoring and runoff control. The member agencies have developed performance standards to clarify the requirements of the stormwater pollution prevention program, adopted stormwater management ordinances, conducted extensive education and training programs, and reduced stormwater pollutants from industrial areas and construction sites. In July 1996, the County developed its second five-year plan, which addresses the following major program areas: regulatory compliance, focused watershed management, public information / participation, municipal maintenance activities, new development and construction controls, illicit discharge controls, industrial and commercial discharge controls, monitoring and special studies, and local agency program areas with performance standards.

City of Oakland

The City of Oakland has a number of policies, programs and ordinances currently in place that address water quality and protection of the City's water resources. The following policy in the OSCAR Element of the City's General Plan specifically applies to the Estuary Plan area:

> 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.

Please refer to the Oakland General Plan Land Use and Transportation Element EIR for a list of additional objectives and policies relevant to water quality and hydrology issues in the plan area.

The City of Oakland implements the following ordinances which are designed to protect water quality and water resources:

- The *Grading Ordinance* (Ordinance No. 10312) requires grading permits for earth moving activities under specified conditions of volume of earth to be moved, slope characteristics,

areas where "land disturbance" or stability problems have been reported. To obtain a grading permit, a soils report, a grading plan, and an erosion and sedimentation control plan must be submitted to the Department of Public Works and approved.

- The *Sedimentation and Erosion Control Ordinance* (Ordinance No. 10446) requires any person who performs grading, clearing, and grubbing or other activities that disturb the existing soil to take appropriate preventative measures to control erosion; prevent sedimentation of eroded materials onto adjacent lands, public streets, or rights-of-way; and prevent carrying of eroded materials to any water course by any route.

- The *Creek Protection, Stormwater Management and Discharge Control Ordinance* (Ordinance No. 11590) establishes comprehensive guidelines for the regulation of discharges to the City's storm drain system. The ordinance directs and guides control of surface water quality by identifying specific protective measures required by the City for development projects. The ordinance requires the implementation of best management practices for new developments and redevelopments. The Public Works Department must issue permits for storm drainage facilities that would be connected to existing city drainage facilities, and the ordinance identifies specific mechanisms for the inspection and enforcement of the ordinance's provisions. In 1997, the ordinance was amended to include enforcement provisions to provide more effective methods to deter and reduce the discharge of pollutants to the storm drain system, local creeks, lakes and the Bay.

SIGNIFICANCE CRITERIA

According to Appendix G of the CEQA *Guidelines* a project will normally have a significant effect on hydrological conditions and/or water quality if the proposed project would cause substantial flooding, erosion, or siltation; substantially degrade water quality; substantially degrade or deplete groundwater resources; interfere substantially with groundwater recharge; or contaminate a public water supply.

IMPACTS AND MITIGATION MEASURES

CONSTRUCTION-RELATED WATER QUALITY IMPACTS

Impact I.1: Implementation of the proposed Estuary Plan would result in increased construction activities along the waterfront associated with development and redevelopment of various uses, which in turn could result in water quality impacts to the Estuary and Bay. This is a less-than-significant impact due to existing regulations and adopted policies in the Land Use and Transportation Element of the City's General Plan.

Construction activities associated with development and redevelopment along the waterfront could include a range of activities with potential water quality impacts to the Estuary. In particular, implementation of the Estuary Plan could involve extensive construction at sites on the shoreline, directly adjacent to the Estuary. Construction activities could include excavation and earthmoving activities and possibly dredging and other water-based construction activities. Existing regulations, primarily through the City of Oakland and the RWQCB, have been established to protect water quality of receiving water from these types of construction activities.

Therefore, compliance with these regulations would be expected to mitigate construction-related water quality impacts to a less-than-significant level.

Excavation and earthmoving activities could expose soil to wind and water erosion, which could lead to sedimentation in the Estuary, potentially increasing localized levels of suspended solids and turbidity and decreasing dissolved oxygen. Depending on the proximity of construction activities to surface waters, various construction measures to prevent sedimentation to surface water, such as silt fences or sandbags, could be used to minimize effects on surface waters. However, any construction activities would be subject to existing City ordinances (Grading, Erosion Control and Sedimentation, and Creek Protection Stormwater Management and Discharge Control Ordinances) as well as NPDES stormwater permit requirements for construction sites. Compliance with these regulations would minimize or eliminate potential erosion impacts to the Estuary.

Any earthmoving or excavation activities would also have the potential to expose previously contaminated soil or groundwater and result in the potential to spread the contaminants to surface waters, such as the Estuary. The General Plan Land Use and Transportation Element EIR identified over 50 potential hazardous waste sites in the Estuary Shoreline (see Table III.M-1 of that report). Due to the extensive history and use of hazardous substances along the waterfront area, it is likely that additional sites with contaminated soil or groundwater may be present that have not been identified or previously reported to regulatory agencies. However, as described in the General Plan Land Use and Transportation Element EIR, handling of hazardous substances is extensively regulated by federal, state, regional and local regulations with the objective of protection human health and the environment. Compliance with these regulations and adopted policies in the Land Use and Transportation Element would minimize potential water quality impacts to the Estuary.

Development of water-oriented uses along the shoreline could involve construction in the Estuary itself, such as placement or replacement of piers, and could involve dredging and placement of fill/rock materials in the Estuary. Such activities would be expected to result in short-term, localized effects to the Estuary water quality. These effects could include lower dissolved oxygen, increased turbidity and salinity, increased concentration of suspended solids, and possible release of chemicals present in the sediments into the water column. However, the specific effects on water quality would depend on the extent and location of water-based construction as well as site-specific circulation and tidal effects in the Estuary. Dredging activities, including deposition of dredged materials, are strictly regulated by the U.S. Army Corps of Engineers, the Bay Conservation and Development Commission (BCDC), and the RWQCB. The RWQCB must issue Water Quality Certification prior to any dredging activity to assure that Bay water quality is protected. Compliance with these regulations would likely mitigate potential water quality effects associated with any dredging activities, although more detailed environmental review would be required for specific projects requiring dredging or

water-based construction in the Estuary. In addition, the OSCAR Element of the City's General Plan includes the following policy regarding 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" (Policy CO-6.6).

Mitigation Measure I.1: None required.

INCREASE IN WATERFRONT AND WATER-ORIENTED USES

Impact I.2: Implementation of the proposed Estuary Plan would result in a long-term increase in waterfront and water-oriented uses, which in turn could result in water quality impacts to the Estuary and Bay. This is a less-than-significant impact due to existing regulations and adopted policies in the Land Use and Transportation Element of the City's General Plan.

The Public Access and Open Space element of the Estuary Plan proposes new waterfront parks, boating and water-oriented recreation. These uses would generally be expected to have limited water quality effects, associated primarily with boating activities, stormwater runoff, use of fertilizers or herbicides, and increased litter and trash. Implementation of best management practices and compliance with adopted policies in the Land Use and Transportation Elements of the City's General Plan would reduce these impacts to a less-than-significant level.

Boating and water-oriented recreation activities are typically associated with activities that involve the handling and storage of chemicals and fuels that could intentionally or unintentionally be discharged to surface waters. Sources of these include fuels (petroleum hydrocarbons such as oil, diesel, and gasoline and other chemicals used in fuel mixtures, such as benzene, toluene, ethylbenzene, and xylene), bilge water (which can contain fuels, heavy metals, and polynuclear aromatic hydrocarbons), boat cleaning and maintenance materials (which can include organic tin compounds toxic to marine life such as tributyltin), sewage from boats (often measured by coliform bacteria as an indicator organism), washdown water from boat cleaning (oil and grease, detergents) and miscellaneous garbage and debris. The proposed Estuary Plan would promote a transition of smaller craft (canoes, rowboats, kayaks) into the water, which may result in a reduction in motorized watercraft with an associated reduction in chemical handling and usage. Best management practices, including source control, as required under stormwater discharge regulations, would be required and implemented at the boating facilities to prevent discharge of chemicals to the Estuary. In addition, any discharge from ships or boats to the Bay is regulated through permits from the RWQCB and in conjunction with the U.S. Coast Guard.

Stormwater runoff in urban areas is a major source of nonpoint pollution to receiving waters. The quality of the stormwater and the type of pollutants present in the runoff depend on the type of land use. Residential, commercial, mixed uses and open space would all be expected to contribute various pollutants to stormwater runoff, including fuel leaks and wear from vehicles, sediments, building washdown and cleaning liquids, pesticides and fertilizers in landscaped areas, and atmospheric deposition of pollutants. The City of Oakland is currently participating and will continue to participate in the Countywide Clean Water Program to control stormwater pollution through various source control, public outreach, monitoring, and other best management practices to protect water quality of surface water. New development would be required to comply with existing stormwater runoff controls (e.g., hazardous materials storage requirements, elimination of illicit discharges, etc.) so that no significant changes in stormwater runoff quality would be expected with implementation of the Estuary Plan. Implementation of required measures for stormwater control under the Countywide NPDES permit as well as compliance with adopted policies in the Land Use and Transportation Element would minimize potential water quality impacts to the Estuary from stormwater runoff. In particular, Policy CO-5.3 states: "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."

Mitigation Measure I.2: None required.

INCREASE IN OPEN SPACE AND TIDELANDS ENHANCEMENT

Impact I.3: Implementation of the proposed Estuary Plan would result in increased open space areas, including parks, trails, habitat areas and enhanced tidal marshes. These uses would alter existing drainage patterns, generally reducing impervious surfaces and decreasing volume of stormwater runoff. This would be a long term beneficial impact to water quality.

The proposed Estuary Plan would expand the areas designated for open space, with the open space designation extending along the full length of the shoreline in the plan area and interspersed with a number of parks and larger open spaces. These open space areas are proposed to include enhancement of tidal marshes along the Estuary shoreline and the Lake Merritt Channel. These proposed changes would result in an overall reduction in impervious surfaces in the plan area, which would promote infiltration and recharge of rainwater and result in a commensurate decrease in stormwater runoff. In addition, marshland areas provide retention and bio-filtration of stormwater runoff prior to mixing with Bay waters, thereby

improving water quality. These would all be beneficial impacts to the water quality of the Estuary and Bay.

Mitigation Measure I.3: None required.

REFERENCES - Hydrology and Water Quality

California Regional Water Quality Control Board, 1995. Water Quality Control Plan, San Francisco Bay Basin (Region 2), June 21, 1995.

City of Oakland, 1993. Technical Report #5, Water Resources. Open Space, Conservation Recreation. Submitted by B. Miller and K. Koh, March 25, 1993.

J. ENERGY

SETTING

The recently certified Land Use and Transportation Element EIR provided an overview of energy supply and consumption in Oakland, as well as a discussion on local energy resources and conservation measures. The information contained in the Land Use and Transportation Element EIR is incorporated by reference.

Pacific Gas and Electric (PG&E), which supplies natural gas and electricity to Oakland, has indicated that gas and electric demand for its entire service area will grow at the rate of about 1.35 percent a year through 2010. The fastest growth rates will be in the commercial and transportation sectors. Residential demand is expected to grow at about one percent a year. At this time, PG&E has no plans to substantially change the electric transmission system in Oakland. Demand in the City is projected to be relatively stable, and the utility's prime objective in Oakland is the safety and maintenance of the existing transmission and distribution system.

SIGNIFICANCE CRITERIA

Under the CEQA Guidelines, a project would normally have a significant effect on the environment if it would encourage activities that resulted in the use of large amounts of fuel or energy, or use fuel or energy in a wasteful manner. There are no specific state or federal standards that indicate what is to be considered a "large amount" of fuel or energy. Therefore, significant energy impacts are generally associated with projects or development that would require substantial expansion of energy supply infrastructure or would use energy in a wasteful manner. If adoption of the Estuary Plan resulted in levels of energy demand that exceeded the capacity of Oakland's existing energy infrastructure, thereby resulting in the need for new transmission or distribution structures, the impact would be considered significant.

IMPACTS AND MITIGATION MEASURES

INCREASED ENERGY DEMAND

Impact J.1: Development consistent with the Estuary Plan would result in a marginal increase in energy consumption. This is a less-than-significant impact due to existing energy conservation policies in the OSCAR Element.

The amount of development that could occur under the proposed Estuary Plan is not significantly different than the amount that could occur under the recently adopted Land Use and Transportation Element of the General Plan. In fact, development under the proposed Estuary Plan would implement the emphasis on mixed-use higher density development that consumes less energy than the lower density development currently within the Estuary Planning Area.

Nonetheless, policies in the proposed Estuary Plan emphasize economic growth and housing. The increase in population and employment within the Estuary Planning Area would not be sufficient to require new transmission facilities.

Energy would also be consumed by construction of buildings and roads. Construction is an energy-intensive activity and most of the energy consumed would be from non-renewable sources. Once operational, the increased quantity of development in the Estuary Planning Area would result in increased consumption of electricity for heating, cooling, ventilating, water heating, and lighting. Increased employment and business patronage would result in an increase in motor vehicle trips and an increase in the consumption of gasoline and diesel fuel. However, it is important to point out that the number of vehicle trips (and energy consumed) would be even greater if the Estuary Plan was not adopted, as it would perpetuate the existing pattern of Oakland residents driving to suburban communities for work and shopping. For this reason, the marginal increase in energy consumption is less than significant.

In fact, the Plan's net environmental impact on energy consumption is expected to be positive. Although electric and natural gas consumption may increase, petroleum use (the largest component of energy use in California) should decrease due to the transit-oriented development pattern being promoted and the emphasis on restoring a balance between jobs and housing in Oakland. The Plan endeavors to reduce out-commuting, create transit-served employment nodes, increase live-work development, and shorten trip lengths and auto dependency in the City. In this regard, its energy benefits are positive and are regional rather than local.

Mitigation Measure J.1: None required.

K. GEOLOGY AND SEISMICITY

SETTING

The recently certified Land Use and Transportation Element EIR provided an overview of topography, geology and seismicity issues in the City of Oakland. For a discussion about these issues on a more comprehensive, city-wide scale than provided in this EIR, refer to the information contained in the Land Use and Transportation Element EIR which is incorporated by reference. Setting information (used in both EIRs) on the topography, geology, and seismicity of Oakland has been largely obtained from Technical Report #4, *Earth Resources*, that was prepared for the Open Space, Conservation and Recreation (OSCAR) work program (Miller, 1992), except where noted.

TOPOGRAPHY

Oakland is located on the eastern shore of San Francisco Bay. The city occupies 54.1 square miles and its topography is characterized by flatland areas in the west and Oakland Hills to the east. Adjacent to the Estuary (along Oakland's west and southwest borders) much of the existing land surface has been created by filling (i.e., depositing fill materials in the shallow Bay margins).

REGIONAL GEOLOGY

The City of Oakland is located along the eastern margin of the San Francisco Bay within the Coast Range geomorphic province. The East Bay Plain is underlain by bedrock of the Franciscan assemblage at a depth of approximately 350 to 500 feet. Surficial geologic units present within the East Bay Plain consist of alluvial deposits, windblown deposits of the Merritt Sand, and young bay mud. The Older Alluvial Fan Deposits near the hills generally grade to the west to the Younger Alluvial Fan Deposits, Younger Fluvial Deposits, and Interfluvial Basin Deposits present throughout much of the East Bay Plain. These deposits generally grade to Merritt Sand and young bay mud (Helley, 1979) along the estuary shoreline. Much of the natural deposits in the flat areas are overlain by artificial fill.

SOILS

The soil in the Estuary Planning Area is composed of bay muds. Most of the soil in the Area is classified by the Soil Conservation Service as having "severe" limitations on development based on one or more of the following characteristics: shrink/swell potential,[1] wetness, strength, depth, or flooding potential.

[1] Shrink/swell is the change in volume that occurs in a soil due to the expansion and contraction of clay caused by wetting and drying. This change of volume can cause damage to structures that are not appropriately constructed.

EROSION

Erosion is the wearing away of soil or rock by running water, wind, or other geologic forces. The rate of erosion can be aggravated by development, which typically involves cutting and grading operations, concentrated direction of stormwater flow, and removal of vegetation. As vegetation is removed and impervious surface coverage increases, stormwater runoff flows across the soil in greater volumes and at higher velocities. Until the disturbed areas are revegetated, exposed areas may be subject to rutting, topsoil loss and sedimentation downstream. The secondary impacts of erosion may also be significant. Along gullies and drainage channels, where increase runoff velocities may cause bank erosion, culverts may fill with silt, channel flows may be blocked, and water clarity may be reduced. In accordance with the system used by the U.S. Soil Conservation Service, the flat land areas such as those in the Estuary Planning Area are classified as having a low potential for erosion.

FLOODING

Flood hazard zones have been mapped to show areas within the City that would be subject to inundation during a "100-year flood".[2] Extensive areas of Oakland, including the Estuary Planning Area would be inundated during a 100-year flood. However, flooding would occur only as sheet flow with depths of several inches in most areas. Few areas would be subject to flood levels greater than one or two feet. Because of this, the greatest danger related to flooding would be potential damage to property rather than a threat to human health (City of Oakland, 1974).

Flooding could also occur as a result of a dam failure at one of the water reservoirs located in the City. The East Bay Municipal Utility District (EBMUD) has eight reservoirs, some of which could cause flooding in the event of failure. The East Bay Regional Park District has one such facility, Lake Temescal. In the event of failure of one of these facilities, flood waters would normally follow existing stream beds or drainage courses. Separate studies have been undertaken by EBMUD and the Park District to estimate potential dangers from flooding due to dam failure (City of Oakland, 1974).

SEISMICITY

The distribution of earthquakes in northern California is strongly influenced by the major active faults in the region.[3] The active faults considered to have the greatest potential to cause damage in the City of Oakland, including the Estuary Planning Area, are the Hayward Fault, San Andreas Fault, and Calaveras Fault. The Hayward Fault runs the entire length of Oakland, generally along the Warren Freeway (SR 13), but branching out to include portions of MacArthur Boulevard and Mountain Boulevard; this is the only active fault that crosses the City. Studies by

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2 A 100-year flood represents an unusually high flood level that would be expected to occur once in 100 years. There would be a one percent chance of reaching this flood level each year.

3 Faults are considered active based either on historical fault rupture or geologic evidence that clearly demonstrates rupture during Holocene time (approximately within the last 11,000 years).

the U.S. Geological Survey indicate that there is a 67 percent chance of an earthquake with a magnitude of 7.0 or greater occurring along one of the three major faults during the next 30 years. An earthquake of this magnitude along any of the faults would directly impact the Estuary Planning Area.

Six major earthquakes have occurred in the San Francisco Bay Area since 1800, four on the San Andreas Fault in 1838, 1865, 1906 (Richter magnitude 8.3), and 1989 (the Loma Prieta earthquake, Richter magnitude 7.1) and two on the Hayward fault, in 1836 and 1868. Surface ruptures were observed from San Pablo to San Jose as a result of the 1836 earthquake, and from Mills College to Fremont as a result of the 1868 earthquake on the Hayward Fault (Richter magnitude 7.0). Tectonic creep[4] has also been observed at several locations along the Hayward Fault. As a result of tectonic creep, the fault has cracked and offset curbs, streets, fences, railroads, pipelines, and buildings.

An earthquake on the Hayward Fault would have the greatest potential to cause extreme damage within Oakland. The Association of Bay Area Governments predicts that in the event of a 7.3 magnitude along the Hayward Fault, moderate to extreme damage would occur throughout the City of Oakland. Extreme damage would be expected along the estuary shoreline near Coast Guard Island that are underlain by young bay mud (ABAG, 1995).

Damage that occurred as a result of the Loma Prieta earthquake on the San Andreas Fault, with an epicenter more than 50 miles from Oakland, provides evidence that damage can also occur as a result of earthquake on other active faults in the region. As a result of the Loma Prieta earthquake, an elevated portion of Interstate 880 in Oakland, the Cypress Structure, collapsed, killing 41 persons and injuring many others. The portion of freeway that collapsed was located adjacent to the Estuary Planning Area on alluvial materials that are generally loose and susceptible to ground shaking during an earthquake.

Potential effects of a major earthquake along one of the faults include surface rupture, ground shaking, ground failure, and seismically induced water inundation (tsunamis). Surface rupture would occur only in the event of sufficient movement along the Hayward Fault. In accordance with the *Alquist Priolo Earthquake Fault Zoning Act*, the California Department of Mines and Geology has established a 600- to 700-foot wide special study zone along the Hayward Fault trace through Oakland. This area does not include the Estuary Planning Area.

The effects of strong ground shaking, liquefaction, landslides, or other ground failures account for approximately 95 percent of the economic losses caused by an earthquake (CDMG, 1997). The degree of ground shaking that would be experienced in the event of an earthquake is a factor

4 Tectonic creep is displacement observed a fault as a result of gradual fault movement. Structures built across faults can experience damage if tectonic creep occurs.

of the geologic materials located beneath a site. Because it is underlain by young bay mud, the Estuary Planning Area would be subject to extremely high ground shaking (ABAG, 1995).

Ground failure occurs when the ground loses its cohesive nature and bearing strength due to soil instability. In areas of alluvial deposits or poorly consolidated fill, the soil may be subject to liquefaction or densification. Both of these phenomena and their potential consequences are described as follows:

- Liquefaction occurs when a loose saturated cohesionless soil, such as sand, is subjected to a shock and experiences an increase in pore water pressure. The soil loses a substantial amount of strength and may collapse. Potential consequences of liquefaction include the loss of bearing capacity, differential settlement and lateral spreading; these can cause serious building foundation failures and naturally buoyant structures such as underground storage tanks may be raised above ground.

- Densification occurs when dry cohesionless sands above the water table are subjected to ground shaking. Subsidence and differential settlement of the geologic materials could occur as a result of densification.

Six soil zones have previously been mapped in the City based on their geotechnical properties and susceptibility to groundshaking (City of Oakland, 1974). The Estuary Planning Area is located within Zone I and is described as follows:

- Zone I consists of fill overlying bay mud or former marshland. The bay mud is susceptible to ground cracking,[5] ground lurching,[6] and differential settlement. Hazards related to fill include differential settlement and liquefaction.

In the event of strong ground shaking, older-wood framed and unreinforced masonry buildings would experience the greatest level of damage. Liquefaction could also cause damage to roads, utilities, and existing structures.

Tsunamis are large ocean waves that can be caused as a result of an earthquake. There have been numerous tsunamis recorded in the Bay Area by the U.S. Coast and Geodetic Survey. The primary hazard associated with tsunamis is damage to boats and marinas, although low-lying near-shore areas could be inundated in the event of a large tsunami (City of Oakland, 1974). For the most part, the estuary shoreline is protected by the City of Alameda.

5 Ground cracking usually occurs as a result of differential settlement.

6 Ground lurching is one possible result of a seismic shock whereby a wave is passed through saturated soft deformable soils such as the bay mud. This wave can cause damage to a structure although this impact can be mitigated through proper foundation design.

REGULATORY FRAMEWORK AND PLANNING CONSIDERATIONS

State

California has adopted laws and regulations to mitigate the hazards related to surface fault rupture and other seismic hazards including strong ground shaking, liquefaction, landslides, or other ground failures. The *Seismic Hazards Mapping Act* was adopted to mitigate seismic hazards other than surface rupture. This section describes these acts and the regulations and guidelines adopted to guide their implementation by cities and counties.

In 1990, California adopted the *Seismic Hazards Mapping Act* (Public Resources Code, Division 2, Chapter 7.8, Sections 2690 et seq.) to protect public safety from the effects of strong ground shaking, liquefaction, landslides, or other ground failures (including earthquake induced landslides). In accordance with this Act, the State Geologist is required to compile maps of seismic hazard zones throughout the State. Section 2697 of the Act requires that a geotechnical report be prepared prior to City approval of projects located within a seismic hazard zone designated by the State Geologist. Section 2699 of the Act requires that the Safety Element prepared for each city General Plan takes into account the information provided in the seismic hazard zone maps. Seismic hazard zone maps have not been prepared for Oakland, but maps delineating potential liquefaction zones and ground failure zones will be completed when funding becomes available.

The State Mining and Geology Board provides regulations to guide cities and counties in their implementation of the Act and mitigation of seismic hazards (*California Code of Regulations*, Title 14, Division 2, Sections 3720 et seq.). These regulations provide the requirements for mapping seismic hazard zones, review of preliminary seismic hazard zone maps, and geotechnical reports prepared for proposed projects.

The State Mining and Geology Board adopted guidelines for implementation of the Act in 1997 (CDMG, 1997a). These guidelines were adopted to assist in the evaluation and mitigation of earthquake-related hazards within specified seismic hazard zones and to promote uniform and effective state-wide implementation of the evaluation and mitigation elements of the Seismic Hazards Mapping Act. Requirements for seismic investigations, estimation of earthquake ground-motion parameters, analysis and mitigation of liquefaction hazards, and review of seismic investigation reports are included in the guidelines.

Uniform Building Code

The Uniform Building Code (UBC) contains engineering and design code requirements that address seismic safety for new construction. In the early 1970s and late 1980s, the UBC underwent substantial changes in seismic design criteria which reduce the risks associated with seismic activity. Code requirements for foundations are also contained in the UBC.

The UBC is updated every three years and will continually be upgraded to provide for additional measures to reduce seismic risks. Currently, Oakland enforces the 1994 UBC; the 1997 UBC is expected to be adopted in January 1999 with the designation of the 1998 California Codes which amend the UBC.

Environmental Hazards Element of the Oakland Comprehensive Plan

The *Environmental Hazards Element* of the *Oakland Comprehensive Plan* was prepared in 1974 and contains a summary of the geologic, seismic, flooding, and fire hazards that exist in Oakland. The City's goals and policies for dealing with these potential hazards are identified, and programs to alleviate hazardous situations are recommended. Subsequent to completion of this element, several laws, regulations, and policies have been adopted as described in this section. The *Environmental Hazards Element* is planned for updating in 1998 or 1999. This updated element will need to take into account new policies as well as information contained in the seismic hazard zone maps that will be prepared by the State under the *Seismic Hazards Mapping Act.*

Existing City Policies

The City has several ordinances as well as adopted goals, objectives, policies, and actions that provide City policy to mitigate potential impacts related to geology and seismicity. This section describes the *Grading Ordinance*, *Sedimentation and Erosion Control Ordinance*, *Unreinforced Masonry Ordinance*, and adopted *Goals, Objectives, Policies, and Actions.*

The *Grading Ordinance* (Ordinance No. 10312) requires grading permits for earth moving activities under specified conditions of volume of earth to be moved, slope characteristics, and areas where "land disturbance" or stability problems have been reported. To obtain a grading permit, a soils report, a grading plan, and an erosion and sedimentation control plan must be submitted to the Department of Public Works and approved.

The *Sedimentation and Erosion Control Ordinance* (Ordinance No. 10446) requires any person who performs grading, clearing, and grubbing or other activities that disturb the existing soil to take appropriate preventative measures to control erosion; prevent sedimentation of eroded materials onto adjacent lands, public streets, or rights-of-way; and prevent carrying of eroded materials to any water course by any route. The Director of Public Works may require that an erosion and sedimentation control plan be approved by the City prior to the issuance of any building permit on lots where the conditions of lot location, configuration, or contour may result in increased problems of erosion or sedimentation control.

The City has also adopted the *Unreinforced Masonry Ordinance* (Ordinance No. 11613) which requires the upgrading of unreinforced masonry buildings to promote public safety and welfare by reducing the risk of death or injury that may result from the effects of earthquakes on existing

buildings of this construction. The City adopted building codes requiring earthquake-resistant design on November 26, 1948. Prior to adoption of these codes, the City allowed construction of unreinforced masonry buildings. The City has subsequently inventoried structures built prior to 1948, and the ordinance requires the City to notify owners in writing that their building has been identified as potentially hazardous and of their obligation to mitigate the potential hazard. The ordinance provides standards and a schedule for analyzing and retrofitting potentially hazardous unreinforced masonry structures. However, the standards are intended as minimum standards to reduce the risk of life loss or injury; they do not meet the standards of the State Uniform Code for Building Conservation. Consequently, even buildings retrofitted in accordance with this ordinance will continue to be construed as a potential hazardous building until they are upgraded to the Uniform Code for Building Conservation.

As part of the OSCAR Element of the General Plan Element, the City has adopted the following *Goals, Objectives, Policies, and Actions*:

> Goal CO-1: Natural resources that are conserved and prudently used to sustain life, support urban activities, protect public health and safety, and provide a source of beauty and enjoyment.
>
> 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 new 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 activities to ensure that soil is well secured so that unnecessary erosion, siltation of streams, and sedimentation of water bodies does not occur.
>
> Action CO-1.1.1: Soil-Related Development Controls
>
> Maintain, enforce, and periodically review development controls affecting soil removal, including the Grading Ordinance and the Sedimentation and Erosion Control Ordinance.
>
> Action CO-1.1.2: Public Education on Soil Conservation
>
> On an on-going basis, cooperate with the Alameda County Soil Conservation Service (SCS) and other agencies encouraging soil conservation and education regarding soil resources in Alameda County.
>
> Action CO-1.1.3: Consideration of Soil Constraints in Development
>
> Consider soil constraints such as shrink-swell and low soil strength in the design of buildings and roads. Suitable base materials and drainage provisions should be incorporated where necessary.

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.

Action CO-2.2.1: Geotechnical Study Requirements

Maintain Standard Operating Procedures in the Office of Planning and Building which requires geotechnical studies for major developments in areas with moderate to high ground shaking or liquefaction potential, or other geologically unstable features.

Action CO-2.2.2: Land Stability Database

Incorporate known land stability information in the City's permit tracking system and the Measure I geographic information systems (GIS) program.

Policy CO-2.3: Development on Filled Soils

Require development on fill soils to make special provisions to safeguard against subsidence and seismic hazards.

Action CO-2.4.1: Update Grading Ordinance

Review the grading ordinance every five years and revise it when necessary to keep it current with new knowledge and construction methods.

Action CO-2.4.2: Preparation of Grading Guidelines

Develop illustrated grading guidelines which accompany the City's grading ordinance.

City and Port Permit Approval Process

The City requires a building permit for new construction and renovation. Prior to approval, the permit application and required geotechnical/seismic reports are reviewed for compliance with the above described laws and regulations. This review and approval process ensures that potential hazards related to geology and seismicity will be mitigated. As part of this process, the City also ensures that potential impacts related to excavation safety, dewatering, and settlement of adjacent buildings are addressed and appropriately mitigated during construction.

SIGNIFICANCE CRITERIA

According to State CEQA *Guidelines Appendix G,* a project would normally have a significant effect on the environment if it would "expose people or structures to major geologic hazards." A project would also have a significant impact if geologic resources would be damaged, eliminated, or otherwise rendered unusable. These criteria are used for determining program-level impacts of the proposed Oakland Estuary Plan. For site-specific project development, significance criteria from *Guidelines for Geologic/Seismic Considerations in Environmental Impact Reports* (CDMG, 1982) should be consulted for evaluation of geologic conditions at proposed project sites.

IMPACTS AND MITIGATION MEASURES

The proposed Oakland Estuary Plan would guide future development and conservation efforts in the Estuary Planning Area and in itself would not result in any geologic impacts. However, the plan would promote and encourage development in specific areas, and the associated construction or rehabilitation of structures could result in the potential to expose people or structures to geologic hazards. The discussion below identifies potential program-level impacts associated with the proposed plan and mitigation measures to reduce each potential impact to a less-than-significant level. Each of the potential impacts is mitigated by existing laws and regulations, described in the setting, and compliance with these laws and regulations would be ensured through the City's building permit review and approval process. Detailed geotechnical and seismic investigations would be conducted as warranted for specific development projects, and environmental review of individual proposed projects could be required to identify project level impacts and site-specific mitigation measures.

SOILS IMPACTS

Impact K.1: Adoption of the Plan could result in development at various locations throughout the Estuary Planning Area that could cause structural damage due to soil conditions to new and existing buildings unless properly constructed. This is a less-than-significant impact due to existing policies in the OSCAR Element.

Subsidence and settling can occur in areas where fill has been emplaced. Settlement of fill has the potential to crack roads, pipes, and building foundations. The Estuary Planning Area is underlain by soils with slopes of 0 to 2 percent with moderate to severe development limitations related to shrink-swell potential. These soils also typically impose moderate development limitations because of their low strength (Miller, 1992). In flood prone areas, wetness and flooding may also pose moderate to severe development limitations.

Because of the relatively minor economic losses resulting from shrink-swell and low strength soil conditions, these problems are not generally considered insurmountable obstacles to development. However, they do require more costly foundations, limited use of basements, and specific construction methods. Building pads may need to be shaped so that runoff drains away from the foundation. Likewise, roads must be designed to withstand cracking and differential settlement. In already-developed areas, ongoing soil management involves such practices as soil enrichment, drainage improvements, and planting of exposed soils to control erosion.

This potential impact is mitigated to a less-than-significant level by the following OSCAR Element policy and action (each of which is also included in the discussion of Existing City Policies, above):

Policy CO-2.3: Development on Filled Soils

Require development on fill soils to make special provisions to safeguard against subsidence and seismic hazards.

Action CO-1.1.3: Consideration of Soil Constraints in Development

Consider soil constraints such as shrink-swell and low soil strength in the design of buildings and roads. Suitable base materials and drainage provisions should be incorporated where necessary.

Mitigation Measure K.1: None required.

GROUND SHAKING AND GROUND FAILURE IMPACTS

Impact K.2: In the event of an earthquake, damage from strong ground shaking or ground failure (liquefaction, densification, or landsliding) could affect structures, foundations, and underground utilities that could be developed as a result of Plan adoption. Human injury and life also could be risked. This is a less-than-significant impact due to existing regulations and existing policies in the OSCAR Element.

Oakland does not currently have maps delineating these potential earthquake hazard zones, although they will be prepared by the State when funding becomes available (CDMG, 1997b). At the present, potential seismic hazards for a specific project are addressed in site specific geologic reports prepared for the project on the basis of the types of geologic materials present.

New construction would be required to comply with the requirements of the Seismic Mapping Act of 1990. Accordingly, construction located within liquefaction and landslide hazard zones would be required to conduct a seismic investigation and recommend construction methods to mitigate potential seismic hazards identified. This new construction would also be required to comply with the current version of the Uniform Building Code which contains more stringent seismic design requirements than previous versions.

This potential impact is mitigated to a less-than-significant level by compliance with the Seismic Hazards Mapping Act and related regulations contained in Title 24 of the *California Code of Regulations*; the Uniform Building Code; and the Unreinforced Masonry Program.

In addition, the following OSCAR Element policies and actions (each of which is also included in the discussion of Existing City Policies, above) would mitigate this potential impact:

Policy CO-2.3: Development on Filled Soils

Require development on fill soils to make special provisions to safeguard against subsidence and seismic hazards.

Action CO-2.2.1: Geotechnical Study Requirements

Maintain Standard Operating Procedures in the Office of Planning and Building which requires geotechnical studies for major developments in areas with moderate to high ground shaking or liquefaction potential, or other geologically unstable features.

Mitigation Measure K.2: None required.

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L. NOISE

SETTING

NOISE DESCRIPTORS

Sound is mechanical energy transmitted by pressure waves in a compressible medium such as air. Noise is unwanted sound. Sound is characterized by various parameters that describe the rate of oscillation of sound waves, the distance between successive troughs or crests, the speed of propagation, and the pressure level or energy content of a given sound. In particular, the sound pressure level has become the most common descriptor used to characterize the loudness of an ambient sound level. The decibel (dB) scale is used to quantify sound intensity. Because sound or noise can vary in intensity by over one million times within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. Since the human ear is not equally sensitive to all sound frequencies within the entire spectrum, human response is factored into sound descriptions in a process called "A-weighting", written as "dBA".

Environmental noise is measured in units of dBA. The dBA, or A-weighted decibel, refers to a scale of noise measurement which approximates the range of sensitivity of the human ear to sounds of different frequencies. On this scale, the normal range of human hearing extends from about zero dBA to about 140 dBA. A ten-dBA increase in the level of a continuous noise represents a perceived doubling of loudness; a five-dBA increases is readily noticeable while a three-dBA increase is barely noticeable to most people.

Time variations in noise exposure are typically expressed in terms of a steady-state energy level (called Leq) which represents the acoustical energy of a given measurement. Because community receptors are more sensitive to unwanted noise intrusion during the evening and at night, State law requires that for planning purposes, an artificial dB increment be added to quiet time noise levels in a 24-hour noise descriptor called the Community Noise Equivalent Level (CNEL). CNEL adds a 5-dB penalty during the evening hours (7:00†p.m. to 10:00†p.m.) and a 10-dB penalty during the night hours (10:00†p.m. to 7:00†a.m.). Another 24-hour noise descriptor, called the day-night noise level (Ldn), is similar to CNEL. While both add a 10-dB penalty to all nighttime noise events between 10:00†p.m. and 7:00†a.m., Ldn does not add the evening 5-dB penalty. In practice, Ldn and CNEL usually differ by less than one dBA at any given location for transportation noise sources.

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 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 of any particular set of land

uses. For example, sleep disturbance may occur at less than 50 dB, interference with human speech begins at around 60 dB, and hearing damage may result from prolonged exposure to noise levels in excess of 90 dB.

EXISTING NOISE SOURCES

The City's Noise Element identifies the major transportation facilities as the primary noise generators within the City (City of Oakland, 1974). Interstate 880 (I-880) is the primary major transportation facility that affects the noise environment within the Estuary Planning Area. In addition to traffic noise, other major sources of noise include aircraft noise associated with the operation of Metropolitan Oakland International Airport, as well as train noise associated with the operation of Bay Area Rapid Transit (BART) facilities and railroad facilities of Union Pacific Railroad. Elevated BART facilities traverse the Jack London and San Antonio/Fruitvale districts, while BART facilities are located underground through most of the Oak Street through Ninth Avenue District. Railroad tracks of the Union Pacific Railroad (which also includes former Southern Pacific facilities) are generally parallel to the I-880 freeway.

Although transportation facilities are the main sources of noise, industrial uses are also potential sources of noise within the Estuary Planning Area. However, they are generally only a concern where they are located near sensitive receptors.

EXISTING NOISE LEVELS

In order to characterize the current noise environment within the Estuary Planning Area, available noise data from other land use and development studies were assembled and representative data are presented in Table III.L-1. Noise data include short- and long-term noise measurements.

These measurements indicate that noise levels in the City are generally high (more than 70 dBA within 50 feet of the centerline) along the I-880 freeway, some arterial streets, BART tracks, and railroad tracks. Measurements at select existing waterfront parks in the vicinity generally have quieter noise levels (approximately 60 dBA) where there are no adjacent major noise sources. The noise contours for the Metropolitan Oakland International Airport (MOIA) indicate the Estuary Planning Area is located well outside of the 65 dBA CNEL (U.S. Department of Transportation, 1996). Therefore, airport-related noise does not contribute substantially to the existing noise environment within the planning area. When measured noise levels are compared to City noise and land use compatibility guidelines, they indicate that the existing noise environments in the vicinity of the I-880 freeway, adjacent to some arterials, along BART and Union Pacific railroad lines are generally incompatible with residential and other noise-sensitive uses.

TABLE III.L-1
EXISTING NOISE LEVELS

Roadways/Locations by District	Measured Noise Level		Distance to Centerline, Location, or Noise Source
	Leq	CNEL or Ldn	
Jack London District			
I-880 (west of Adeline St.)[1]	52-60 dBA	60-61 dBA	300 feet
7th St. (west of Adeline St.)[2]	70-72 dBA	--	n/a
3rd St. (at Amtrak Station)[1]	--	72 dBA	n/a
Embarcadero (across from Amtrak Station)[3]	62 dBA	70 dBA	25 ft.
Inner Harbor Waterfront (east of Alice St.)[3]	48-66 dBA (Lmax)	<60 dBA	50 ft.
Jack London Square (at Water & Washington Sts.)[1]	66 dBA	--	n/a
Jack London Square (Waterfront Hotel)[1]	55 dBA	--	n/a
Jack London Square (Oakland Fire Station #2)[1]	61 dBA	--	n/a
Port View Park, End of 7th Street[1]	50-62 dBA	62 dBA	n/a
San Antonio/Fruitvale District			
66th Ave. (east of I-880)[4]	66 dBA	69 dBA	45 ft.
I-880 (south of 66th Ave.)[5]	66 dBA	71 dBA	250 ft.
Damon Slough (650 ft. west of I-880)[5]	61 dBA	60 dBA	250 ft.

NOTE: In general, Leq represents short-term measurements (15- or 30-minute) while CNEL or Ldn represent long-term measurements (24-hour).

1 Measurement for I-880 collected on September 23-25, 1997 near 3rd and Lewis streets behind freeway sound wall and for Port View Park and Middle Harbor Park on October 2-3, 1997 by Geier & Geier Consulting, Inc. for the Oakland Harbor Navigation Improvement Project EIS/R (1998)

2 Measurements from various sources presented in the FISCO/Vision 2000 Disposal and Reuse Final EIS/EIR.

3 Measurements collected by Charles M. Salter Associates, Inc. on May 8, 9, and 16, 1996 for the Site B Draft EIR (1996)

4 Measurements collected by Orion Environmental Associates on May 4-5, 1994 for the Coliseum Area Redevelopment Plan EIR (1995)

5 Measurements collected by Orion Environmental Associates on September 9-10, 1993 for the Coliseum Shoreline Project EIR (1994)

SOURCE: Orion Environmental Associates (1998)

EXISTING SENSITIVE RECEPTORS

Human response to noise varies considerably from one individual to another. Effects of noise at various levels can include interference with sleep, concentration, and communication; physiological and psychological stress; and hearing loss. Given these effects, some land uses are considered more sensitive to ambient noise levels than others. In general, residences, schools (which can include child care centers), hospitals, and nursing homes are considered to be the

most sensitive to noise. In addition, the City of Oakland's Noise Element contains noise guidelines for extensive natural recreation areas. Such recreational areas are considered to be sensitive to noise since some degree of quiet is usually desired for passive recreational uses such as birdwatching or picnicking. Golf courses and neighborhood parks are not considered to be noise-sensitive.

With respect to residential sensitive receptors, the City's Noise Element identifies nine areas, Areas A through I, that were considered to be "critical noise impact areas" in 1974. The Noise Element identifies these areas as areas that are "noisier than is desirable," when compared to noise compatibility criteria developed by U.S. Department of Housing and Urban Development and U.S. Environmental Protection Agency. Two of these areas, Areas F and G include portions of the Estuary Planning Area. Area F includes a chain of existing and planned parks or trails extending along the Lake Merritt Channel and Estuary to Jack London Square and commercial-residential development southeast of the Square. The Noise Element identifies I-880 and railroad operations as major noise sources. Area G includes a district of old dwellings known as Kennedy Tract, which is bordered and penetrated by industrial facilities and important transportation routes (I-880, truck routes, and railroad tracks). It is noted in the Noise Element that these identified areas were areas that were having the "most serious" noise problems in 1974, and identification of these areas is not intended to imply a lack of problems elsewhere.

NOISE STANDARDS AND PLANNING GUIDELINES

Noise exposure standards are implemented at either the receiver or source, and generally fall into two categories: (1) receiver-based noise compatibility guidelines for various land uses; and (2) ordinance limits for non-transportation-related noise. Since local jurisdictions are preempted from regulating noise generation from noise sources such as cars, trucks, trains, airplanes, etc., the City of Oakland implements noise controls through receiver-based noise compatibility guidelines and its noise ordinance. The adopted noise compatibility guidelines identify allowable noise exposures for various land uses from such sources, even if the source itself cannot be regulated. The City's Noise Ordinance regulates activities that may include such sources as mechanical equipment, amplified sounds, or hours of heavy equipment operation. Standards in local noise ordinances may be in the form of quantitative noise performance levels (as they are in the Oakland Noise Ordinance), or they may simply be in the form of a qualitative prohibition against creating a nuisance. Numerical standards are generally preferred because compliance is easier to document rather than relying on a judgment decision on the interpretation of "nuisance."

City of Oakland Noise Compatibility Guidelines

The City of Oakland, in its noise guidelines, recognizes the variable sensitivity of certain activities to noise and thus, established noise exposure criteria defining acceptable noise levels. The City uses land use compatibility noise guidelines by the State of California and they are

presented in Figure III.L-1. For residential and transient lodging uses, State guidelines indicate that noise levels up to 60 to 65 dBA (Ldn or CNEL) are normally acceptable depending on the type of residential use. For office/commercial uses as well as schools, libraries, churches, hospitals and nursing homes, State guidelines indicate that noise levels up to 70 dBA (Ldn or CNEL) are considered normally acceptable. For golf courses, water recreation, and industrial uses, noise levels up to 75 dBA are considered normally acceptable.

"Normally acceptable" is defined as satisfactory for the specified land use, assuming that normal conventional construction is used in buildings. Under most of these land use categories, overlapping ranges of acceptability and unacceptability are presented, leaving some ambiguity in areas where noise levels fall within the overlapping range. For purposes of this analysis, the most conservative interpretation is followed where noise levels fall within this range (i.e., if a noise level falls within the overlapping range for normally and conditionally acceptable, it is identified as conditionally acceptable).

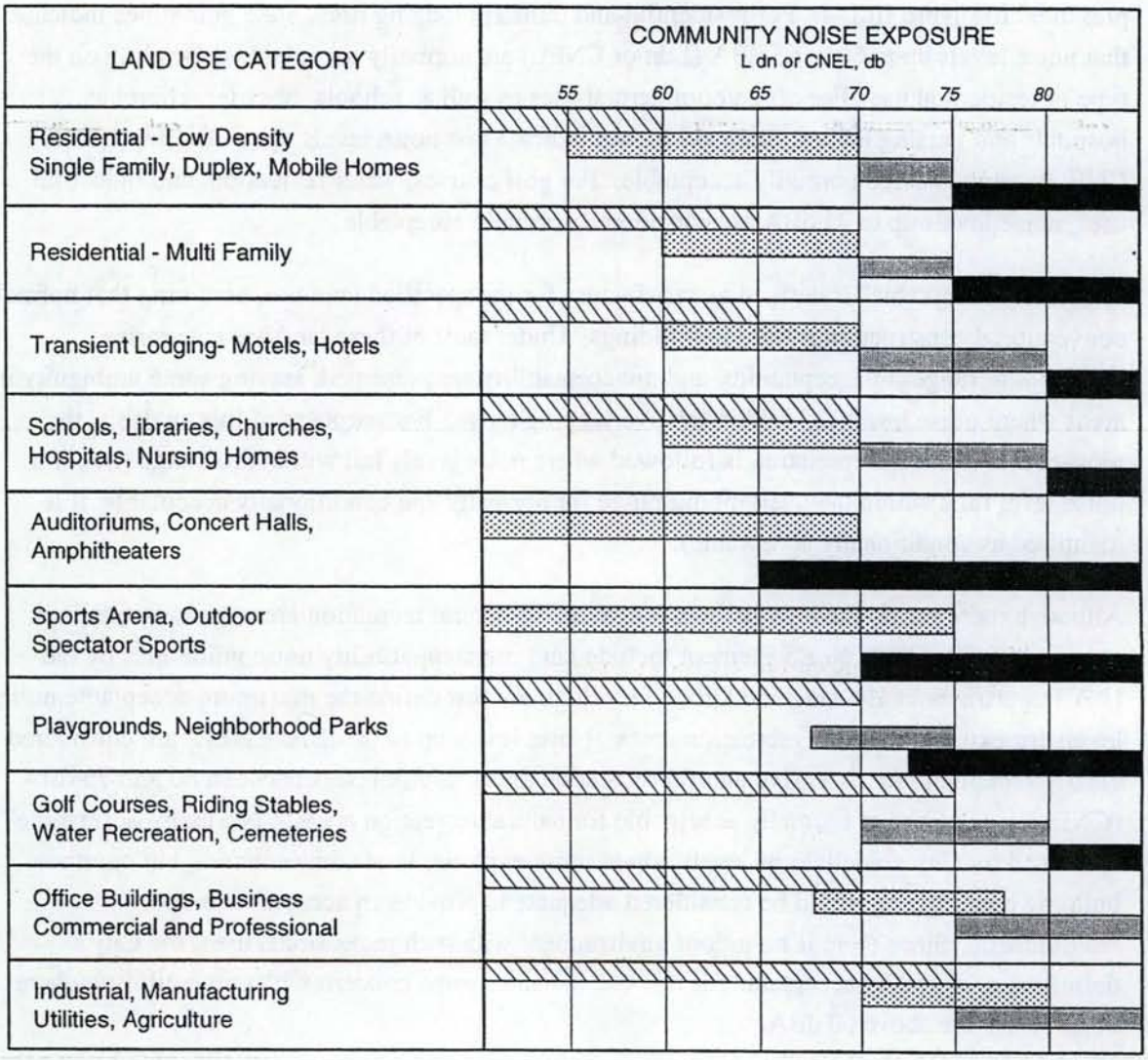
Although there are no State guidelines for extensive natural recreation areas, noise guidelines contained in the City's Noise Element include land use compatibility noise guidelines by the U.S. Department of Housing and Urban Development that define the maximum acceptable noise levels for extensive natural recreation areas. Noise levels up to 60 dBA (CNEL) are considered clearly acceptable for extensive natural recreation areas. Noise levels between 60 and 75 dBA (CNEL) are defined as normally acceptable for natural recreation areas. "Normally acceptable" is defined by City guidelines as levels where noise exposure is of some concern, but common building construction would be considered adequate to provide an acceptable indoor environment. Since there is no indoor environment with such recreational uses, the City's definition of normally acceptable for this use indicates some concern with compatibility where noise levels are above 60 dBA.

City of Oakland Noise Ordinance

Section 7710 of the Oakland Planning Code specifies maximum allowable noise levels at various land uses and these standards are presented in Table III.L-2. The first set of standards apply to long-term noise exposure at specific land uses, while the second set of standards apply to temporary exposure to short- and long-term construction noise. Standards also indicate that in areas where the measured ambient noise level exceeds the applicable noise level standard, the ambient noise level becomes the applicable standard.

California Noise Insulation Standards

Title 24, Part 2 of the *California Code of Regulations* contains requirements for construction of new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings intended to limit the extent of noise transmitted into habitable spaces. These requirements are collectively known as California Noise Insulation Standards. For limiting noise transmitted



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: California Office of Planning and Research. 1990. *General Plan Guidelines.*

Figure III.L-1
Recommended Land Use Compatibility Guidelines for Community Noise

TABLE III.L-2
CITY OF OAKLAND MAXIMUM ALLOWABLE RECEIVING NOISE STANDARDS

NOISE LEVEL STANDARD FOR SPECIFIED LAND USES

Receiving Land Use	Cumulative Number of Minutes in One-hour Time Period	Maximum Allowable Noise Level Standard, dBA	
		Daytime 7 am to 10 pm	Nighttime 10 pm to 7 am
Residential, School, Child Care, Health Care Or Nursing Home, and Public Open Space	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
Commercial	20 (L_{33})	65	65
	10 ($L_{16.7}$)	70	70
	5 ($L_{8.3}$)	75	75
	1 ($L_{1.7}$)	80	80
	0 (L_{max})	85	85
Manufacturing, Mining, and Quarrying	20 (L_{33})	70	70
	10 ($L_{16.7}$)	75	75
	5 ($L_{8.3}$)	80	80
	1 ($L_{1.7}$)	85	85
	0 (L_{max})	90	90

NOISE LEVEL STANDARDS FOR TEMPORARY CONSTRUCTION OR DEMOLITION ACTIVITIES

Operation/Receiving Land Use	Daily 7 am to 7 pm	Weekends 9 am to 8 pm
Short Term Operation (less than 10 days)		
Residential	80	65
Commercial, Industrial	85	70
Long Term Operation (more than 10 days)		
Residential	65	55
Commercial, Industrial	70	60

NOTE: L_{max} is the maximum noise level; L_{33} is the noise level exceeded 33†percent of time, etc.

SOURCE: City of Oakland (1996)

between adjacent dwelling units, the Standards specify the extent to which walls, doors, and floor ceiling assemblies must block or absorb sound. For limiting noise from exterior sources, the Standards set forth an interior standard of 45 dBA (CNEL or Ldn) in any habitable room with all doors and windows closed and require an acoustical analysis demonstrating how dwelling units have been designed to meet this interior standard where such units are proposed in areas subject to noise levels greater than 60 dBA (CNEL or Ldn).

SIGNIFICANCE CRITERIA

According to State CEQA *Guidelines,* a project would normally have a significant effect on the environment if it would "increase substantially the ambient noise levels for adjoining areas." For the City of Oakland, a "substantial" noise increase is defined by comparing existing and projected noise levels with the following criteria:

- compliance with City-adopted State land use compatibility noise guidelines for all specified uses and City guidelines for extensive natural recreation areas (land use compatibility guidelines are presented in Figure III.L-2);
- compliance with the City Noise Ordinance;
- compliance with California Noise Insulation Standards (Title 24) for new hotels, motels, apartment houses, and dwellings other than detached single-family dwellings; and
- a determination of whether the incremental noise increase would be noticeable to most people. A 10-dBA incremental noise increase is perceived by most people to be a doubling in the loudness of a sound. A 5-dBA increase is readily noticed by most people, while a 3-dBA increase is barely noticeable to most people.

IMPACTS AND MITIGATION MEASURES

PLAN-RELATED TRAFFIC NOISE INCREASES

Impact L.1: Implementation of the proposed Estuary Plan would result in future noise levels that are both higher and lower than future noise levels that would occur under future conditions as projected by the recently adopted General Plan and ABAG. This is a less-than-significant impact.

When future (2015) General Plan-related traffic projections are compared to future (2015) Estuary Plan-related traffic levels, future noise levels would be higher along some streets and lower along others (see Table III.L-3). With the Estuary Plan, future noise levels along arterial streets would either be up to 0.2 dBA higher, unchanged, or up to 0.5 dBA lower than under the existing General Plan. The only exception is Oak Street, where future noise levels are estimated to be 2.3 dBA lower under the Estuary Plan than under the existing General Plan. Increases of less than 3 dBA are generally not perceptible to most people and therefore, future increases of less than 1 dBA would not be significant.

TABLE III.L-3
FUTURE NOISE LEVELS ALONG SELECTED ROADWAYS

Arterial Street Segment	Future Noise Level (CNEL @ 50 Feet From Roadway Centerline)	
	With General Plan (2015)	With Estuary Plan (2015)
Embarcadero -Broadway to Oak St.	70.0	70.1
Embarcadero - Oak St. to 5th Ave.	71.2	71.1
3rd Street - Mandela Parkway to Oak St.	66.5	66.0
Market Street - south of I 880	71.0	70.5
Broadway - 13th St. to Jack London Square	68.9	68.5
Franklin St. - at 10th St.	63.6	63.6
Webster Street - at 10th St.	71.1	71.1
Oak Street - south of I-880	70.1	67.8
5th Avenue - at I 880	70.6	70.3
23rd Avenue - at I 880	73.8	73.9
29th Avenue - between I 880 and 12th St.	72.1	72.1
Fruitvale Avenue - at I 880	71.4	71.6
High Street Bridge	74.8	74.8
Fruitvale Bridge	74.4	74.3
Park St. Bridge	76.4	76.4
66th Avenue - south of I-880	70.9	70.5

SOURCE: Orion Environmental Associates (1998)

Mitigation Measure L.1: None required.

NOISE COMPATIBILITY IMPACTS OF MIXED USE LAND USE DESIGNATIONS

Impact L.2: The proposed Estuary Plan encourages residential uses through several mixed-use land use designations (Mixed Use District, Transitional Mixed Use, and Residential Mixed Use), and noise compatibility problems could result due to the proximity of residential, commercial, light industrial, and employment uses. This is a less-than-significant impact due to policies in the recently adopted General Plan.

Sources of noise typically associated with commercial, light industrial and employment uses typically include loading/unloading activities, delivery trucks, parking cars, garbage trucks and refuse bins. Stationary sources of noise from these uses could include refrigeration, air

conditioning and heating units as well as compressors, transformers, and/or trash compactors. In addition, depending on the type of commercial, employment or light industrial activities, noise generated in the evening or nighttime hours could result in noise conflicts between residential and commercial uses. The Oakland Noise Ordinance sets limits on the level of noise that any noise source could generate at any adjacent receiving residential uses, and this would reduce the potential for noise impacts to a less-than-significant level.

The Oakland Noise Ordinance specifies lower noise limits in residential areas than in commercial and industrial areas. Location of residential uses adjacent to or near existing industrial uses could result in existing industrial uses being subject to these more stringent noise limits, and violations of the Ordinance could occur. In addition, future development of commercial, light industrial, and employment uses in areas adjacent to or near any existing or future residential uses could become infeasible since they would be subject to more stringent noise limits. In general, such effects could occur in the Mixed Use District area located between Franklin Street and the Lake Merritt Channel, the Transitional Mixed Use area located at the Con-Agra site and adjacent properties, and the Residential Mixed Use area located in the Kennedy Tract area.

The policies set forth below are intended to address noise compatibility problems associated with mixed-use development with residential uses. Although implementation of the Oakland Noise Ordinance would mitigate the potential impacts to a less than significant level at residential receptors, there are policies in the recently adopted General Plan which would help reduce the potential for noise conflicts and they are as follows:

Policy I/C4.1:

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 uses.

Policy I/C4.2:

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 efficient and appropriate implementation and monitoring of environmental and development controls.

Policy D10.7:

Locational and performance criteria should be developed for live-work developments.

Policy N1.5:

Commercial development should be designed in a manner that is sensitive to surrounding uses.

Policy W1.2:

Land uses and impacts generated from such activities should be sensitive to one another and appropriate buffering should minimize the incompatibility of uses.

Policy W2.2:

Appropriate buffering measures for heavy industrial uses and transportation uses on adjacent residential neighborhoods should be developed.

Policy T1.6:

An adequate system of roads connecting port terminals, warehouses, freeways, and regional arterials, and other important truck designations, should be designated. This system should rely upon arterial streets away from neighborhoods.

The following additional measures were recently adopted as General Plan policies as part of the Land Use and Circulation Element update process, and these policies further reduce potential noise compatibility problems to a less than significant level.

- Establish design requirements for large-scale commercial development that requires adequate buffers from residential uses. Use of open space, recreation space, or transit installations as buffers should be encouraged.

- Mixed residential/non-residential neighborhoods should be rezoned after determining which should be used for residential, mixed, or non-residential uses. Some of the factors that should be considered when rezoning mixed use areas include the future intentions of the existing residents or businesses, natural features, or health hazards.

- The City should develop distinct definitions for home occupation, live/work and work/live operations; define appropriate locations for these activities and performance criteria for their establishment; and create permitting procedures and fees that facilitate the establishment of those activities which meet the performance criteria.

- Avoid proliferation of existing incompatible uses by eliminating, through appropriate rezoning actions, pockets of residential zoning within predominantly industrial areas.

- Establish performance-based standards which designate appropriate levels of noise, odors, light/glare, traffic volumes, or other such characteristics for industrial activities located near commercial or residential areas.

- Develop zoning regulations which permit industrial and commercial uses based upon their compatibility with other adjacent or nearby uses.

Mitigation L.2: None required.

NOISE COMPATIBILITY IMPACTS OF PARK AND OPEN SPACE LAND USE DESIGNATIONS

Impact L.3: The proposed Estuary Plan would expand the waterfront area designated for parks and open space, and noise compatibility problems could be posed by the proximity of such uses to major noise sources. This is a less-than-significant impact.

The City's noise compatibility guidelines for extensive natural recreation areas indicate that noise levels up to 60 dBA (CNEL) are considered clearly acceptable while noise levels between 60 and 75 dBA (CNEL) are defined as normally acceptable. Measurements taken at select waterfront areas (see Table III.L-1) indicate that noise levels are generally acceptable for park and open space uses. However, park or open spaces uses in proximity to freeways or arterials such I-880, Park Street Bridge, Fruitvale Bridge, and High Street Bridges could be subject to relatively higher noise levels (noise levels of 75 dBA within 50 feet of bridges). Noise compatibility of park uses with existing and future noise levels would be addressed as part of separate environmental analyses completed for specific park projects.

Mitigation Measure L.3: None required.

NOISE IMPACTS OF TRANSPORTATION IMPROVEMENTS

Impact L.4: Implementation of the proposed Estuary Plan could result in future transportation improvements that could create or aggravate noise compatibility problems with sensitive receptors. This is a less-than-significant impact.

Transportation improvements identified in the Estuary Plan for the I-880 Corridor could alter the distribution of future traffic in these areas. Changes in traffic distribution and associated changes in traffic-related noise due to these improvements are reflected in Table III.L-3 above. This table indicates that proposed transportation improvements within the planning area would not significantly change future (2015) traffic noise levels that would occur under the recently adopted General Plan or CMA/ABAG projections.

Mitigation Measure L.4: None required.

REFERENCES - Noise

City of Oakland, *Noise, An Element of the Oakland Comprehensive Plan,* September 1974.

U.S. Department of Transportation, Federal Aviation Administration and Port of Oakland, *Proposed Airport Development Program, Metropolitan Oakland International Airport Program Draft Environmental Impact Statement/Environmental Impact Report,* September 1996.

M. HAZARDOUS MATERIALS

SETTING

The recently certified Land Use and Transportation Element EIR provided a general review of the hazardous materials regulatory framework and worker health and safety requirements, a discussion of the types of existing businesses that generate hazardous wastes, identification of known or suspected sites where contamination of soils or groundwater by hazardous substances may exist, and a discussion of the potential presence of hazardous building materials within the City of Oakland. The information contained in the Land Use and Transportation Element EIR is incorporated by reference. A summary of this information is presented below.

ISSUES OF CONCERN

Hazardous substances may pose a substantial present or future hazard to human health or the environment when improperly handled, stored, disposed or otherwise managed; they are commonly used in commercial, agricultural, and industrial applications as well as to a limited extent in residential areas. If improperly handled, they can result in public health hazards through contamination of soils or groundwater or through airborne releases in vapors, fumes or dust. There is also the potential for accidental or unauthorized releases of hazardous materials that can pose a public health concern. Finally, the presence of hazardous substances could pose restrictions on the types of land use that would be appropriate for development.

POTENTIAL SOURCES OF HAZARDOUS MATERIALS

Potential sources of hazardous materials within the Estuary Planning Area include sites with historic or existing use of hazardous materials as well as potential and confirmed hazardous waste sites. The potential for contamination would depend upon numerous factors, such as the type of business, type(s) and quantities of hazardous substances, handling and management practices, control and spill containment systems, adequacy of accident prevention and safety programs, training programs and emergency response plans, and adjacent land uses.

Existing and Historic Land Uses

The most common types of hazardous substances that likely occur within the Estuary Planning Area are associated with industrial or commercial land uses. Other sources of hazardous substances are associated with mechanical accidents and inadvertent or accidental spillage, leaking underground storage tanks, and unpermitted underground storage tanks.

Permitted Handling of Hazardous Substances

Sites that currently handle hazardous substances are well regulated to ensure safe handling of these materials. However, these sites are potential sources of hazardous substances to the soil

and/or groundwater because of incidental leakage or spillage that may have gone undetected. Computerized database searches (NATEC, 1997) were conducted to identify sites with currently permitted underground storage tanks and sites permitted to handle hazardous wastes under the Resource Conservation and Recovery Act (RCRA) within the Estuary Planning Area (see Table III.M-1).

TABLE III.M-1
SUMMARY OF DATABASES REVIEWED FOR HAZARDOUS MATERIALS SITES

Name of List	Responsible Agency	Acronym	Date of List
National Priority List	USEPA	NPL	Feb. 1997
Potentially Contaminated Sites	USEPA	CERCLIS	Jan. 1996
Toxic Chemical Release Inventory	USEPA	SARA	Oct. 1996
Federal Superfund Liens	USEPA	LIENS	Nov. 1992
USEPA Hazardous Waste Generators	USEPA	RCRA	Nov. 1996
Emergency Response Notification System	US Coast Guard	ERNS	Aug. 1995
Abandoned Sites Program	DTSC	CAL-SITES	Mar. 1996
California Bond Expenditure Plan	DTSC	BEP	Jan. 1990
Hazardous Waste and Substances Site List	CA Office of Planning and Research	CORTESE	Nov. 1990
Leaking Underground Storage Tanks	Regional Water Quality Control Board	LUST	Nov. 1996
Waste Management Unit Discharge Systems	Regional Water Quality Control Board	WMUDS	Oct. 1996
Solid Waste Information System	CA Integrated Waste Management Board	SWIS	Oct. 1996/ Apr. 1997
Waste Discharge System	CA Environmental Affairs Agency	WDS	Aug. 1995
Underground Storage Tanks	State Water Resources Control Board	UST	Aug. 1994

Potential and Confirmed Hazardous Waste Sites

Computerized searches of regulatory agency lists were conducted to identify sites within the Estuary Planning Area that are potentially contaminated with hazardous substances (NATEC, 1997). This list include sites where contamination is either suspected or confirmed by the regulatory agencies (see Table III.M-2).

Hazardous Building Materials

Some building materials commonly used in older buildings could present a public health risk if disturbed during an accident or during demolition of an existing building. These materials include asbestos, electrical equipment such as transformers and fluorescent light ballasts that contain polychlorinated biphenyls (PCBs), fluorescent lights containing mercury vapors and lead-based paints. Asbestos and lead-based paint may also present a health risk to existing building occupants if they are in a deteriorated condition. If removed during demolition of a building, these materials would also require special disposal procedures.

REGULATORY FRAMEWORK AND PLANNING CONSIDERATIONS

Hazardous Substances Regulations

Hazardous substances are extensively regulated by federal, state, regional, and local regulations, with the major objective of protecting public health and the environment. In general, these regulations provide definitions of hazardous substances; establish reporting requirements; set guidelines for handling, storage, transport, remediation and disposal of hazardous wastes; and require health and safety provisions for both workers and the public. Regulatory agencies also maintain lists, or databases, of sites that are classified as hazardous waste generators or that store hazardous substances in underground storage tanks as well as sites where soil or groundwater quality may have been affected by hazardous substances.

Planning Considerations Related to Hazardous Materials

State and County

The *Alameda County Hazardous Waste Management Plan* contains goals, objectives and implementation guidelines for hazardous waste reduction, hazardous waste facility siting, public education and involvement, and program coordination with regulatory requirements. State regulations also provide guidelines for establishing adequate separation between sensitive receptors and hazardous materials/waste sources. The California Department of Toxic Substances Control (DTSC) may also place deed restrictions on a property and/or its vicinity after remediation has been completed.

TABLE III.M-2
SITES WITHIN ESTUARY PLANNING AREA WITH PERMITTED UNDERGROUND STORAGE PERMITTED TO HANDLE HAZARDOUS WASTES

Site Name	Site	Address	RCRA	UST
Amtrak Station	245	2nd Street		x
BART Oakland Store Room	25	4th Street	x	
Alameda County Warehouse	39	4th Street	x	
Controlco, Inc.	70	4th Street		x
Port of Oakland	251	5th Avenue	x	
AM/PM Service Co	251	5th Avenue		x
American Can Packaging Inc	3801	E. 8th Street	x	
California Washington Can	3100	E. 9th Street	x	
Norton B W Manufacturing	3100	E. 10th Street	x	x
T-Gas	3132	E. 12th Street		x
Kallista Inc.	4218	E. 12th Street	x	
Melrose Ford	3050	E. 14th Street	x	x
Tonys Express Auto Service	3609	E. 14th Street		x
East 14th Street Auto Cli	3750	E. 14th Street		x
Trans-matic Transmissions	3905	E. 14th Street		x
Automotive Engineering	4028	E. 14th Street		x
Continental Volvo Inc.	4030	E. 14th Street		x
F H Dailey Motor Co	4117	E. 14th Street	x	x
Sagittarian Press	1022	22nd Avenue	x	
Childrens Hospital	1050	22nd Avenue		x
Exchange Linen Service	527	23rd Avenue	x	x
Vacant Lot	534	23rd Avenue		x
Del Monte USA Oakland	1100	29th Avenue	x	
Oakland Plant #37	1100	29th Avenue		x
Caltrans District 4	1112	29th Avenue	x	
Oakland So. Special Assig	1112	29th Avenue		x
New Genico Corp	1237	40th Avenue	x	
Owens-Illinois Inc. Oakland	3600	Alameda Avenue	x	x
United States Cold Storage	3925	Alameda Avenue		x
Intercoastal Oil Corp	4200	Alameda Avenue	x	
Express Auto Service	333	Broadway		x
Probation Center	400	Broadway		x
N.V. Heathorn Inc.	2846	Chapman Street		x
Service Brass and Aluminum	2870	Chapman Street		x

TABLE III.M-2 (Continued)
SITES WITHIN ESTUARY PLANNING AREA
WITH PERMITTED UNDERGROUND STORAGE
PERMITTED TO HANDLE HAZARDOUS WASTES

Site Name	Site	Address	RCRA	UST
Esposito Plating & Polish	2904	Chapman Street	x	
Vulcan Steel Foundry	2909	Chapman Street		x
Seatco Office Services	2921	Chapman Street	x	
Oakland Police Station		Clay & 5th Street		x
City of Oakland #2 Engine		Clay Street		x
Oakland Port of Monsanto		Dennison & Embarcadero	x	
Steam Valve Machine Co. Inc.	1899	Dennison Street	x	
Bytech Chemical Corporation	1905	Dennison Street		x
Haslett Company	1991	Dennison Street	x	
Shell Oil Co Oakland Plant	315	Derby Avenue	x	
Simmons Terminal Corp	315	Derby Avenue	x	
Petro-Stop, Inc.	315	Derby Avenue		x
F&F Surface Grinding	510	Derby Avenue	x	
Pacific Dry Dock & Repair	321	Embarcadero	x	x
Port of Oakland	351	Embarcadero	x	
Golden State Diesel	351	Embarcadero		x
Oakland Ready Mix Co	401	Embarcadero		x
Insight Designs	475	Embarcadero	x	
Boardworks The	499	Embarcadero Bldg 2	x	
Midland Ross Corp Metal F	845	Embarcadero	x	
Liquid Carbonic Spec Gas	901	Embarcadero	x	
Liquid Carbonic Corporation	901	Embarcadero	x	x
Majesty Yachts	1363	Embarcadero		x
Pacific Dry Dock and Repairs	1441	Embarcadero		x
Lani Kai	1755	Embarcadero	x	
Bldg. P-323	1755	Embarcadero		x
Laney College	900	Fallon Street		x
Analysts Inc.	2910	Ford Street	x	x
Gilro Stamping Co.	2915	Ford Street	x	
Industrial Steam	2985	Ford Street		x
States Shingle Company	880	Fruitvale Avenue		x
KTVU-TV	2	Jack London Square	x	x
Salty Dog (Gas Dock)	53	Jack London Square		x
Hydrant Fueling System	66	Jack London Square		x
United Beverage Distribution	105	Jackson Street		x

TABLE III.M-2 (Continued)
SITES WITHIN ESTUARY PLANNING AREA
WITH PERMITTED UNDERGROUND STORAGE
PERMITTED TO HANDLE HAZARDOUS WASTES

Site Name	Site	Address	RCRA	UST
East Bay Packing Company	208	Jackson Street		x
Right Away Ready Mix, Inc.	401	Kennedy Street		x
Moore and Sons Trucking	410	Kennedy Street	x	
Fidelity Packaging Corp	646	Kennedy Street	x	
Empire Paper Co	655	Kennedy Street	x	
Saroni TFI	727	Kennedy Street		x
Holt Graphic Arts Inc.	800	Kennedy Street		x
Kilpatricks Bakeries Inc.	955	Kennedy Street	x	x
U C Household Shipping Co.	333	Lancaster Street	x	
Del Monte-Plant #26	400	Lancaster Street		x
Johnson Propeller Co.	603	Lancaster Street	x	
Chevron	609	Oak Street		x
American Contracting Serv	3229	San Leandro Street	x	x
East Bay Generator Co.	3740	San Leandro Street	x	
Guy's Service	3820	San Leandro Street		x
Macy Movers	200	Victory Court		x
The Salvation Army	601	Webster Street		x

NOTES: RCRA = Resource Conservation and Recovery Act ; UST = Underground Storage Tank

SOURCES: Orion Environmental Associates; NATEC Environmental Reporting Service, April 7, 1997; April 9, 1997; April 21, 1997.

City Policies

As part of the Open Space, Conservation and Recreation (OSCAR) Element of the General Plan, the City has adopted the following *Policy and Actions* regarding site contamination:

> Policy CO-1.2: Soil Contamination Hazards
>
> Minimize hazards associated with soil contamination through 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.

Action CO-1.2.1: Further Study of Soil Contamination

Conduct further study of soil contamination and toxics during the update of the Oakland General Plan Safety Element.

Action CO-1.2.2: Monitoring of Dredge Spoils Disposal

Monitor the Galbraith Dredge Spoils Disposal Project to ensure that there are no negative impacts on soil, wetlands, and adjacent waters. Ensure community representation on any task force created to monitor future dredge spoils disposal projects, including the Galbraith Disposal Project.

As part of the Land Use and Transportation Element of the General Plan, the City has adopted the following *Policies* regarding re-use of industrial land.

Policy I/C2.1:

The environmental cleanup of contaminated industrial properties should be actively pursued to attract new users in targeted industrial and commercial areas.

Policy I/C.3:

Development in older industrial areas should be encouraged through the provision of an adequate number of vacant or buildable sites designated for future development.

SIGNIFICANCE CRITERIA

Hazardous Materials impacts would be considered significant, based on CEQA Guidelines, if they were to create a potential public health hazard or involve the use, production or disposal of materials that pose a hazard to people or animal or plant populations in the affected area. Impacts would also be considered significant if it would interfere with emergency response plans or emergency evacuation plans.

Definition, identification, and determination of threshold levels of hazardous materials are provided in the *Code of Federal Regulations* (40 CFR) and in the *California Code of Regulations*, Titles 22 and 26. Hazardous material means a substance or combination of substances which because of its quantity, concentration or physical, chemical or infectious characteristics may pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed (Harte, 1991). Determination of "substantial" hazard or "significant" levels of hazardous materials is performed on a case-by-case basis, although generally there are regulatory guidelines for determining acceptable levels and/or public health risks associated with exposure to hazardous materials.

IMPACTS AND MITIGATION MEASURES

The proposed Estuary Plan would stimulate economic activity and encourage development in the Estuary Planning Area. With proper planning, the adoption of the Element itself would not result in any change in the public health impacts associated with hazardous substances, although future development or expansion of existing businesses could increase the potential for the use of hazardous substances, depending on the specific location and nature of the development or expansion.

LAND USE IMPACTS

Impact M.1: Proposed land use changes for the Estuary Planning Area include a change to mixed uses that may allow housing as well as commercial operations that may use hazardous materials. This is a less-than-significant impact due to existing laws and policies.

Business and commercial operations commonly use hazardous materials that could be accidentally released to the environment. The proximity of housing to land uses that use hazardous materials could increase the potential for public exposure to hazardous substances through accidental releases. However, in accordance with recent regulations, businesses that handle hazardous materials are required to have a Hazardous Materials Business Plan, and businesses that handle acutely hazardous materials are required to have a Risk Management and Prevention Program. Implementation of these plans requires the safe handling of hazardous materials, provides the City with an inventory hazardous materials used throughout the City, and allows the City to improve its emergency response to hazardous materials incidents. These measures reduce the potential for public or environmental exposure to hazardous materials. In addition, potential rezoning and improved separation of residential and industrial land uses would reduce the potential for community exposure to hazardous substances and would be a long term beneficial impact of adopting the Element.

This potential impact would mitigated to a less-than-significant level by compliance with the following regulatory requirements enforced by the Oakland Fire Department and the Alameda County Department of Environmental Health:

- Preparation of Business Plans
- Preparation of Risk Management and Prevention Programs

In addition, the following policies were included in the recently adopted Land Use and Transportation Element of the General Plan.

> Policy [illegible]4.2:
>
> 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 efficient and appropriate implementation and monitoring of environmental and developmental controls.

Policy N5.1:

Residential areas should be buffered from conflicting uses through the establishment of performance based regulations, the removal of nonconforming uses, and other tools.

Policy W1.2: Land Use Compatibility

Land uses and impacts generated from such activities should be sensitive to one another, and appropriate buffering (e.g., landscaping, fencing, transitional uses, etc.) should minimize the incompatibility of uses.

Policy W6.2: Buffering of Heavy Industrial Uses

Appropriate buffering measures for heavy industrial uses and transportation uses on adjacent residential neighborhoods should be developed.

Mitigation Measure M.1: None required.

OPERATIONAL IMPACTS

Impact M.2: Adoption of the proposed Estuary Plan could encourage new business and expansion of existing businesses within the areas designated for change, with associated potential increases in the quantities of hazardous substances used, stored and transported, increasing the potential for accidents or spills and increasing the potential for exposure to workers, the public and the environment. This is a less-than-significant impact due to existing laws and regulations.

As discussed above, in accordance with recent regulations, any new businesses in the Estuary Planning Area that handle hazardous materials are required to have a Hazardous Materials Business Plan and businesses that handle acutely hazardous materials are required to have a Risk Management and Prevention Program. Implementation of these plans requires the safe handling of hazardous materials, provides the City with an inventory hazardous materials used throughout the City, and allows the City to improve its emergency response to hazardous materials incidents. In addition, hazardous waste generators are being forced to consider source reduction as an option to off-site treatment or disposal of hazardous wastes in accordance with the *Hazardous Waste Source Reduction and Management Review Act of 1989*. This would reduce the quantity of hazardous materials or wastes generated at a specific site. Combined, these measures reduce the potential for public or environmental exposure to hazardous materials through potential accidental releases associated with growth and expansion of existing businesses.

This potential impact is mitigated to a less-than-significant level by compliance with the following regulatory requirements enforced by the Oakland Fire Department and the Alameda County Department of Environmental Health:

- Preparation of Business Plans
- Preparation of Risk Management and Prevention Programs
- Preparation of Source Reduction Evaluation and Review Plans

Mitigation Measure M.2: None required.

CONSTRUCTION IMPACTS - BUILDING MATERIALS

Impact M.3: Adoption of the proposed Estuary Plan would increase the potential for demolition and renovation activities within the Estuary Planning Area. Many of these buildings could contain hazardous building materials and demolition or renovation could result in exposure to hazardous building materials, such as asbestos, lead, mercury or PCBs, with associated public health concerns. This is a less-than-significant impact due to existing laws and regulations and policies in the recently adopted Land Use and Transportation Element.

The extent of any demolition or renovation activity within the Estuary Planning Area would depend upon specific development or expansion projects that may occur. It is also unknown how extensively hazardous building materials occur within the city. If demolition or renovation activities were to occur, it is likely that many of the structures to be demolished or renovated were constructed during the period when asbestos, lead and PCBs were used extensively in building materials. Fluorescent lights containing mercury vapors are still commonly used in many buildings.

If a building contains friable or non-friable asbestos, there is a potential for release of airborne asbestos fibers when the structures are demolished, moved, or altered, unless proper asbestos abatement precautions are taken. Such a release could expose the public and construction workers to airborne asbestos fibers. Similarly, if lead-based paint is present and has delaminated or chipped from the surfaces of the building materials, there is the potential for the release of airborne lead particles unless proper lead abatement procedures are followed. If PCBs are present in the building to be demolished, any leakage could potentially expose workers to unacceptable levels of PCBs (greater than 5 parts per million, based on Title 22, CCR). Removal of fluorescent light tubes could result in exposure to mercury vapors if the lights are broken.

Structures with asbestos containing materials or lead containing materials require abatement to prevent public exposure to asbestos fibers or lead particles. All structures designated for renovation or demolition should be inspected by a qualified inspector. If any friable asbestos-containing materials or lead containing substances are identified, adequate abatement practices

such as containment and/or removal should be implemented prior to renovation or demolition. In addition, proper removal and disposal procedures should be followed for any PCB containing equipment and fluorescent light tubes.

Because the extent of demolition or renovation that will take place is unknown, and the location and quantity of hazardous building materials within Oakland is also unknown, the potential for worker and public exposure to hazardous building materials as a result of redevelopment can not be evaluated at this time. Potential exposure to hazardous materials should be evaluated on a case-by-case basis as individual development projects arise.

In accordance with applicable laws, all structures designated to have building materials removed during renovation or demolition must be inspected by a qualified inspector. If any friable asbestos-containing materials or lead containing materials are identified, adequate asbestos or lead abatement practices such as containment and/or removal must be implemented prior to demolition or renovation. Any PCB containing equipment or fluorescent lights containing mercury vapors shall also be removed and properly disposed.

Mitigation Measure M.3: None required.

CONSTRUCTION IMPACTS - SOILS

Impact M.4: Adoption of the proposed Estuary Plan would increase the potential for construction activities, and could increase the likelihood of encountering contaminated soil or groundwater and potentially expose workers and the community to hazardous substances. This is a less-than-significant impact due to existing laws and regulations, policies in the Land Use and Transportation Element, and proposed policies in the Estuary Plan.

Based on the nature and extent of identified hazardous waste sites as well as historical and current land uses within the Estuary Planning Area, there is the potential to encounter hazardous substances in subsurface materials during any excavation and grading activities. Construction activities at or near an identified hazardous waste site that has not yet been completely remediated would have a high likelihood of encountering hazardous substances. At sites that have been remediated, regulatory agencies may have allowed residual contamination to be left in place or may have approved health-based clean up levels that are based on current land use. These clean-up levels would typically be higher for an industrial site than a residential site. If hazardous substances have been left in place at a site, they may restrict the type of development that could occur. Also, the hazardous substances may not pose a threat to human health or the environment if left in place but could pose a threat if contaminated materials become airborne or

otherwise released during construction activities. The contaminated material may also require special handling and disposal requirements if removed from the site.

At sites where hazardous substances were previously stored or used, there would be a potential for encountering previously undetected releases. At locations where existing businesses handle or store hazardous substances, there may be potential for encountering hazardous materials, depending on current and past management practices. However it would be unlikely that extensive excavation would be required for renovation at existing businesses. At some sites, additional efforts such as removal of underground storage tanks may be required to remove potential sources of hazardous substances prior to development.

If hazardous substances are encountered during redevelopment, the need for site investigations would be determined on a case-by-case basis by the appropriate regulatory agency. The site investigations would then identify the nature and extent of contamination and whether or not the contaminants occur at levels considered hazardous or "significant." If threshold levels are exceeded, remediation would be required. During the site investigation, there would be potential for exposure of workers and the community to hazardous substances, typically through inhalation of vapors, fumes or contaminated dust; possibly through dermal contact with contaminated materials; and possibly through direct or indirect ingestion.

At sites where there has been a release of materials from an underground storage tank or associated piping, a site investigation would be required in accordance with the *Leaking Underground Fuel Tank Field Manual* (Leaking Underground Fuel Tank Task Force, October 1989) and the *Tri-Regional Board Staff Recommendations for Preliminary Evaluation and Investigation of Underground Storage Tank Sites* (San Francisco Bay Region of the Regional Water Quality Control Board, August 10, 1990). In accordance with these guidelines a soil and/or groundwater investigation would be required at sites where there has been a confirmed release from an underground storage tank or associated piping. The Regional Water Quality Control Board has assigned oversight authority for these cases to the Alameda County Health Care Services Agency, Department of Environmental Health.

At other sites, the Department of Toxic Substances Control would require a Preliminary Endangerment Assessment (PEA) as part of the site mitigation process "to determine whether current or past waste management practices have resulted in the release or threatened release of hazardous substances which pose a threat to public health or the environment" (CalEPA, 1994). The PEA was designed as a standard approach for evaluating site contaminated or potentially contaminated with hazardous substances to determine if a removal or remedial action is required to protect public health and the environment. It is the initial step in the overall site mitigation process to abate health or environmental threats posed by a site where hazardous substances have been release or have a significant potential to be released.

The Department of Toxic Substances Control (DTSC) provides oversight for the PEA process, including scheduling and fee requirements. The PEA process consists of an initial site evaluation and preparation of a PEA report, followed by an evaluation and approval of the PEA report by DTSC. Depending on the results of the PEA, a Remedial Investigation/Feasibility Study (RI/FS) and a Remedial Action Plan (RAP) may eventually be needed for the site clean up.

The PEA report should include the following information: a site description and site history, including a description of past and current site activities and a description of handling procedures for hazardous substances associated with the site business activities; a description of the apparent problem such as documentation of spills or releases, and the results of any sampling and analysis that has been completed to characterize these; a description of potential pathways for exposure to chemicals (such as soil, water and air); a description of any sampling and analysis performed to evaluate the extent of chemicals identified in the soil and/or groundwater; an assessment of the threat to the public health and the environment, an identification of possible remediation strategies; and conclusions and recommendations. Specific details to be included in the PEA are described in the *Preliminary Endangerment Assessment Guidance Manual* (Department of Toxic Substances Control, January 1994).

As part of site investigation efforts, regulatory agencies would require a site safety plan to ensure safety of workers and the community. The plan would include identification of contaminants, potential hazards, personal protection clothing and devices, and emergency response procedures. If soils containing hazardous substances are remediated, the Bay Area Air Quality Management District may impose specific requirements to protect ambient air quality from dust, lead, hydrocarbon vapors or other airborne contaminants.

Construction activities in utility alignments or public right-of ways may also encounter hazardous substances near a site where contamination extends off-site. The contamination could be encountered in soil that is excavated or in groundwater during dewatering activities. Dewatering could also draw in contaminated groundwater from nearby sites. The presence of hazardous substances would not necessarily require a site investigation, but health and safety measures to protect the workers and the public and special handling procedures for the materials produced during construction would be required.

The following measures are legally required and would serve to mitigate construction-related impacts:

- If abandoned or no longer used underground storage tanks are identified at a site proposed for development, tank closure shall be conducted in accordance with the Regional Water Quality Control Board and local City and County regulations. Reports of tank closure shall be submitted to the Alameda County Health Care Services Agency, Department of Environmental Health; the Regional Water Quality Control Board; and the Oakland Fire Department.

- Detailed site investigations to determine the potential presence of hazardous substances shall be performed on any proposed development site where hazardous substances are suspected. The site investigation shall include the collection of soil and groundwater samples for appropriate laboratory analyses, depending on the historical uses at the site. Sampling would extend to depths expected for excavation at a minimum. Reports of all sampling and analyses shall be provided to the Alameda County Health Care Services Agency, Department of Environmental Health and the Regional Water Quality Control Board. If remediation is necessary, it shall be conducted in accordance with agency guidance.

- If levels of hazardous substances are found to pose a threat to human health or the environment, a Site Mitigation Plan shall be prepared to address the site remediation and submitted to the Regional Water Quality Control Board and the Alameda County of Department of Environmental Health for approval. If groundwater contamination is involved, permits will be required from the Regional Water Quality Control Board for discharge of the treated waters to the Bay, or from the East Bay Municipal Utilities District and the Oakland Department of Public Works for extracted waters to be discharged to the public sewers. If soils containing hazardous materials are excavated, the Bay Area Air Quality Management District may impose specific requirements to protect ambient air quality from dust or other airborne contaminants. The Site Mitigation Plan and reports should be added to the administrative record.

This potential impact is mitigated to a level of less-than-significant by compliance with existing City policy and actions, other well-established regulations, and the following proposed policy in the Estuary Plan.

Policy OAK-15:

Require the remediation of contaminants prior to development and/or improvement of the site.

Mitigation Measure M.4: None required.

CONSTRUCTION IMPACTS - SAFETY

Impact M.5: Remediation efforts at an identified hazardous waste site could expose workers and the public to hazardous substances. This is a less-than-significant impact due to existing laws and regulations and the additional measure identified in this EIR.

If hazardous substances are encountered during construction activities, either in subsurface soils or groundwater, the contamination must be characterized before appropriate remediation measures can be designed to mitigate potential impacts to construction workers, project employees or residents, the community or the environment. Agencies may require remediation efforts to clean-up, dispose, treat, or remove from public exposure the identified contaminant. Agencies would require a site safety plan to ensure the safety of the workers and the community.

Soil remediation methods could include excavation and on-site treatment, excavation and off-site treatment and disposal, or treatment without excavation. Landfill space for hazardous waste is limited. The Resource Conservation and Recovery Act, Hazardous and Solid Waste Amendments of 1984 prohibit the land disposal of untreated wastes as of May 1990. The California Hazardous Waste Management Act of 1986 requires that hazardous wastes must be treated to adopted standards for disposal within the state.

Remediation alternatives for contaminated groundwater could include extraction and on-site treatment or extraction and off-site treatment and disposal. Discharge of treated groundwater directly to the San Francisco Bay would require a permit from the Regional Water Quality Control Board. If extracted groundwater were to be discharged to public sewers, approval must be obtained from the East Bay Municipal Utilities District and the Oakland Department of Public Works.

Excavation and dewatering of contaminated areas could directly or indirectly expose workers, the public, or the environment to potential health hazards. Routes of exposure would primarily through inhalation of vapors, fumes or contaminated dusts which could be on-site or blown off-site to the public or the environment; through dermal contact with materials that are being excavated or as they become airborne and are deposited on surrounding soil and structures; or through direct or indirect ingestion. In previously developed sites, such impacts occur primarily when the site is disturbed and soils, soil gases or groundwater contaminated with hazardous substances are exposed.

In addition, if site remediation is required due to redevelopment within Oakland, the City should comply with Assembly Bill 3193 (Polanco Bill), effective January 1, 1991. This bill modified the Health and Safety Code to add requirements applicable to site clean up actions carried out by redevelopment agencies. In accordance with the Polanco Bill, redevelopment agencies may conduct site clean-up actions with written approval from the Regional Water Quality Control Board, and if determined necessary, complete a PEA as described above. If the clean-up plan for a site is submitted to the Department of Toxic Substances Control or the Regional Water Quality Control Board, and the clean up is performed to the satisfaction of the responsible agency, redevelopment agencies can receive a liability waiver under this legislation (CalEPA, 1991).

Mitigation Measure M.5: Hazards to construction workers and the general public during demolition and construction shall be mitigated by the preparation and implementation of site-specific health and safety plans, as recommended by the Occupational Safety and Health Administration.

The health and safety plans would be prepared by a Certified Industrial Hygienist and meet the requirements of federal, state and local environmental and worker safety laws. Specific information to be provided in the plans includes identification of contaminants, potential hazards, material handling procedures, dust suppression methods, personal protection clothing

and devices, controlled access to the site, health and safety training requirements, monitoring equipment to be used during construction to verify health and safety of the workers and the public, measures to protect public health and safety, and emergency response procedures.

Impact M.5 Level of Significance After Mitigation: Less than Significant

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REFERENCES - Hazards and Hazardous Materials

California Environmental Protection Agency, Department of Toxic Substances Control, *Management Memo #91-7, Redevelopment Agencies and the Polanco Legislation*, July 29, 1991.

California Environmental Protection Agency, Department of Toxic Substances Control, *Lighting Wastes*, November 1992.

California Environmental Protection Agency, Department of Toxic Substances Control, *Preliminary Endangerment Assessment Guidance Manual*, January 1994.

City of Oakland, *Land Use and Transportation Element EIR*, January 1998.

Harte, John; Holdren, Cheryl; Schneider, Richard; and Shirley, Christine, *Toxics A to Z, A Guide to Everyday Pollution Hazards*, University of California Press, 1991.

NATEC Environmental Reporting Service, *Environmental Disclosure Reports,* April 7, 9, and 21, 1997.

N. CONSISTENCY WITH ADOPTED POLICIES AND PROGRAMS

INTRODUCTION

This section of the EIR examines the relationship of the proposed Estuary Plan with the adopted policies and plans of potentially affected federal, state, regional, and local jurisdictions. It also examines the consistency of the proposed Estuary Plan with City of Oakland plans, policies and planning programs. The analysis includes a summary of existing policies and programs, a description of the Estuary Plan's consistency with these policies and programs, and measures to mitigate any potential inconsistencies. Since there are four distinct sub-topics covered in this section, the format is similar to that used in the Public Services Section of the EIR. Setting, Impacts, and Mitigation Measures are presented sequentially for each topic.

N.1 FEDERAL POLICIES AND PLANS

SETTING

CLEAN AIR ACT

The federal Clean Air Act was adopted in 1970 and included ambient air quality standards for various pollutants. "Primary " air quality standards were created to protect public health, while "secondary" standards were created to abate nuisances that were not immediately life threatening (such as visibility reduction). Certain provisions of the Act are administered by the U.S. Environmental Protection Agency (EPA). The EPA requires every state to prepare "state implementation plans" (SIPs) that show how the federal standards will be attained.

CLEAN WATER ACT

The Federal Water Pollution Control Act (FWPCA) of 1972 and the Clean Water Act of 1977, along with various amendments, contain comprehensive provisions to "restore and maintain the chemical, physical, and biological integrity" of the nation's water resources. The Acts are administered by the EPA but their implementation also involves other federal, state, and regional agencies. Most of the responsibility for implementing the Acts has been delegated to the Regional Water Quality Control Board. The Board defines the beneficial use of Bay waters, establishes water quality and discharge standards to protect these waters, and formulates plans, implementation strategies, and control measures to enhance water quality. The Board also is responsible for enforcing water quality standards and discharge regulations. Federal clean water legislation requires municipalities to upgrade to secondary sewage treatment, establishes discharge standards for more than 125 pollutants and permit requirements for point and non-point discharges into surface water, and mandates the use of "best available technology" by private industry.

NATIONAL PERMIT DISCHARGE ELIMINATION SYSTEM (NPDES) PROGRAM

This program requires the owner or operator of any facility or activity that discharges waste into any surface water of the United States to obtain a NPDES permit. Permitting is managed by the Regional Water Quality Control Board. In Oakland, the NPDES permit is handled at the Countywide level and is implemented through a County clean water program. NPDES requirements apply to municipal stormwater discharges and also apply to construction activities on sites larger than 5 acres. A series of "Best Management Practices" must be followed to prevent water pollution from construction sites.

WETLANDS POLICIES

Various policies and programs at the federal level protect wetlands and require mitigation in the event of adverse impacts. Executive Order 11990 provides direction to minimize the destruction, loss, and degradation of wetlands, including both short-term and long-term impacts. New construction in wetlands is discouraged, unless no other practical alternative exists.

FEDERAL ENDANGERED SPECIES ACT

The Endangered Species Act was passed in 1973 to provide a process for listing species as either endangered or threatened, and to outline methods to protect listed species. The Act also identified "candidate" species that were likely to become endangered or threatened in the foreseeable future. The Act is administered by the U.S. Department of Fish and Wildlife.

SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines indicates that a project may have a significant impact if it conflicts with adopted environmental plans and goals of the community where it is located. This includes federal policies and programs guiding or regulating local land use and conservation decisions.

IMPACTS AND MITIGATION MEASURES

Impact N.1: The proposed Estuary Plan would be consistent with federal policies and programs. This would be a less-than-significant impact.

Since the Estuary Plan is a subset of the recently adopted Land Use and Transportation Element and since the Land Use and Transportation Element EIR concluded that development in the City of Oakland would be consistent with the Clean Air Act, the Clean Water Act, the NPDES Program, wetland policies, and the Federal Endangered Species Act, development that would occur under the Estuary Plan also would be consistent with federal policies and programs.

Mitigation Measure N.1: None required.

N.2 STATE POLICIES AND PLANS

SETTING

STATE CLEAN AIR ACT

In 1989, California adopted standards for air quality and set forth a schedule and program for their achievement. Provisions are administered by the California Air Resources Board (CARB). The CARB has the responsibility for developing the State Implementation Plan and controlling stationary and mobile pollution sources throughout the State. They have divided the state into air basins and regularly determine which basins do not meet ambient air quality standards.

CALIFORNIA ENDANGERED SPECIES ACT

The California Endangered Species Act was enacted in 1984 to protect rare, threatened, and endangered species in California. The Act strongly discourages State agencies from approving development that would jeopardize listed species or cause the destruction of their habitat.

CALIFORNIA DEPARTMENT OF FISH AND GAME (CDFG) POLICY

The CDFG has jurisdiction over construction activities that may result in the modification of stream channels, including the removal of riparian vegetation along streams. A Stream Alteration Permit must be obtained prior to such activity.

STATE SOLID WASTE AND HAZARDOUS MATERIAL POLICY

State policies affecting Oakland include AB 939 (the Integrated Waste Management Act), the Tanner Bill (AB 2948), the Hazardous Waste Control Act (HCWA), the Sher and Cortese Acts, and a variety of legislation related to recycling and toxic substances. AB 939 requires cities and counties in California to reduce their solid waste stream by 50 percent by the year 2000 through waste reduction and recycling. The Act required each county to prepare an Integrated Waste Management Plan, implemented through Source Reduction and Recycling Elements for each city. AB 2948 applies to new commercial off-site hazardous waste management facilities or expansions of existing facilities. It requires counties to develop Hazardous Waste Management Plans for State review and approval. The HCWA contains primary provisions governing hazardous waste management and sets requirements for the State Department of Health Services. The Sher and Cortese Acts establish regulations and standards for underground storage tanks.

SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines indicates that a project may have a significant impact if it conflicts with adopted environmental plans and goals of the community where it is located. This includes State policies and programs that guide or regulate local land use and conservation decisions.

IMPACTS AND MITIGATION MEASURES

Impact N.2: The proposed Estuary Plan would be consistent with state policies and programs. This would be a less-than-significant impact.

Since the Estuary Plan is a subset of the recently adopted Land Use and Transportation Element and since the Land Use and Transportation Element EIR concluded that development in the City of Oakland would be consistent with the State Clean Air Act, the California Endangered Species Act, CDFG policy, and State solid waste and hazardous material policy, development that would occur under the Estuary Plan also would be consistent with these State policies and programs.

Mitigation Measure N.2: None required.

N.3 REGIONAL POLICIES AND PLANS

SETTING

BAY AREA AIR QUALITY MANAGEMENT DISTRICT (BAAQMD) AIR QUALITY PLAN

The 1994 Bay Area Air Quality Plan addresses the air quality impacts of new development through transportation control measures, land use strategies, and mobile and stationary source controls. A variety of trip reduction and travel demand management measures are included. The Plan also explores ways to contain emissions from various chemical and industrial processes, including not only refineries, power plants, and the like but also such uses as gas stations and dry cleaning establishments. The Plan requires the air quality effects of various projects to be addressed through the CEQA process and establishes thresholds of significance for evaluating project-level air quality impacts. A 1997 update of the 1994 Plan has been prepared and will be released for adoption later this year. The Draft Plan will identify a number of new stationary and mobile source control measures and transportation control measures (TCMs). The proposed new TCMs promote pedestrian travel and traffic calming.

SAN FRANCISCO BAY BASIN PLAN/COUNTYWIDE CLEAN WATER PROGRAM

The 1995 San Francisco Bay Basin Water Quality Control Plan contains policies to manage urban runoff and control point and non-point source pollution within the watershed of San Francisco Bay. The 1995 Plan updated a 1986 Plan and incorporated changes and amendments made during the late 1980s and early 1990s. The Plan includes provisions for managing stormwater discharges in Oakland and other communities around the Bay through NPDES permits that are administered at the County level. The RQWCB has also developed a variety of Best Management Practice guidelines to reduce water pollution from non-point sources, including more regular street cleaning, storm drain stenciling, oil and grease separators, and pre-treatment of runoff. The Alameda County Flood Control and Water Conservation District, along

with a management team consisting of representatives from each City in the County, are administering these practices through the Alameda Countywide Clean Water Program.

BAY CONSERVATION AND DEVELOPMENT COMMISSION

Any development along the shoreline of San Francisco Bay, including the Oakland Estuary, Tidal Channel, and San Leandro Bay, must comply with the provisions of the McAteer-Petris Act. The Act was passed by voters in 1965 to protect and guide the future use of the Bay and its shoreline. The San Francisco Bay Plan, prepared pursuant to the act, addresses protection and development of the Bay, marshes, wetlands, salt ponds, and shoreline areas. The Bay Conservation and Development Commission (BCDC) was designated as the agency responsible to carry out the provisions of the Plan. Development proposals within 100 feet landward or parallel to the Bay shoreline fall under the jurisdiction of the BCDC for review and comment.

Projects falling under BCDC jurisdiction include the placement of fill, extraction of materials (including dredge spoils), and changes in land use or transportation facilities either on the water or along the shoreline. Staff evaluates projects based on a variety of criteria. Impacts on fish and wildlife habitat, air and water quality, public access, and security and safety, are documented and presented to the Commission in public hearings. The Commission then approves, modifies, or denies the project.

BCDC has land use authority over those areas identified in the Bay Plan as priority land uses. Within the Estuary Planning Area, the Ninth Avenue Terminal at the west end of the Brooklyn Basin and the Charles P. Howard Terminal west of Jack London Square are designated as "port priority" land use areas. In addition, Estuary Park, the area at East Creek Slough Point and the shoreline between East Creek Slough and Damon Slough are designated as "park priority" land use areas.

ALAMEDA COUNTY CONGESTION MANAGEMENT PROGRAM

Pursuant to State requirements (Proposition 111), Alameda County has adopted a Congestion Management Program (CMP) identifying a regional transportation network and establishing level of service standards for this network. The CMP also promotes trip reduction and travel demand management, establishes a network data base and travel model, includes a capital improvements program, and establishes a program for review of local land use decisions, including General Plan amendments. The current CMP was completed in 1995; a 1997 Draft update has been prepared and was recently released.

The CMP identifies interstate highways, and parts of 42nd Avenue, 23rd and 29th Avenues, and the Posey/Webster tubes as components of the designated Countywide road system. This system is further supplemented by roads designated by MTC as critical to the movement of people and freight (Oakland roads in the latter system include Fruitvale Avenue, Broadway, and High Street.

ASSOCIATION OF BAY AREA GOVERNMENTS (ABAG) REGIONAL PLANS AND POLICIES

ABAG prepared a Regional Plan in 1980 identifying housing and economic development policies and guidelines for regional growth. The Plan emphasized the importance of maintaining a supply of affordable housing in accordance with regional needs, promoting infill development, and balancing job and housing growth within the region. The Plan has not been comprehensively updated since 1980. In 1990, ABAG adopted a "Proposed Land Use Policy Framework for the San Francisco Bay Area." The framework emphasizes a city-centered concept of urban development with growth guided into existing communities as a means of preserving open space. ABAG also prepared an Environmental Management Plan in the 1980s to address problems of air and water quality, water supply, solid waste, and other issues that cross jurisdictional boundaries in the Bay Area. Finally, ABAG prepared the Regional Housing Needs Plan in 1989, assigning housing needs by income level to each jurisdiction in the Bay Area. The housing needs allocations are the basis for local governments' Housing Elements.

SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines indicates that a project may have a significant impact if it conflicts with adopted environmental plans and goals of the community where it is located. This includes regional policies and programs that guide or regulate local land use and conservation decisions.

IMPACTS AND MITIGATION MEASURES

Impact N.3: The proposed Estuary Plan would be consistent with regional policies and programs except for the Clean Air Plan and the Priority Use Areas of the Bay Plan. This would be a significant impact.

Since the Estuary Plan is a subset of the recently adopted Land Use and Transportation Element and since the Land Use and Transportation Element EIR concluded that development in the City of Oakland would be consistent with the San Francisco Bay Basin Plan/Countywide Clean Water Program, the policies of the Bay Conservation and Development Commission, the Alameda County Congestion Management Program, and ABAG regional plans and policies, development that would occur under the Estuary Plan also would be consistent with these regional policies and programs.

The proposed Estuary Plan is generally consistent with the regional air quality plan and incorporates many of the transportation control measures and land use strategies identified in the Plan. However, as identified in the Land Use and Transportation Element EIR, the Estuary Plan would contribute to the higher levels of population and employment for Oakland than were assumed in the air quality plan's projections. Any potential adverse effects associated with the higher projections should be balanced by the positive impacts of a more concentrated, transit-

oriented growth pattern in Oakland . The Estuary Plan emphasizes a development pattern that is less dependent on single occupant vehicles than the current land use pattern.

Since the Clean Air Plan (CAP) is based on ABAG population projections, an exceedance of ABAG projections is also an exceedance of the population values used in the CAP. If population growth is greater than assumed in the CAP emission inventory, then population-based emissions also are likely to be greater than assumed in the CAP. Consequently, attainment of the State air quality standards would be delayed. Therefore, the proposed Estuary Plan would not be consistent with air quality planning.

The following measure was recently adopted as a General Plan policy as part of the Land Use and Circulation Element update process, and this policy would help to further reduce potential regional and local air quality emissions:

- To the extent permitted by law, large new development within the Estuary Planning Area shall be required to implement Transportation Control Measures (TCMs) as recommended by the Bay Area Air Quality Management District.

With respect to the Bay Plan, development under the Estuary Plan would not be consistent with the "port priority" land use areas at the existing Ninth Avenue terminal. The Estuary Plan envisions the demolition of the Ninth Avenue Terminal and the development of waterfront commercial recreational and park uses at this location. Therefore, proposed uses designated in the Estuary Plan are not consistent with the Bay Plan's designation for port-related activities.

Mitigation Measure N.3: No additional measures beyond those already included in the OSCAR Element and the Land Use and Transportation Element are feasible.

Impact N.3 Level of Significance After Mitigation: Significant and Unavoidable.

Since the Clean Air Plan (CAP) is based on ABAG population projections, an exceedance of ABAG projections is also an exceedance of the population values used in the CAP. If population growth is greater than assumed in the CAP emission inventory, then population-based emissions also are likely to be greater than assumed in the CAP. Consequently, attainment of the State air quality standards would be delayed. Therefore, the proposed Estuary Plan as part of the General Plan would not be consistent with air quality planning and would have a significant air quality impact.

Other than revisions to the Estuary Plan, no mitigation measures are available to address the inconsistency with the port priority uses of the Bay Plan.

N.4 ADJOINING JURISDICTIONS

SETTING

CITY OF ALAMEDA GENERAL PLAN

Alameda's General Plan was adopted in 1990. The Plan anticipates construction of more than 3,100 housing units by 2010 and addition of 18,600 new jobs by 2005, mostly on Bay Farm Island (additional employment growth could occur as the Naval Air Station is re-used, but this is not reflected in the Plan). To accommodate the increased level of development on the island, the General Plan proposes a number of transportation improvements, including a 66th Avenue crossing of San Leandro Bay and a Cross-Airport roadway. Re-use plans for the Naval Air Station have also raised the possibility of new connections to Oakland on the western end of the island. The Plan's land use policies encourage mixed use development and expanded commercial and recreational opportunities along the waterfront facing Oakland.

SIGNIFICANCE CRITERIA

Appendix G of the CEQA Guidelines indicates that a project may have a significant impact if it conflicts with adopted environmental plans and goals of the community where it is located. This could include the policies and programs of adjoining jurisdictions that influence local land use and conservation decisions.

IMPACTS AND MITIGATION MEASURES

Impact N.4: The proposed Estuary Plan would be consistent with the policies and programs of adjacent jurisdictions. This would be a less-than-significant impact.

The proposed Estuary Plan is generally consistent with Alameda's General Plan, although there are potential areas of conflict at 66th Avenue. The Estuary Plan does not indicate a future crossing at this location, and Oakland has generally opposed a bridge here due to its impacts on San Leandro Bay.

As with the recently adopted Land Use and Transportation Element, the proposed Estuary Plan identifies the need for close coordination with Alameda in the improvement of transportation between the two cities, with particular focus on improving the Webster/ Posey Tubes and providing access to the future uses at the former Naval Air Station. Proposed land use designations along the Estuary are consistent with designations on the Alameda side; the transition from industrial to mixed uses along the Oakland shoreline could reduce some of the land use conflicts (particularly noise and aesthetics) associated with the residential uses on the Alameda shore.

Mitigation Measure N.4: None required.

CHAPTER IV
ALTERNATIVES ANALYSIS

INTRODUCTION

Section 15126 (d) of the California Environmental Quality Act requires that every EIR contain an evaluation of alternatives to a proposed project. Each alternative should be capable of achieving the objectives of the project. The range may be limited to those necessary to permit a reasoned choice. The merits of each alternative must be assessed and an explanation as to why each was rejected must be provided. If the project has significant adverse effects, this usually means that an alternative which is "environmentally superior" to the project must be addressed. A "no project" alternative also must be analyzed. In the case of the Estuary Plan update, the "no project" alternative is interpreted as retaining the existing Land Use and Transportation Element of the General Plan.

DESCRIPTION OF ALTERNATIVES

The draft Estuary Plan is the result of a two-year participatory planning process that included the active participation of the Estuary Plan Advisory Committee and a large number of interested businesses, residents and interest groups. During the course of the two-year planning effort, several alternative visions were proposed for different subareas of the Estuary by the consultant team, the City and Port staff, and interested parties and residents of the area. Many of these visions were incorporated into the final draft Estuary Plan and many ideas and visions were rejected during the course of the public planning process and through the discussions and advise of the Estuary Plan Advisory Committee. For example, the advisory groups and interested parties discussed ideas and plans for an enlarged sailing basin at the mouth of Lake Merrit Channel which was eventually rejected as too environmentally problematic due to the large amounts of fill needed and the major reconfiguration of the shoreline that would be introduced; a plan for a Pan Pacific Exposition and major reconfiguration of the Oak to Ninth Avenue area was considered, discussed and rejected due to the impacts on existing residents and businesses in the area; proposals for the redevelopment of the Oakland Produce Market area with new modern buildings for office and residential uses were rejected over concerns about the impacts on the historic character of the area. For the purposes of this environmental analysis of the Estuary Plan pursuant to CEQA, two alternatives to the proposed action to adopt the draft Estuary Plan are considered: a No Project Alternative and an Environmentally Superior Alternative.

The first alternative to be analyzed is the "No Project Alternative". Under the No Project Alternative the City would not adopt the draft Estuary Plan. The existing Waterfront Mixed Use land use classification for the area that is included in the Land Use and Transportation Element of the General Plan, the existing City zoning regulations, the existing Port of Oakland development standards, and existing City and Port practices would remain in effect.

The second alternative to be examined is the "Environmentally Superior Alternative." In this alternative the City would adopt an adjusted version of the draft Estuary Plan in which certain strategies within the draft Estuary Plan are altered to reduce the potential environmental impacts that are identified in the proceeding chapters of this report.

The proposed Estuary Plan and the two alternatives are described below:

PROPOSED ESTUARY PLAN

The Estuary Plan is intended to guide growth and development of the Estuary Area through the year 2015. The Plan addresses the General Plan Land Use and Transportation Element policies for the Estuary Planning Area and provides more specific guidance for the Waterfront Mixed Use area indicated on the Land Use and Transportation Diagram contained in the Land Use and Transportation Element. The basic premise of the Estuary Plan is that the Estuary is a resource of citywide and regional significance. The Estuary Plan is designed to ensure that City and Port decisions are coordinated and follow a plan for the future of the Estuary Planning Area.

Outcomes of the Estuary Plan would include the following:

1. A coordinated system of open spaces that provides the opportunity for recreational use, fosters environmental enhancement and interpretive experiences, becomes a visual amenity, and establishes significant gathering places.

2. Land uses that strengthen Oakland's position as an urban center and accommodate growth and development that complements the downtown and adjacent neighborhoods. The Estuary Plan proposes the preservation of industrial areas, which are necessary to support Oakland's port, as well as its role in food processing, manufacturing and distribution. The Estuary Plan reinforces the Jack London District for a mixture of retail, dining, entertainment and visitor-serving uses oriented to significant gathering places and public access areas along the water. In addition, the emerging trend toward loft-type residential and off-price retail establishments in the Jack London District is encouraged to continue.

3. The transformation of the area from the Lake Merritt Channel to the Ninth Avenue Terminal into a mix of artisan work/live lofts, and hotel, cultural and commercial-recreational uses that will complement the planned open spaces and parks along the water. Within a mixed-use context, the Estuary Plan strengthens the livability of existing and future residential development within the Kennedy Tract, and creates new opportunities for small-scale office, business and commercial establishments.

4. Significant improvements to the transportation system, to improve both regional and local access. The proposed circulation system is aimed at reducing the barrier effect of the freeway by clarifying on and off ramps and by improving local vehicular access to inland areas. The Estuary Plan calls for the creation of a continuous landscaped recreational parkway, accommodating pedestrians and bicycles as well as transit and vehicular access along the entire five-and-a-half-mile length of waterfront, from 66th Avenue to the Jack London District to link the diverse parts of the Estuary shoreline.

5. A coordinated implementation strategy that includes regulatory, institutional and financing policies that will guide conservation and development of the Estuary Planning Area over the next 20 years.

NO PROJECT ALTERNATIVE

Description

This alternative presumes that the existing Waterfront Mixed Use District Land Use designation, existing Land Use and Transportation Element Policies, and existing City zoning and Port development standards would remain in effect.

Under this alternative, the General Plan projections for the Estuary Planning Area would be presumed to be accurate. The total number of households projected would be reduced to 2,379 from 2,507 and the total number of jobs would be increased from 15,330 to 16,865. The development of the Estuary would result from unrelated individual decisions made by the City staff, Port staff, City Planning Commission, Port Board of Commissioners, and the City Council over the 20 year period.

Environmental Impacts

The environmental impacts of the No Project Alternative relative to the proposed project are summarized as follows:

- Land use impacts, including compatibility problems, would be more significant if this alternative was selected since it does not consider the changing land use mix of many Oakland neighborhoods and the emergence of live-work and other forms of housing. Existing conflicts would persist, with no pro-active solution to address them.

- Transportation impacts associated with the No Project Alternative would be the same as those described in the Land Use and Transportation Element EIR. The lower level of population and housing growth would generate fewer trips. However, the No Project Alternative has more employees, which would generate more vehicle trips than the proposed project. In addition, the No Project Alternative does not include transportation improvements in the Estuary Planning Area that would reduce traffic and circulation impacts.

- Population and housing impacts, would be less since the number of housing units would be less. However, the number of jobs under this alternative would be greater. This alternative would result in a slightly more favorable jobs-housing balance in Oakland.

- The No Project Alternative would have a lesser impact on most public services than the proposed project because it anticipates less housing growth.

- Air quality impacts under the No Project Alternative would be similar to those described for the Estuary Plan since the overall trip generation would not be significantly different. This alternative also would not be consistent with the population and VMT assumptions used in regional air quality planning.

- The impacts on visual resources would be similar to those described for the Estuary Plan. The No Project Alternative would tend to have a lesser impact within the "change areas" since it does not designate specific types of redevelopment.

- The No Project Alternative would not result in the loss of the Ninth Avenue Terminal, which is eligible for listing on the National Register of Historic Places.

- Impacts on biotic resources would be less with the No Project Alternative since no pier construction would occur.

- Impacts on water quality would be similar under the No Project Alternative. The continued emphasis on manufacturing along the waterfront in the No Project Alternative could cause localized water quality problems.

- In some regards, the No Project Alternative would use less energy than the Estuary Plan and in other regards, it would use more. The lower level of residential growth anticipated by the No Project Alternative suggests less gas and electricity would be consumed. Conversely, the greater number of jobs suggests that more gasoline would be used.

- Geologic impacts would be similar under the No Project Alternative since redevelopment on filled soils also would occur.

- Compared to the Estuary Plan, noise impacts would be less if the No Project Alternative was selected, since the lower level of development would generate less traffic.

- Compared to the Estuary Plan, hazardous material impacts would be less if the No Project Alternative was selected since it does not encourage as much redevelopment of the waterfront.

Reasons for Rejecting This Alternative

The No Project Alternative is rejected for the following reasons:

- The No Project Alternative would be in conflict with the desires of the community. The community as represented by the Oakland City Council, the Port Board of Commissioners, the Oakland Planning Commission, the League of Women Voters, the Oakland General Plan Congress and the Waterfront Coalition have consistently and regularly recommended, advised and directed that a plan for the Estuary Area be prepared and adopted to replace and consolidate the existing collection of City and Port regulations, restrictions, policies and plans.

- The No Project Alternative would inhibit the community's ability to realize the full benefits of the waterfront. The draft Estuary Plan is the product of two years of intensive

community based planning for the Estuary Planning Area that is based upon the premise that adoption of a coordinated community based plan for the Estuary Planning Area is the best way to ensure that the local and regional community realizes the full potential and benefits of the waterfront.

- The No Project Alternative would inhibit the community's ability to improve access to and from the Estuary Planning Area and improve and expand waterfront parks in the area. The No Project Alternative would eliminate the recommendations in the Estuary Plan to prioritize certain important circulations and park improvements in the Estuary Planning Area. The elimination of these recommendations could result in the further degradation of the transportation system in the Estuary Planning Area, the worsening of traffic impacts, and the loss or degradation of existing park and open spaces in the Estuary Planning Area.

- The No Project Alternative would eliminate the proposed height and view corridor recommendations in the Estuary Plan, which could result in the construction of buildings that could cumulatively degrade the visual and aesthetic quality of the area's environment.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Description

The Environmentally Superior alternative is an adjusted version of the draft Estuary Plan in which specific strategies within the draft Estuary Plan are altered with the specific intent of reducing the environmental impacts identified for the draft Estuary Plan in the proceeding chapters of this report.

Under this alternative the draft Estuary Plan would be amended as follows:

1. The proposed parking garages in the Jack London District would be deleted to reduce the potential for traffic and related air quality impacts from increased auto trips to and from the area.

2. The proposed commercial, hotel and conference center and Work/Live lofts would be deleted from the Oak to 9th Illustrative Plan and the entire area would be maintained with existing uses and open space to reduce the potential for traffic and related air quality impacts. The Ninth Avenue Terminal would be preserved.

3. The proposed extension of the Embarcadero Parkway through the San Antonio/Fruitvale area would be deleted to reduce the potential traffic and air quality impacts from increased traffic in the area.

4. The proposed expansion of the park areas on the Lake Merritt channel and the construction of passive recreation piers at Broadway and at the Lake Merritt Channel would be deleted to reduce potential impacts to wildlife and aquatic resources.

5. Existing warehousing and port related activities and facilities such as the Ninth Avenue Terminal and the Charles P. Howard Terminal west of Jack London Square would be maintained as terminals to maintain consistency with other plans, such as the

San Francisco Bay Plan, which identifies the Ninth Avenue Terminal as a "Port Priority Use" area.

Environmental Impacts

The impacts of this alternative relative to the Proposed Element are described below:

- Land use changes under this alternative would be less substantial than those described for the draft Estuary Plan, since less development would occur.
- Population, housing, and employment impacts under this alternative would be less than those described for the draft Estuary Plan, since fewer jobs and households would be added. Indirect adverse housing impacts could occur as the cost of mitigation was passed on to home buyers and renters in the form of higher prices.
- Public service impacts under this alternative would be less than those of the Estuary Plan because there would be fewer housing units.
- Visual, biotic, geologic, and water quality impacts under this alternative would be less intensive compared to those described for the draft Estuary Plan, since less development would occur and no pier construction would occur.
- Cultural resource impacts under this alternative would be reduced compared to those of the draft Estuary Plan, because of the preservation of the Terminal Building.
- The impacts on transportation, energy, and air quality would be less substantial than those for the draft Estuary Plan, since the amount of development accommodated would be smaller. However, the result could be adverse if development simply went elsewhere in the region. Longer trip lengths would result.
- Hazardous material impacts would be less under this alternative compared to the Proposed Element since there is the possibility for fewer disturbances of contaminated sites. On the other hand, in the absence of development there would be no incentive to clean-up contaminated sites, and a larger number might remain by the Plan's horizon year.

Reasons for Rejecting This Alternative

The "Environmentally Superior Alternative" is rejected for the following reasons:

- The proposed parking garages in the Jack London District are necessary to support the mix of uses proposed for the area and to create a pedestrian-oriented mixed use district. Construction of the a few strategically placed public garages in the area will encourage uses to park their car once and walk throughout the area to movies, parks, stores and restaurants. Without the garages, each use will be required to provide its own small parking facilities which will cause visitors to the area to move their cars from parking lot to parking lot. Removal of the parking garage proposals from the plan would reduce the feasibility of many of the proposed uses and result in more cars moving through and around the area.

- The proposed commercial, hotel and conference center and Work/Live lofts are necessary to support the large investments proposed for expansion of park space and road improvements planed for the area. Elimination of the commercial enterprises would result limit the City and Port's ability to finance the other public improvements for the area, which will also include would be deleted from the Oak to 9th Illustrative Plan and the entire area would be maintained with existing uses and open space to reduce the potential for traffic and related air quality impacts.

- The proposed extension of Embarcadero Parkway will provide opportunities for bicyclists, pedestrians, and people in automobiles to enjoy the variety of open spaces and recreational opportunities within the Estuary Area without having to continuously cross back and forth across the I-880 freeway. The addition of this new parkway, which is planned as a landscaped "slow street" to encourage bicyclists and pedestrians and discourage high speed "through" traffic or freeway bypass traffic will increase public appreciation of the waterfront, increase public access and use of public open spaces and facilitate redevelopment of these properties to uses consistent with the Plan.

- The proposed piers will provide important opportunities for members of the public and experience the estuary environment and literally walk out onto the water. Similar piers such as the Berkeley Pier provide opportunities for people of all income groups to enjoy the Bay and be on the Bay. These piers provide opportunities for people to be exposed to seal life, birds and boats, and sea breezes that are not as easily experienced from land side parks.

- Redevelopment of historic terminals and port related structures for public uses and activities increases opportunities for the public to experience and enjoy the estuary and the waters edge.

CHAPTER V
IMPACT OVERVIEW

SIGNIFICANT ENVIRONMENTAL EFFECTS THAT CANNOT BE AVOIDED IF THE PROPOSED PROJECT IS IMPLEMENTED

According to CEQA Guidelines Section 15126(b), an EIR should contain a discussion of significant environmental effects that cannot be mitigated to a level of insignificance if the proposed project is implemented. This discussion should include a description of the implications related to each impact and why the project is being proposed.

Implementation of the Oakland Estuary Plan may result in unavoidable significant or potentially significant environmental effects in the following areas:

- transportation;
- air quality;
- cultural and historic resources; and
- policy consistency.

TRANSPORTATION

Development pursuant to the Estuary Plan would result in degradation of level of service on one arterial roadway link. In 2015, traffic that would be generated by land uses anticipated to develop under the proposed Estuary Plan would result in poor service levels along the Embarcadero from Oak Street to 5th Avenue during the AM and PM peak hours.

Although mitigation has been identified for this arterial roadway, there is no certainty that these improvements will be made due to the uncertainty of the availability of state and federal road improvement funds. In the interest of a conservative assessment of environmental impacts, this impact is considered significant and unavoidable.

AIR QUALITY

The projected total population resulting from the implementation of the Estuary Plan may contribute to Oakland's exceedance of ABAG's 2015 population projection. Since the Clean Air Plan (CAP) is based on ABAG population projections, an exceedance of ABAG projections also is an exceedance of the population values used in the CAP. With a greater population projection under the Estuary Plan, the population-based emissions would be greater than that assumed in

the CAP. Consequently, attainment of State air quality standards would be delayed. Therefore, the Estuary Plan is not consistent with regional air quality planning.

CULTURAL AND HISTORIC RESOURCES

Implementation of the Estuary Plan would result in the creation of an eleven-acre "Crescent Park" at the site of the Ninth Avenue Terminal, which would result in the demolition of the Ninth Avenue Terminal. This building is rated "B+" by the Oakland Cultural Heritage Survey and has been determined eligible for the National Register of Historic Places. Therefore, the proposed project would result in the loss of this historic resource

CONSISTENCY WITH ADOPTED PLANS AND POLICIES

The Estuary Plan is not consistent with regional air quality planning (Clean Air Plan) since the population projections under the proposed Element exceed the ABAG population projections. In addition, the Estuary Plan is not consistent with the Port Priority Use designated for the Ninth Avenue Terminal in the Bay Plan.

SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES WHICH WOULD BE INVOLVED IF THE PROPOSED ACTION IS IMPLEMENTED

Development facilitated by the Estuary Plan would require an irreversible commitment of material or natural resources for building construction, such as wood, metal, petroleum, and stone. It would result in the irretrievable commitment of energy and water to support planned land uses. Development permitted by the Estuary Plan would result in changes to traffic flow patterns and impacts to circulation. Additional vehicle trips due to implementation of the Estuary Plan would contribute to future cumulative air quality impacts from increases in nitrogen dioxides and particulate matter.

GROWTH-INDUCING IMPACTS

Section 21100(g) of CEQA requires that an EIR assess the growth-inducing impacts of a proposed project. According to the CEQA Guidelines, the discussion should focus on the "ways in which the proposed project could foster economic or population growth, or the construction of additional housing either directly or indirectly, in the surrounding environment."

As mentioned throughout this EIR, adoption of the Estuary Plan would induce higher levels of population and housing growth than are forecast by Association of Bay Area Governments (ABAG). The Estuary Plan would serve to facilitate redevelopment along the waterfront and the adoption of "mixed use categories" and application of these categories within the Estuary Planning Area will provide greater flexibility for the private sector and could thereby induce development. Adoption of policies which aggressively court private investment in Oakland and state a clear commitment to waterfront revitalization could directly induce growth in these areas.

The growth that would occur in the Estuary Planning Area would be in an area that is already urbanized and the infrastructure that serves the area is largely viewed as underutilized. Some local street improvement and infrastructure (water, sewer, storm drain) replacement would be undertaken in the Estuary Planning Area, and investment in street trees and landscaping could serve to induce additional growth. This would be considered a desirable outcome of the Estuary Plan, and is fully consistent with its objectives.

Many of the transportation improvements envisioned by the Estuary Plan would be growth-inducing; that is, the construction of any of the transportation improvements described in the Estuary Plan along the waterfront could induce growth in the Estuary Planning Area.

Secondary impacts associated with higher population and employment growth could result. It is conceivable that less growth could occur in Emeryville, Berkeley, San Leandro, and other nearby communities as Oakland captures a larger share of the region's growth. Similarly, a faster growth rate in Oakland could also have "spillover" effects into neighboring communities.

Increased employment and shopping opportunities in Oakland and increased recognition of the waterfront as a recreational attraction and tourist amenity could increase Oakland's appeal to visitors. This could further attract new residents to the area, and could increase traffic in and around the Estuary Planning Area. Attendant increases in the demand for City services could result.

CUMULATIVE EFFECTS

Section 15130 of the CEQA Guidelines requires the EIR to discuss significant cumulative impacts associated with the project. These include impacts that would result from the project when considered in conjunction with other projects already occurring or planned in the vicinity. In Oakland, most cumulative impacts would be related to increases in traffic and the overall efficiency of the transportation system. As individual projects are proposed in Oakland, the City should remain cognizant of their impacts on adjacent cities and counties. Likewise, as development is proposed in adjacent jurisdictions, Oakland should remain apprised of potential impacts on its own environment and its ability to implement its General Plan.

According to the CEQA Guidelines, an analysis of cumulative impacts requires a list of past, present, and anticipated projects, or a summary of projections contained in an adopted general plan or related planning document which is designed to evaluate regional conditions. The analysis in this EIR is based on growth projections for the City of Oakland derived from the Estuary Plan, as well as ABAG projections of growth for other East Bay and Bay Area communities. In this regard, the entire analysis is cumulative, in that no one specific project is analyzed in detail. Thus, cumulative impacts been considered throughout this EIR and are summarized below.

LAND USE

Cumulative land use impacts of the Estuary Plan would be limited, since the Estuary Plan emphasizes infill and redevelopment of already urbanized land, rather than development of open space or farmland. When viewed in a regional context, the cumulative land use impacts would be positive. By encouraging a more compact, transit-oriented development pattern, and by focusing development on underutilized land, less land would be required for urban development within the Bay Area. The Estuary Plan furthers the General Plan's contribution to regional efforts to promote "sustainable" development and is generally consistent with the general plans of neighboring communities in its emphasis on revitalization, transit-oriented development, and conservation of open space.

TRANSPORTATION

Increased population and employment in the Estuary Planning Area would contribute to traffic volumes on local and regional roadways and would contribute to degradation of levels of service on roadway segments and at key intersections. The development contemplated under the Estuary Plan primarily would be urban infill and would, in general, generate relatively less vehicle traffic and relatively greater use of transit and other alternative travel means than would comparable development in less dense regions of the Bay Area. Nevertheless, the higher-intensity land use that would occur under the Estuary Plan would contribute to increased traffic congestion and delay.

POPULATION, HOUSING, AND EMPLOYMENT

Given that the number of housing units and the number of jobs projected under the Estuary Plan would not be significantly different than the number of housing units and number of jobs under the Land Use and Transportation Element, the contribution of the Estuary Plan to cumulative housing and employment impacts would be the same as that described in the Land Use and Transportation Element EIR.

PUBLIC SERVICES

Growth in the Estuary Planning Area represents a portion of the growth anticipated within the East Bay Municipal Utility District (EBMUD) water and sewer service area and the Alameda County Waste Management Authority solid waste service area. Oakland's plans to add jobs and housing must be considered in the context of other communities' plans within these service areas. The impact of the proposed Element and other plans would be cumulatively significant if they presented population and employment forecasts that were greater than EBMUD's or Alameda County's projected capacity. Based on the analysis contained in the EIR text, this does not appear to the case. However, water conservation and solid waste recycling are essential if projected service demand is to be met.

Other services analyzed in the EIR, including drainage, police, fire, schools, libraries, and parks are provided at the local level. Cumulative impacts could result if, in addition to the Estuary Plan, other plans and programs draw an increasing number of residents, workers, and visitors to Oakland. Mitigation measures for such plans and programs would need to consider the projections established by this EIR and determine whether they fall within the assumed increment of growth.

AIR QUALITY

Because of the increase in the number of vehicle trips expected as a result of development under the Estuary Plan, the amount of vehicular emissions of criteria air pollutants also would increase. In conjunction with other development in the Bay Area, development pursuant to the Estuary Plan would contribute to increases in criteria air pollutants within the air basin. This could impede attainment of state and federal air quality standards. This is considered to be a significant impact of the Estuary Plan.

VISUAL AND AESTHETIC CONDITIONS

The cumulative impact of the Estuary Plan and other plans would be that the Estuary Planning Area would be visually perceived as a more urban place. Its waterfront would be more visually distinctive and its gateways would be more memorable. With high-density development, its corridors would take on a visual character that would more clearly distinguish Oakland from other cities in the East Bay. Even with these changes, because Oakland is largely built out, the changes in visual quality would be incremental. Because the Estuary Plan does not proposed urbanization of large open space areas, there would not be cumulative impacts associated with urban sprawl. The impacts would be related to increasing density rather than urbanization of open land.

CULTURAL AND HISTORIC RESOURCES

Impacts to historic and archaeological resources are occurring throughout the region and would continue to occur as long as growth and redevelopment occur within the Bay Area. Oakland contains a large share of the region's historic resources, and the loss of these resources could be regarded as significant within a regional as well as local context. The City's plans and policies emphasize the preservation and restoration of historic resources.

VEGETATION AND WILDLIFE

Development consistent with the Estuary Plan would occur concurrently with development throughout the Bay Area. The cumulative effect of this development on vegetation and wildlife would be to reduce the amount of habitat and increase the potential for the loss of rare, threatened, and endangered species. Because Oakland is already substantially built out, the City's contribution to regional effects on vegetation and wildlife would be relatively small.

HYDROLOGY AND WATER QUALITY

Water quality impacts can be regional in nature, particularly concerning water quality of San Francisco Bay and other "receiving" waters that receive storm water runoff. Runoff from Oakland would contribute to effects on the Bay.

ENERGY

Implementation of the Estuary Plan would contribute to the cumulative use of energy in the Bay Area and the depletion of non-renewable resources. Although the patterns of development encouraged by the Estuary Plan are relatively energy-efficient, compared to suburban development that is less well-served by transit, population and employment growth will inevitably result in larger amounts of overall energy consumed.

GEOLOGY AND SEISMICITY

Geologic concerns are largely site- or area-specific. The primary regional effect would be the increased population (both resident and employee) that would be subject to earthquake hazards, particularly those associated with the Hayward Fault. Regional growth, with or without implementation of the Estuary Plan, will continue to increase the number of persons in the Bay Area who could be subject to earthquake-induced property damage, injury, and death.

NOISE

Urban noise effects are generally relatively localized, resulting from traffic and from particular land uses, such as industrial facilities. Development that would occur under the Estuary Plan would increase traffic noise on key roadways within Oakland, and would contribute, albeit in a relatively incremental manner, to vehicle noise on regional roadways and freeways.

HAZARDOUS MATERIALS

Enhanced business activity under the Estuary Plan could increase both the use and disposal of hazardous materials. This would incrementally increase potential for accidental exposure, and would also incrementally increase demand for disposal sites, particularly for construction debris such as asbestos-containing materials.

EFFECTS FOUND NOT TO BE SIGNIFICANT

The following impacts were determined to be less than significant, based on the analysis contained in this EIR. The chapters referenced below provide the reasons and discuss the determination:

- Supplement the new "Waterfront Mixed Use" General Plan designation with more specific and prescriptive designations along the Oakland shoreline (A.1);

- Create new waterfront neighborhoods along the Oakland shoreline (A.2);
- Potential displacement of non-conforming land uses (A.3);
- Mixed use development could create a greater likelihood for conflicting uses within projects or between projects and adjacent uses (A.4);
- Intensify activities along the Oakland shoreline affecting land uses on the opposite shores in Alameda and Coast Guard Island (A.5);
- Future transportation improvements could have land use impacts (A.6);
- Development under the Estuary Plan would increase transit demand (B.2);
- Development under the Estuary Plan would result in a higher number of households than are projected by ABAG (C.1);
- Fewer jobs would be created under the Estuary Plan (C.2);
- Development under the Estuary Plan would increase the demand for water in Oakland (D.1-1);
- Localized improvements to the water delivery system would be required (D.1-2);
- Implementation of the Estuary Plan would increase flows to the wastewater treatment plant (D.2-1);
- Localized improvements to the sewage collection system would be required (D.2-2);
- Development could cause the relocation of the San Antonio Creek WWTP and limit EBMUD's ability to expand its pipe storage center (D.2-3);
- Implementation of the Estuary Plan would result in a slight increase in impervious surfaces (D.3-1);
- Development consistent with the Estuary Plan would increase the demand for solid waste services (D.4-1);
- Development consistent with the Estuary Plan would increase the demand for police services (D.5-1);
- Development consistent with the Estuary Plan would increase the demand for fire services (D.6-1);
- Development consistent with the Estuary Plan would increase the demand for school services (D.7-1);
- Development consistent with the Estuary Plan would increase the demand for library services (D.8-1);
- Development consistent with the Estuary Plant would increase the demand for park and recreation services (D.9-1);

- Development of the Embarcadero Parkway could result in impacts on adjacent park areas (D.9-2);
- Implementation of the Estuary Plan would be consistent with *Clean Air Plan* Transportation Control Measures (E.2);
- Implementation of the Estuary Plan would result in traffic increases along roadways in the City which could result in localized air quality impacts (E.3);
- Residential uses in the Estuary Planning Area could be exposed to odor nuisances (E.4);
- The Estuary Plan allows development that could alter existing scenic resources (F.1);
- Development facilitated by the Estuary Plan could affect paleontologic resources (G.1);
- Excavation within the Estuary Planning Area could unearth archaeological resources (G.2);
- Historic resources within the Estuary Planning Area could be removed or demolished (G.3);
- The Estuary Plan could result in development that has an indirect affect on historic buildings (G.4);
- Live-work development encouraged by the Estuary Plan could affect historic structures (G.5);
- Development consistent with the Estuary Plan could damage or remove potential habitat for special status animal species (H.1);
- Development consistent with the Estuary Plan could result in greater levels of noise, traffic, lighting, urban runoff, and human activity on lands adjacent to areas that have wildlife habitat (H.2);
- Development consistent with the Estuary Plan could damage or remove potential habitat for special status plant and animal species as well as mature trees (H.3);
- Construction of a pier could result in an increase in suspended sediments (H.4);
- The Estuary Plan would result in increased development activity, which could result in water quality impacts during construction (I.1);
- The Estuary Plan would result in a long-term increase in waterfront and water-oriented uses that could affect the quality of stormwater runoff (I.2);
- The Estuary Plan would result in an increase in open space areas (I.3);
- Development consistent with the Estuary Plan would result in a marginal increase in energy consumption (J.1);
- Existing soil conditions at various locations throughout the Estuary Planning Area could cause structural damage to new and existing buildings unless properly constructed (K.1);

- Development consistent with the Estuary Plan would occur in areas subject to geologic hazards including steep slopes, high erosion potential, and landsliding and mudsliding (K.2);
- Implementation of the Estuary Plan would increase noise levels along streets in the Estuary Planning Area (L.1);
- Development under the Estuary Plan could result in noise compatibility problems for residential uses (L.2);
- Parks and open space within the Estuary Planning Area could be exposed to major noise sources (L.3);
- Future transportation improvement projects within the Estuary Planning Area could result in noise compatibility problems with sensitive receptors (L.4);
- Proposed land use changes include a change to mixed uses that would allow housing as well as commercial operations that may use hazardous materials (M.1);
- Development under the Estuary Plan could result in an increase in the quantities of hazardous substances used, stored, and transported (M.2);
- The Estuary Plan would increase the potential for demolition and renovation activities of buildings that could contain hazardous building materials and demolition or renovation could result in exposure to hazardous building materials, such as asbestos, lead, mercury or PCBs, with associated public health concerns (M.3);
- The Estuary Plan could result in construction activities that encounter contaminated soil or groundwater (M.4);
- Remediation efforts within the Estuary Planning Area could expose workers and the public to hazardous substances (M.5);
- The Estuary Plan would be consistent with federal policies and programs (O.1);
- The Estuary Plan would be consistent with state policies and programs (O.2); and
- The Estuary Plan would be consistent with policies and programs of adjoining jurisdictions (O.4).

CHAPTER VI
REPORT PREPARERS

EIR PREPARERS

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Ellen Greenberg

APPENDIX A

NOTICE OF PREPARATION

CITY OF OAKLAND

1330 BROADWAY, 3RD FLOOR • OAKLAND, CALIFORNIA 94612

Community and Economic Development Agency
Strategic Planning

(510) 238-3941
FAX (510) 238-6538
TDD (510) 839-6451

NOTICE OF PREPARATION OF DRAFT ENVIRONMENTAL IMPACT REPORT

The Oakland Community and Economic Development Agency (CEDA) is preparing a Environmental Impact Report (EIR) for the project identified below. The City of Oakland is the Lead Agency for this project. We are sending this notice to Responsible Agencies and other interested parties. Responsible Agencies are those public agencies, besides the City of Oakland, that also have a role in approving or carrying out the project. Responsible Agencies will need to use the EIR that we prepare when considering approvals related to the project Due to the time limits mandated by State law, your response must be sent at the earliest possible date but not later than 30 days after receipt of this notice. Your response, and any questions or comments, should be directed to Andrew Thomas, Strategic Planning, 1330 Broadway, 3nd Flr, Oakland, CA 94612, telephone 510-238-2129.

PROJECT TITLE: Oakland Estuary Plan
LOCATION: The Estuary Plan addresses the waterfront area from Martin Luther King Jr. Way to 66th Avenue between I-880 and water's edge.
PROJECT SPONSOR: The City of Oakland, Community and Economic Development Agency

PROJECT DESCRIPTION: The Estuary Plan includes objectives, polices and implementation measures for the future of the waterfront area from Adeline Street to 66th Avenue in Oakland. The basic premise of the plan is that the Estuary is a resource of citywide and regional signficance. The Estuary Plan includes objectives, policies and implementation measures for the future of the area between Adeline Street and 66th Avenue. The plan is a result of community concerns articulated by the League of Women Voters and the goals, objectives and policies established by the General Plan Congress. The basic premise of the plan and its preceding efforts is that the Estuary is a resource of citywide and regional significance. This area cannot be viewed as a single-purpose district isolated from the city, but rather as a diverse and multifaceted place that connects the city and the bay.

The Estuary Plan calls for a system of open spaces that provides the opportunity for recreational use, fosters environmental enhancement and interpretive experiences, becomes a visual amenity, and establishes significant gathering places. A necklace of individual open spaces and parks will be developed comprising more than 55 acres of land, connected by a continuous landscaped parkway with promenades, bikeways and shoreline trails. New parks will be built at the mouth of the Lake Merritt Channel and Ninth Avenue Terminal, as well as at Union Point and within the Jack London District.

The Estuary Plan proposes a variety of uses that will strengthen Oakland's position as an urban center and accommodate growth and development that complements the downtown and adjacent neighborhoods. The plan proposes the preservation of industrial areas, which are necessary to support Oakland's port, as well as its role in food processing, manufacturing and distribution. The plan reinforces the Jack London District for a mixture of retail, dining, entertainment and visitor-serving uses oriented to significant gathering places and public access areas along the water. In addition, the emerging trend

toward loft-type residential and off-price retail establishments in the Jack London District is encouraged to continue.

The plan creates opportunities for new uses and proposes the large-scale transformation of the area from the Lake Merritt Channel to the Ninth Avenue Terminal into a mix of artisan work/live lofts, and hotel, cultural and commercial-recreational uses that will complement the planned open spaces and parks along the water. Within a mixed-use context, the plan strengthens the livability of existing and future residential development within the Kennedy Tract, and creates new opportunities for small-scale office, business and commercial establishments. In certain areas (e.g., around the Con-Agra facility in the San Antonio/Fruitvale district), plan supports the retention of existing industries, but acknowledges that they may relocate for a variety of reasons, and therefore establishes land use priorities for an appropriate transition to new urban development in the future.

The Estuary Plan also proposes significant improvements to the transportation system, to improve both regional and local access. The proposed circulation system is aimed at reducing the barrier effect of the freeway by clarifying on and off ramps and by improving local vehicular access to inland areas. The plan calls for the creation of a continuous landscaped recreational parkway, accommodating pedestrians and bicycles as well as transit and vehicular access along the entire five-and-a-half-mile length of waterfront, from 66th Avenue to the Jack London District. This parkway will knit together the diverse parts of the Estuary shoreline, contributing to the identify of Oakland as a waterfront city and to a sense of orientation within the district.

The Estuary Plan emphasizes the connection between waterfront uses and inland areas. It calls for development in the Jack London District to create a stronger connection to the center city by extending waterfront activities along Lower Broadway, toward the downtown. Development of the area between Estuary Park and the Ninth Avenue Terminal will create a significant gathering place of the city as a whole as well as significant new uses that will link to a larger open space system along Fifth Avenue and the Lake Merritt Channel to Lake Merritt and inland neighborhoods. The improvement and development of the Embarcadero Cove is planned to create additional windows to the Estuary. The development of a new park at Union Point and improvements to the shoreline will create a new focus along the water for San Antonio, Fruitvale, and other inland neighborhoods. Extension of the Martin Luther King, Jr. Regional Shoreline westward to High Street will also provide open space opportunities for the Central East Oakland neighborhood.

Finally, the Estuary Plan establishes specific programs and strategies for implementation of the planning objectives. It includes regulatory, institutional and financing policies that will guide conservation and development of the Estuary area over the next 20 years and beyond.

SCOPE OF ANALYSIS AND PROBABLE ENVIRONMENTAL EFFECT: The EIR will analize all possible environmental effects of full implentation of the Estuary Plan. Based upon the Land Use and Transportation Element However, based upon upon the findings of the initial study, probable environmental effects of the Land Use and Transportation Element, subsequent zoning changes, Estuary Plan, and the projects that may occur as a result of these plans may include the following: impacts on air quality, traffic and circulation, noise, cultural and aesthetic resources, water quality, public services, and land use and planning.

DATE: March 12, 1998

WILLIE YEE. JR.
Environmental Review Officer

CITY OF OAKLAND

1330 BROADWAY, 3RD FLOOR • OAKLAND, CALIFORNIA 94612

Community and Economic Development Agency
Strategic Planning

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SECOND NOTICE OF PREPARATION OF DRAFT ENVIRONMENTAL IMPACT REPORT

The Oakland Community and Economic Development Agency (CEDA) is preparing a Environmental Impact Report (EIR) for the project identified below. The City of Oakland is the Lead Agency for this project. We are sending this second notice to interested parties in response to a number of requests that additional opportunities to comment be provided. Responses to the notice or any questions or comments should be directed to Andrew Thomas, Strategic Planning, 1330 Broadway, 3nd Flr, Oakland, CA 94612, telephone 510-238-2129. Responses should be sent as soon as possible, but no later than 30 days after receipt of this notice.

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visitor-serving uses oriented to significant gathering places and public access areas along the water. In addition, the emerging trend toward loft-type residential and off-price retail establishments in the Jack London District is encouraged to continue.

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SCOPE OF ANALYSIS AND PROBABLE ENVIRONMENTAL EFFECT: The EIR will utilize the recently certified EIR for the Land Use and Transportation Element as a "first tier" analysis but will include additional analysis in the areas of: Land Use, Transportation and Circulation, Population, Housing and Employment, Public Services, Air Quality, Visual and Aesthetic Conditions, Cultural and Historic Resources, Vegetation and Wildlife, Hydrology and Water Quality, Energy, Geology and Seismicity, Noise, and Hazardous Materials.

DATE: April 12, 1998

A. Thomas for
WILLIE YEE, JR.
Environmental Review Officer

File No. ER 97-18