DRAFT ENVIRONMENTAL IMPACT REPORT

Lake Merritt Channel Wetlands and Widening Project

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1.0 Introduction

1.1 PURPOSE OF THE EIR

This Draft Environmental Impact Report (DEIR) evaluates the potential impacts of the Lake Merritt Channel Wetlands and Widening (Project) associated with the 12th, 10th, and 7th Street Reconstruction Projects.

The Project consists of the construction of improvements, enhancements, and habitat restoration to estuary, channel, and parkland areas along the Lake Merritt Channel. The proposed channel improvements differ from what was originally proposed and analyzed in the 2002 Addendum for all Measure DD projects in that they now include creation of a tidal marsh and channel widening, which would be funded by a grant from the Coastal Conservancy. The Coastal Conservancy is interested in enhancing the proposed parkland improvements envisioned by Measure DD and have offered potential funding to expand the restoration and enhancement of the channel and its habitats. These additional improvements may be implemented independently from the 12th Street Project. This DEIR considers those additional details and information and analyzes the potential impacts associated with these project components.

The DEIR is intended to inform City of Oakland decision makers, responsible agencies, and the public of the potential environmental consequences of implementing the channel improvements. The DEIR has been prepared in accordance with the California Environmental Quality Act (CEQA) and the State CEQA Guidelines. The City of Oakland (City) is the lead agency for the Project.

1.2 REPORT ORGANIZATION

This DEIR is organized into the following chapters:

- Chapter 1-Introduction: provides an introduction and overview describing the focus of the DEIR, changes to the Project description since the 2002 Addendum for all Measure DD projects, and the environmental review process.
- Chapter 2-Executive Summary: summarizes the Project and environmental consequences that would result from the Project, provides a summary table of significant environmental impacts, identifies mitigation measures, and indicates the levels of significance of impacts after mitigation.

- Chapter 3-Project Description: describes the Project, the Project location, Project objectives, and required Project approvals.
- Chapter 4-Environmental Evaluation: describes the environmental setting and provides an analysis of the environmental impacts of the Project, identifying mitigation measures for any potentially significant environmental impacts.
- Chapter 5-CEQA-Required Conclusions: provides a summary of significant environmental impacts, including unavoidable and growth-inducing impacts and cumulative impacts.
- Chapter 6-References and People/Agencies Contacted.

1.3 FOCUS OF THE DEIR

The City has undertaken the preparation of this DEIR to provide specific project-level analysis of the impacts associated with the proposed channel improvements, including construction period impacts associated with the channel widening and shoreline improvements along the Lake Merritt Channel between Lake Merritt and I-880.

Potential significant impacts could occur in the following resource areas, which are therefore evaluated in this DEIR:

1. Biological Resources
2. Geology and Soils
3. Hazards and Hazardous Materials
4. Hydrology and Water Quality

The City has determined that no other resource areas have potentially significant impacts and, therefore have been adequately addressed under CEQA in the initial study included as Appendix B and through standard conditions of approval imposed by the City on all construction projects.

CEQA Guidelines Section 15183(a) states that

> "....projects which are consistent with the development density established by existing zoning or general plan policies for which an EIR was certified shall not require additional environmental review except as might be necessary to examine whether there are project-specific significant effects which are *peculiar* to the project or its site."

CEQA Guidelines Section 15183(f) states that

> "An effect of a project on the environment shall not be considered *peculiar*....if uniformly applied development policies or standards have been previously adopted by the city or county with a finding that the development policies or standards will substantially mitigate that environmental effect when applied to future projects..."

CEQA Guidelines Section 15183(g) states that

> "Examples of uniformly applied development policies or standards include but *are not limited to* grading ordinances, floodplain ordinances, habitat protection ordinances..."

In compliance with CEQA Guidelines Section 15183(a), the Project is consistent with the open space and recreation density specified by the General Plan. The potential effects of the project are considered in an initial study included as Appendix B of this Draft EIR, and in the four topical sections presented in this focused Draft EIR: biology, geology, hydrology, and hazardous materials.

1.4 PROJECT RELATIONSHIP TO OTHER CITY PLANS, POLICIES, AND INITIATIVES

The Project would implement applicable policies identified in the Oakland General Plan and other City plans, policies, and voter-approved initiatives. These plans and policies are related to creek restoration and daylighting, enhancements to Lake Merritt, and creating pathway linkages between Lake Merritt and the Estuary.

Oakland General Plan

The General Plan reflects the long-range vision and policy framework to guide development for the next twenty years in the City of Oakland. The Oakland General Plan contains seven elements: the Land Use and Transportation (LUTE) Element (1998); Open Space, Conservation, and Recreation Element (OSCAR) Element (1999); Historic Preservation Element (1994); Oakland Estuary Policy Plan (Estuary Plan) (1995); Environmental Hazards/Safety; Noise (1974); and Housing Element (2004). The Project's relationship to the Land Use and Transportation Element, the OSCAR, and Oakland Estuary Policy Plan are described below.

Open Space Conservation and Recreation Element

The OSCAR Element is an element of the Oakland General Plan containing goals and policies to help preserve open space, conserve natural resources, and manage Oakland's park and recreation system. The 1995 OSCAR Element updated and reinforced many of the policies in the 1976 General Plan. Many of the policies suggest specific projects,

including new facilities or capital improvements. The OSCAR contains policies which describe improvements that the Project would implement including Objective CO-6, Policies CO-5.3, CO-7.1.4, CO-7.2, CO-9.1, CO-11.1, CO-11.2, and REC-2.3. These policies call for widening the Lake Merritt Channel, restoring the shoreline, protecting habitat, and planting native plants, all actions that would improve sensitive habitat and the water quality in Lake Merritt.

The City published a Draft Mitigated Negative Declaration (MND) for the OSCAR in October 1995. The Mitigated Negative Declaration was circulated for a 30-day public review period. The City responded to comments in a Final Mitigated Negative Declaration published on November 1, 1995. The City Council certified the Mitigated Negative Declaration and adopted the OSCAR as an Element of the General Plan in a publicly noticed meeting.

Oakland Estuary Policy Plan

The Estuary Plan was created jointly by the City and the Port of Oakland and incorporated comments and input from the Bay Conservation and Development Commission (BCDC), East Bay Regional Parks District (EBRPD), the Trust for Public Lands, the City of Oakland Life Enrichment Agency—Parks, Recreation and Cultural Services, and the Oakland Museum. The Estuary Plan establishes the location and intensity of land uses along the waterfront and provides policies and guidelines relative to the intended form, pattern, and character of development in the Oakland Estuary. The Estuary Plan is part of the buildout considered under the Land Use and Transportation Element.

The Project site is located within the Oak Street through Ninth Avenue District of the Estuary Plan area. Key objectives for this sub-area include the creation of a stronger open space and pedestrian linkage between Lake Merritt and the waterfront. The Project would assist in creating this linkage.

The City published the Oakland Estuary Plan Draft EIR on June 5, 1998. The Draft EIR was circulated for a 45-day review period. The Final EIR was published on November 24, 1998 and the City Council certified the EIR and adopted the Estuary Plan as an Element of the General Plan in a publicly noticed meeting held on June 8, 1999. The Estuary Plan EIR was tiered from and relied on the analysis contained within the 1998 LUTE EIR. The Estuary Plan EIR provided more site-specific details for land uses in the Estuary, which includes the Lake Merritt Channel. The Estuary Plan EIR contains mitigation measures related to transportation and vegetation and wildlife that have been incorporated into the Project design and construction.

Land Use and Transportation Element

The LUTE is an element of the General Plan addressing the long-range development of the City by providing plans and policies to guide city structure and identity. The current LUTE was adopted by the City in March 1998. The LUTE contains information related to planning context, describes the LUTE policy framework, translates those policies into General Plan diagrams, and presents a two-part implementation program. The policies in the LUTE are intended to balance Citywide and neighborhood needs and describe land uses designations, transportation initiatives, and implementation strategies for the City.

The Oakland General Plan LUTE EIR was published on October 31, 1997 and was circulated for a 60-day review period. The Final EIR was adopted by the City on March 24, 1998. The LUTE EIR analyzed environmental impacts resulting from implementation of the land use and transportation policies. Mitigating policies cited in the LUTE EIR that have been incorporated into the Project include policies related to planning for bikeways and pedestrian facilities, incorporating design features for alternative travel, and converting underused travel lanes.

Lake Merritt Master Plan

In 1999, the City embarked on a plan to revitalize downtown Oakland. The City sought to create an active city center supported by new housing. Public open space was seen as an essential amenity for the new residents. To meet this need, the City proposed restoring and enhancing Lake Merritt Park to serve as a major urban green space.

The Lake Merritt Master Plan has four guiding principles:

- To manage and enhance the park as a refuge for people and wildlife;
- To reveal the natural processes, botanical interests, culture, and history of Lake Merritt and its surrounding community through organized youth programs, art, signage, and overall park design;
- To improve the park as a place of informal, outdoor recreation; and
- To reflect the unique culture of Oakland.

The Project is located in the 12th Street/San Antonio Creek/Estuary Connection/Civic District of the Master Plan. The Lake Merritt Channel is shown as a major greenbelt connector between Lake Merritt and the Estuary in the Park Concept Plan. The Master Plan proposes improvements to access to the Lake by restoring the 12th Street shoreline area. Additionally, the top priorities identified by the community in the Master Plan are water quality and ecology; pedestrian circulation and pathways; and 12th Street area improvements. The Project would implement all of these improvements.

The Project was proposed as part of the Lake Merritt Master Plan. As part of the planning process for the Master Plan, the City conducted extensive public outreach, solicited public input into the design, and collected public comment on conceptual and draft plans.

Measure DD

Measure DD consisted of a bond measure for the Oakland Clean Water, Safe Waterfront Parks and Recreation Trust Fund. The Measure allowed the City to sell bonds in order to fund a broad range of physical improvements to existing parks, acquire land for new parks, develop new parks and recreational facilities, institute clean water protection measures, restore and rehabilitate existing recreation buildings and implement creek and waterways protection and restoration projects.

The projects included within the ballot measure were organized into five key areas:

- Restoration of Lake Merritt Park and related recreational facilities, and implement water quality protection measures for Lake Merritt;
- Improve and create new waterfront access along the Oakland Estuary, and implement a range of land acquisition, clean-up and park development projects consistent with the adopted Estuary Policy Plan (EPP);
- Create a Lake Merritt to Oakland Estuary Connection (the Lake Merritt Channel), consistent with the Estuary Policy Plan;
- Construct new youth and public recreational facilities and restore and rehabilitate existing recreational facilities; and
- Implement creek and waterway protection and restoration projects.

The Project is described specifically in the following projects proposed under Measure DD, including Category 1—Lake Merritt Park Restoration and Water Quality Improvements, Category 3—Lake Merritt Channel, and generally under Category 5—Creeks and Waterways Restoration.

In 2002, the City of Oakland prepared an Addendum under CEQA § 15164 for all Measure DD projects. The projects proposed in Measure DD were schematically and programmatically identified and assessed as part of the above previous environmental documents. The Addendum prepared by the City explains that the environmental effects of all the Measure DD Projects including the 12th Street Reconstruction Project had been considered in previous City environmental documents that had already been completed. The Addendum references the applicable City of Oakland goals, policies, analysis, and mitigation from the previously circulated environmental documents.

The Addendum identified that none of the projects would result in new significant environmental impacts or would increase the severity of impacts previously identified. Additionally, many of the proposed projects otherwise fell into one or more categorical exemptions (CEQA Guideline § 15300 et seq.); thereby, requiring no further environmental review. Nevertheless, all the proposed Measure DD projects were reviewed using the two previously certified EIRs and the previously adopted MND as a basis of review, along with other environmental studies in the central downtown area (specifically the traffic and circulation impact study for the Lakepoint Towers Project and a separate traffic report completed for the proposed circulation changes around Lake Merritt).

1.5 ENVIRONMENTAL REVIEW PROCESS

The City filed a Notice of Completion with the Governor's Office of Planning and Research State Clearinghouse on April 18, 2006, indicating that this Project DEIR has been completed and is available for review and comment by the public and interested parties, agencies, and organizations.

This DEIR will be available for a review period of 45 days, as required by California law. The public review period will end on June 2, 2006. A public hearing on the DEIR will be held on May 17, 2006. The public is invited to attend the hearing to offer oral comments.

Written comments regarding the Lake Merritt Channel Wetlands and Widening Project Draft EIR may be submitted to Markley Bavinger at the City of Oakland at the following address:

City of Oakland
Public Works Agency
Attn: Markley Bavinger
250 Frank H. Ogawa Plaza
Suite 5301
Oakland, CA 94612

Following the close of the public comment period, responses to public input will be prepared and published as a separate document. The DEIR text and appendices, together with the responses to comments document, will constitute the Final EIR. The Final EIR will be available to the public during an informal review period, before the City considers certifying the document. At the close of the 45-day review period the City will consider certifying this DEIR in an open public hearing before the Planning Commission.

2.0 Executive Summary

2.1 PROPOSED PROJECT

The Project would implement the following improvements to the Lake Merritt Channel:

- **Channel Widening.** Under the 12th Street Project, the Channel, streambed, stream banks, and upland areas between Lake Merritt and 10th Street would be widened. Future improvements envisioned as part of the 10th Street and 7th Street projects would conform to the design established by the 12th Street Project.
- **Channel Shoreline Improvements**. Under the 12th Street Project, a tidal marsh would be restored along the banks of the channel between Lake Merritt and 10th Street. Shoreline improvements planned as part of the 10th Street and 7th Street Projects would conform to the design established by the 12th Street Project. The creation of the tidal marsh as part of the 12th Street Project would include the following features that are intended to improve water quality in the Channel:
    - Marsh terrace grading and slope stabilization along the Channel shoreline.
    - Intertidal and Upland Planting/Irrigation of appropriate native plants such as pickleweed (lower marsh areas), marsh gumplant and salt grass (upper marsh areas and transitional zones characterized by native grasses), shrubs and trees, and the installation of biofiltration basins to restore the natural ecosystem of the Channel. (See Figure 3.4, West Channel Shoreline Landscaping Plan).

2.2 AREAS OF ANALYSIS

Environmental topic areas evaluated in Chapter 4 of this DEIR include the following: Biological Resources; Geology and Soils; Hazards and Hazardous Materials; and Hydrology and Water Quality. The analysis in this DEIR includes an evaluation of impacts to wetlands, loss of species, habitat enhancement, introduction of non-native plants, flooding, water quality, soil erosion and bank stabilization, aerially deposited lead, and contact with hazardous materials in soils.

The City has determined that no other resource areas have potentially significant impacts, and therefore have been adequately addressed under CEQA in the initial study included as

Appendix B and through standard conditions of approval imposed by the City on all construction projects.

CEQA Guidelines Section 15183(a) states that

> "....projects which are consistent with the development density established by existing zoning or general plan policies for which an EIR was certified shall not require additional environmental review except as might be necessary to examine whether there are project-specific significant effects which are *peculiar* to the project or its site."

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> "Examples of uniformly applied development policies or standards include but *are not limited to* grading ordinances, floodplain ordinances, habitat protection ordinances"

In compliance with CEQA Guidelines Section 15183(a), the Project is consistent with the open space and recreation density specified by the General Plan. The potential effects of the project are considered in an initial study included as Appendix B of this Draft EIR, and in the four topical sections presented in this focused Draft EIR: biology, geology, hydrology, and hazardous materials.

2.3 SIGNIFICANT IMPACTS

Under CEQA, a significant impact on the environment is defined as, "a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by a project including land, air, water, minerals, flora, fauna, ambient noise, and objects of historic or aesthetic significance."

Impacts to biological resources and hazards and hazardous materials would be considered significant without the implementation of mitigation measures, but would be reduced to a less-than-significant level by the mitigation measures identified in this DEIR.

2.4 SIGNIFICANT UNAVOIDABLE ENVIRONMENTAL IMPACTS

As discussed in Chapter 4, the Project would not create any significant unavoidable impacts.

2.5 CUMULATIVE IMPACTS

Cumulative impacts of the proposed Project combined with past, present, and reasonably foreseeable future projects are evaluated in Chapter 6.0, Other CEQA-Required Conclusions, of this DEIR. Due to the implementation of Project-related water quality improvements, there would be a net benefit from the Project on the environment. There would be no cumulative impacts resulting from this Project.

2.6 ALTERNATIVES TO THE PROJECT

As mandated by § 15126.6 of State CEQA Guidelines, an EIR must describe and consider a reasonable range of alternatives to the proposed project that are capable of eliminating or reducing the level of significance of one or more of the environmental impacts of the project, even if the alternative would impede to some degree the attainment of some of the project objectives, or would be more costly. Section 15126.6(f) further states that the "range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." Alternatives considered may result in new impacts that would not result from the proposed Project.

Among the factors that may be used to eliminate alternatives from detailed consideration is the failure of the alternative to meet the basic Project objectives, its infeasibility, or its inability to avoid significant environmental impacts. The Project has been designed to meet the Project objectives of enhancing the hydraulic connection between Lake Merritt, the Lake Merritt Channel, and the Oakland Estuary, and improving water quality and habitat for fish and wildlife in the Project area. The Project has been designed to avoid or minimize environmental impacts and there are no alternatives to the Project that would minimize the impacts further while meeting the Project objectives. Additionally, the Project could not be constructed in an alternative location and no other alternatives would avoid significant environmental impacts; therefore, only the No Project/No Build Alternative is analyzed in this DEIR.

Alternative 1: No Project/No Build

This DEIR evaluates one Project alternative, the No Project/No Build (No Project) Alternative. The No Project Alternative evaluates the impact of not building the Project or implementing any of the Project-related water quality improvements.

2.7 SUMMARY OF IMPACTS AND MITIGATION MEASURES

Table 2-1 summarizes the significant environmental impacts of the project and mitigations measures to reduce significant impacts. The table is arranged in four columns: 1) impacts; 2) level of significance without mitigation; 3) mitigation measures; and 4) level of significance after mitigation.

Levels of significance are categorized as follows: SU = Significant and Unavoidable; S = Significant; LTS = Less Than Significant. For a complete description of potential impacts and recommended mitigation measures, please refer to the specific discussions in Chapter 4.

Table 2.1 Summary of Impacts and Mitigation Measures

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Biology			
Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species.	LTS	None Required See Section 4.1.5 for a description of how project design and standard conditions of approval address this potential impact.	—
Fundamentally conflict with the City of Oakland tree protection policy.	LTS	None Required See Section 4.1.5 for a description of how project design and standard conditions of approval address this potential impact.	—
Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations.	LTS	None Required See Section 4.1.5 for a description of how project design and standard conditions of approval address this potential impact.	—
Have a substantial adverse impact on federally or state protected wetlands.	LTS	None Required See Section 4.1.5 for a description of how project design and standard conditions of approval address this potential impact.	—
Interfere substantially with the movement of any native resident or migratory fish or wildlife species, or impede the use of native wildlife nursery sites.	S	**Mitigation Measure BIO-1:** To avoid any nesting season conflict in construction of the 12th Street, 10th Street, or 7th Street Projects, trees shall be removed before the start of the nesting season (February 15). If tree removal is slated for any portion of the nesting season a biologist shall first conduct a nest survey of the area 30 days in advance of start of work. If no nesting is found to be occurring, work can proceed as planned. If nest activity is found, the biologist shall flag off a suitable non-disturbance buffer area that will remain until the young have fledged. Meanwhile, work outside the buffer area can proceed as	LTS

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		planned. See Section 4.1.5.	
Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan.	LTS	None Required	—
Fundamentally conflict with the City of Oakland Creek Protection Ordinance.	LTS	None Required See Section 4.1.5 for a description of how project design and standard conditions of approval address this potential impact.	—
Geology and Soils			
Expose people or structures to substantial risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, lateral spreading, subsidence, collapse, or landslides.	LTS	None Required See Section 4.2.5 for a description of how project design and standard conditions of approval address this potential impact.	—
Result in substantial soil erosion or loss of topsoil, creating substantial risks to life, property, or creeks/waterways.	LTS	None Required See Section 4.2.5 for a description of how project design and standard conditions of approval address this potential impact..	—
Be located on expansive soil, creating substantial risks to life or property.	LTS	None Required	—
Be located above a well, pit, swamp, mound, tank vault, or unmarked sewer line, creating substantial risks to life or property.	LTS	None Required	—
Be located above landfills for which there is no approved closure and post-closure plan, or unknown fill soils, creating substantial risks to life or property.	LTS	None Required	—
Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.	LTS	None Required	—

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
Hazards and Hazardous Materials			
Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.	LTS	None Required	—
Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.	LTS	None Required	—
Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.	LTS	None Required	—
Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.	LTS	None Required	—
Be located within an airport land use plan or, within two miles of a public airport or public use airport, or private airstrip, and would result in a safety hazard for people residing or working in the project area.	LTS	None Required	—
Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.	LTS	None Required	—
Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.	LTS	None Required	—
Impact HAZ-1: The final design of the 10th and 7th Street Reconstruction Projects could encroach into area containing contaminated soils.	S	**Mitigation Measure HAZ-1a:** The City shall perform a Phase I site assessment for the 10th Street Project to determine whether historical land uses warrant additional soil sampling in the project area. The City shall implement all recommendations of the Phase I site assessment, including excavation and offsite disposal of contaminants, and preparation of a Worker Health and Safety Plan, if required. As recommended previously in the Oakland	LTS

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		Estuary Plan DEIR, if hazardous substances are encountered, 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. **Mitigation Measure HAZ-1b:** The City shall perform a Phase I site assessment for the 7th Street Project to determine whether historical land uses warrant additional soil sampling in the project area. The City shall implement all recommendations of the Phase I site assessment, including excavation and offsite disposal of contaminants, and preparation of a Worker Health and Safety Plan, if required. As recommended previously in the Oakland Estuary Plan DEIR, if hazardous substances are encountered, 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. See Section 4.3.5.	
Hydrology and Water Quality			
Violate any water quality standards or waste discharge requirements.	LTS	None Required See Section 4.4.5 for a description of how project design and standard conditions of approval address this potential impact.	—
Create or contribute substantial runoff which would exceed the capacity of existing or planned stormwater drainage systems.	LTS	None Required See Section 4.4.5 for a description of how project design and standard conditions of approval address this potential impact.	—
Create or contribute substantial runoff which would be an additional source of polluted runoff.	LTS	None Required See Section 4.4.5 for a description of how project design and standard conditions of approval address this potential impact.	—
Otherwise substantially degrade water quality.	LTS	None Required	—

Environmental Impacts	Level of Significance Without Mitigation	Mitigation Measures	Level of Significance With Mitigation
		See Section 4.4.5 for a description of how project design and standard conditions of approval address this potential impact.	
Substantially deplete groundwater supplies.	LTS	None Required	—
Result in substantial erosion or siltation on- or off-site that would affect the quality of receiving waters.	LTS	None Required See Section 4.4.5 for a description of how project design and standard conditions of approval address this potential impact.	—
Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site	LTS	None Required See Section 4.4.5 for a description of how project design and standard conditions of approval address this potential impact.	—
Fundamentally conflict with elements of the City of Oakland Creek Protection (OMC Chapter 13.16) ordinance.	LTS	None Required See Section 4.4.5 for a description of how project design and standard conditions of approval address this potential impact.	—
Result in substantial flooding on- or off-site.	LTS	None Required	—
Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map that would impede or redirect flood flows.	LTS	None Required	—
Place within a 100-year flood hazard area structures which would impede or redirect flood flows.	LTS	None Required	—
Expose people or structures to a substantial risk of loss, injury or death involving flooding.	LTS	None Required	—
Result in inundation by seiche, tsunami, or mudflow.	LTS	None Required	—
Notes: LTS = Less Than Significant S = Significant SU = Significant and Unavoidable			

3.0 Project Description

3.1 PROJECT LOCATION AND SETTING

Location

The Project is located on the southeastern end of Lake Merritt within the City of Oakland (see Figure 3.1, Regional Location). The Project area is irregularly shaped and extends south along both sides of the Lake Merritt Channel (Channel) to its intersection with Interstate-880 (I-880). The Project site is shown in Figure 3.2, Project Boundaries.

Site Characteristics

The Project site is located in an urbanized area, approximately 20 to 25 feet above mean sea level (msl) (USGS, 1980). The Project site consists of a portion of the lakeshore at the southern outlet of Lake Merritt, the Channel shoreline extending along the Channel to I-880, and existing culverts and bridges spanning the Channel.

The Project area consists of the Channel itself as well as lands directly adjacent to the Channel, including typical urban parkland containing wide stretches of managed turf and a variety of ornamental trees.

3.2 PROJECT CHARACTERISTICS

The Project would implement improvements to the southern Lake Merritt area and Channel as part of the 12th Street, 10th Street, and 7th Street Projects. Project components are shown in Figure 3.3, Project Concept Diagram, and would consist of the following components:

- **Channel Widening.** Under the 12th Street Project, the Channel, streambed, stream banks, and upland areas between Lake Merritt and 10th Street would be widened. Future improvements envisioned as part of the 10th Street and 7th Street projects would conform to the design established by the 12th Street Project.
- **Channel Shoreline Improvements**. Under the 12th Street Project, a tidal marsh would be restored along the banks of the channel between Lake Merritt and 10th Street. Shoreline improvements planned as part of the 10th Street and 7th Street Projects would conform to the design established by the 12th Street Project.

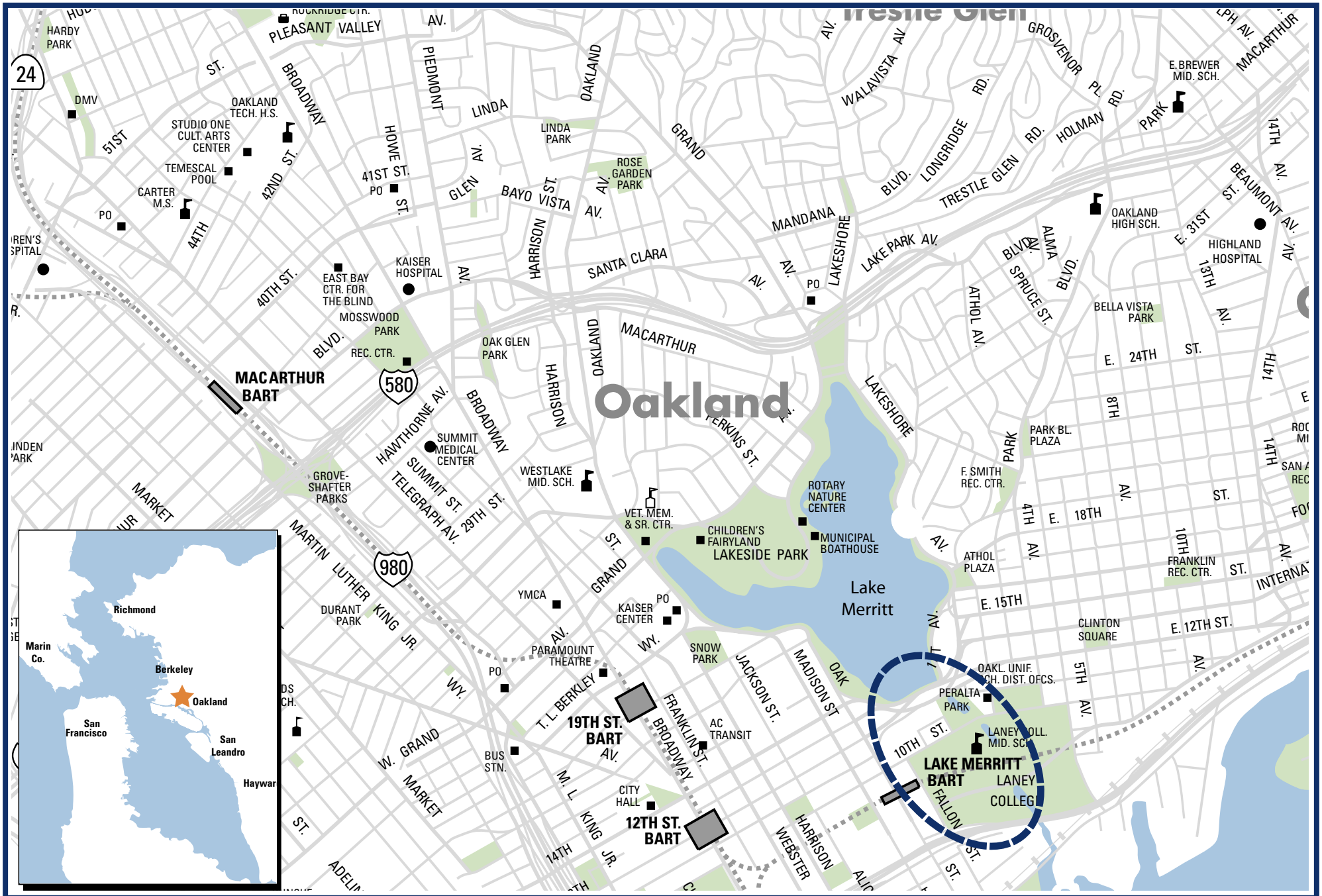
The creation of the tidal marsh as part of the 12th Street Project would include the following features that are intended to improve water quality in the Channel:

- Marsh terrace grading and slope stabilization along the Channel shoreline.
- Intertidal and Upland Planting/Irrigation of appropriate native plants such as pickleweed (lower marsh areas), marsh gumplant and salt grass (upper marsh areas and transitional zones characterized by native grasses), shrubs and trees, and the installation of biofiltration basins to restore the natural ecosystem of the Channel.

Project Context

The following additional improvements are also part of the 12th Street Reconstruction Project, the impacts of which were previously analyzed in the OSCAR EIR, Estuary Plan EIR, LUTE EIR, and the Addendum for Measure DD Projects:

- **12th Street Reconfiguration.** The Project would consolidate the existing area roadways, including 12th, 13th, and 14th Streets from their current configuration of a 12-lane expressway into a single 6-lane, tree-lined boulevard. Culverts would be removed at 12th Street and 10th Street and clear-spanning bridges and supporting retaining walls would be installed. The reconstructed 12th Street would include a landscaped center median. Retaining walls would be constructed along various points on 12th Street. The parking lot for the Kaiser Center would be demolished and reconstructed. Access to the Kaiser Center from 12th Street would be maintained at the existing southern entrance. Bus stops would be located along 12th Street.
- **Lakeshore Avenue Redesign.** Lakeshore Avenue would be redesigned to include a multi-use path and to end at a cul-de-sac at its former intersection with 12th Street.
- **Multi-Use Trails, Pedestrian, and Bicycle Facilities.** A multi-use trail would be constructed along the Lake Merritt shore, Channel, and along Lakeshore Drive. The design for all pedestrian pathways would be ADA compliant. Pedestrian and bicycle facilities would be constructed across the reconstructed 12th Street and at Project area roadway intersections. These facilities would include a pedestrian/bike bridge across the Channel at its confluence with Lake Merritt and Class 2 bike lanes along 12th Street. Signalized crosswalks would be installed in three locations across 12th Street: near the Courthouse, Oakland Museum, and Channel.



CirclePoint℠
The *whole* view.

FIGURE 3.1.
PROJECT LOCATION

CirclePoint℠
The *whole* view.

CHANNEL IMPROVEMENT AREA
12TH STREET
RECONSTRUCTION PROJECT BOUNDARY

FIGURE 3.2.
PROJECT BOUNDARIES

CirclePoint℠
The *whole* view.

FIGURE 3.3.

NORTHERN PORTION OF THE LAKE MERRITT CHANNEL IMPROVEMENTS & 12TH STREET RECONSTRUCTION PROJECT CONCEPT DIAGRAM

- **Lake Merritt Park and Peralta Park Improvements.** A grassy park would be created at the southern end of Lake Merritt in the area formerly containing roadways. This park would contain a waterfront plaza, multi-use paths, historic and interpretive markers, restrooms, a pier walk, and park landscaping and furnishings. Additional parkland improvements would be installed along the Channel in Peralta Park.
- **County Courthouse and Oakland Museum Plaza.** A plaza would be created in the area to the east of the Alameda County Courthouse and at the eastern corner of the Oakland Museum. A plaza linking the Kaiser Center with 12th Street would also be constructed.
- **Landscaping, Paving, Lighting, and Park Furnishings.** Landscaping consisting of native plants and managed turf would be installed in park areas and along 12th Street. Native landscaping would include large canopy trees, smaller trees, shrubs, and groundcover plants. Turf would consist of sod or "no mow" fescue varieties. Landscaping materials would be chosen that are consistent with the development of Integrated Pest Management (IPM) techniques. The multi-use trails would feature rubberized paving or decomposed granite. Plaza areas and walkways would be paved with a variety of paving materials, including concrete, pre-cast concrete pavers, and asphalt paving. Lighting would be installed along Project roadways, multi-use paths, and at the Waterfront Plaza. Park furnishings would be installed including park benches, picnic benches, bicycle racks, and garbage cans.
- **Project Utilities.** The Project would include the construction of underground utilities including water and sewer lines, electrical utilities, and consolidated storm drainage facilities. The Project would include the use of recycled water for landscape irrigation.
- **10th Street Reconfiguration.** This reconfiguration would include construction of a new clear-span vehicle bridge crossing of the Channel at 10th Street. Pathways established as part of the 12th Street Project would be continued between 10th Street and 7th Street.
- **7th Street Reconfiguration.** This reconfiguration would include the continuation of pathways established as part of the 12th Street and 10th Street Projects, the improvement of pedestrian tunnels under 7th Street, and the installation of a new crosswalk across 7th Street. The 7th Street Project also includes the creation of a bypass channel to improve access and flood control capabilities.

Project Construction

The Project would include construction of the channel improvements including mobilization, steel sheet piling, removal of the existing box culverts under 10th and 12th Streets, excavating the Channel and Channel mouth, grading of the marsh terrace,

stabilizing and reconstructing the Channel banks, construction of retaining walls, placing rock slope protection, and installation of intertidal and upland native plantings.

Project Phasing

The 12th Street Reconstruction Project, of which the Project is a component, is currently in the design stage, with 90 percent of the Project plans complete. Construction of the Lake Merritt Channel Improvements Project would last approximately two years, from 2006 to 2008 and would include two overlapping phases (hardscape and softscape) , as described below.

The hardscape phase of the Lake Merritt Channel Improvements Project would begin in July/August 2006 and would continue through August 2008. This phase would consist of channel widening and bridge construction at 12th Street, including mobilization (July/August 2006), steel sheet piling for dewatering (August 2006-June 2007), removal of 12th Street culverts (August 2006-June 2007), construction of two retaining walls (August 2006-June 2007), construction of the 12th Street bridge (July-February 2008) and a pedestrian bridge (May-August 2008).

The softscape phase of the Lake Merritt Channel Improvements Project would begin in August 2006 and end in February 2008. This phase of Project construction would construct shoreline improvements at the Lake Merritt Channel and would include Channel/Lake excavation (August 2006-June 2007), marsh terrace grading/slope stabilization (July-February 2008), and intertidal and upland planting/irrigation (July 2007-February 2008). Demolition of the existing structures on the Project site would occur during summer months (July-August), and grading for the Project would occur following demolition but would not extend beyond the start of the rainy season (Oct. 15).

3.3 PROJECT OBJECTIVES

The Project is a major element of the City of Oakland Bond Measure DD, which was passed by Oakland voters in November 2002. The measure authorized the City to issue bonds to create the Oakland Trust for Clean Water and Safe Parks. The Trust dedicated funds for the design and construction of the Project. The Project would help achieve the goals of Measure DD to improve water quality; provide educational and educational facilities; clean up Lake Merritt; restore Oakland's creeks, waterfront, and estuary; preserve and acquire open space; renovate parks; provide safe public spaces; and provide local funds to qualify for state and federal funding.

The objectives of the Project include:

- Enhance the connection between Lake Merritt, the Lake Merritt Channel, and the Oakland Estuary; and

- Improve water quality and habitat for fish and wildlife.
- Connect the isolated southern shoreline of Lake Merritt with surrounding cultural, civic, and urban districts;
- Improve traffic circulation and street design;
- Improve bicycle and pedestrian safety and circulation; and
- Create a recreational park and open space.

3.4 INTENDED USES OF THIS DEIR

This DEIR will be used to provide decision-makers and the general public with relevant environmental information to use in considering the Lake Merritt Channel Improvements Project. Specifically, the information contained in the DEIR is intended to provide adequate analysis of the Project including construction of channel improvements between Lake Merritt and I-880.

Discretionary Actions

This DEIR will be used for consideration of at least the following discretionary actions:

Table 3.1 Approvals and Permits

Agency	Approvals/Permit
City of Oakland	Certify EIR
	Authorize bidding for Project and approve contract
	Adopt Mitigation Monitoring Reporting Program
U.S. Army Corps of Engineers	Confirm Wetland Delineation; issue Section 404 permit
U.S. Fish and Wildlife/National Marine Fisheries Service	Approve Biological Assessment–review other aspects as necessary
California Department of Fish and Game	Review and approve Streambed Alteration Agreement
San Francisco Regional Water Quality Control Board	NPDES Permit, C.3 Guidelines Compliance Approval
California Coastal Conservancy	Approve Project in order to authorize expenditure of Coastal Conservancy funds

Source: CirclePoint, 2005.

4.0 Setting, Impacts, and Mitigation Measures

This chapter contains a description of the environmental setting of the Project as it relates to each specific topic areas, the impacts resulting from implementation of the Project, and mitigation measures that would reduce impacts of the Project to a less-than-significant level. This analysis includes all issues raised as part of the public scoping process.

Determination of Significance

Under CEQA, a significant effect is defined as a substantial, or potentially substantial, adverse change in the environment. The guidelines implementing CEQA direct that this determination be based on scientific and factual data. Each impact and mitigation measure section of this chapter is prefaced by a summary of criteria of significance. These criteria have been developed by the City of Oakland using Appendix G of the CEQA Guidelines as the starting standards. The standards in Appendix G are merely suggested and agencies are free to devise their own standards as they see fit. The City of Oakland's adopted Thresholds of Significance are more stringent and in excess of the standards as outlined in Appendix G of the CEQA Guidelines.

Issues Addressed in the Draft EIR

This Draft EIR analyzes the following topic areas:

Section 4.1 Biological Resources

Section 4.2 Geology and Soils

Section 4.3 Hazardous Materials

Section 4.4 Hydrology and Water Quality

The City has determined that all other resource areas have been adequately addressed under CEQA in the initial study contained in Appendix B. The initial study analyzed potential impacts in all environmental topic areas and concluded that, with the implementation of standard conditions of approval and best management practices, the project would not result in a significant environmental impact. Please refer to Appendix B for further discussion.

Format of Issue Sections

Each environmental issue section has two parts: 1) Setting, and 2) Impacts and Mitigation Measures of the Project. Impacts are numbered and shown in bold type, and the corresponding mitigation measures are numbered and indented. Impacts and mitigation measures are numbered consecutively within each topic and begin with an acronymic reference to the impact section (e.g., BIO). The following symbols are used for individual topics:

BIO	Biological Resources
GEO	Geology and Soils
HAZ	Hazardous Materials
HYDRO	Hydrology and Water Quality

Impacts are also categorized by type of impact as follows:

- Significant
- Significant Unavoidable
- Less Than Significant With Mitigation
- Less Than Significant

4.1 BIOLOGICAL RESOURCES

This section evaluates the Project's potential effect on biological resources, and describes Project design features and mitigation measures to reduce or eliminate any identified significant or potentially significant impacts. The information contained in this section was obtained from the following sources: *Request for Jurisdictional Determination*, by Monk and Associates, dated January 14, 2004; *Draft Biological Assessment: Effects of Proposed 12th Street Reconstruction*, completed by Monk and Associates; *12th Street Reconstruction Project Plans (65% submittal)*, completed in June 2005; and *Grading and Fill Estimates – Lake Merritt Channel and Shoreline*, by Phillip Williams and Associates, dated March 9, 2005.

Section 4.1.3, Project Design Development describes the design features that benefit biological resources. The Project design was informed and developed through a process that included review and compliance with City of Oakland policies and standard conditions of approval. Section 4.1.4 describes the Project's consistency with these City policies and ordinances.

4.1.1 Existing Environmental Setting

The Project site extends approximately 2,400 linear feet along the Lake Merritt Channel between the Lake and I-880. Since the Project could potentially affect terrestrial and aquatic resources, the following setting discussion has been appropriately subdivided to address both terrestrial/park and aquatic/estuarine environments within the Project vicinity.

Terrestrial/Park Environment

The terrestrial areas surrounding Lake Merritt are nearly 100 percent urbanized. City parks adjacent to the southwest edge of Lake Merritt and the Lake Merritt Channel are typical urban parks that contain wide stretches of managed turf and a variety of ornamental trees. Numerous Monterey pine trees (*Pinus radiata*), Coast Redwoods (*Sequoia sempervirens*) and scattered patches of pampas grass (*Cortaderia selloana*) line the Lake Merritt Channel.

The Project area has been extensively modified and is closely abutted on all sides by dense urban development. Aside from the exposed Channel, the site has no waterways to provide important cover and movement corridors in this region. Mammals that use the site are probably common local inhabitants, e.g. rodents, raccoons, deer, etc. Many species of birds also use the Project area, including egrets, herons, cormorants, terns,

grebes, numerous species of marine and diving ducks, and occasional nesting mallards and killdeer.

Aquatic/Estuarine Environment

Lake Merritt is a relatively shallow natural tidal estuary consisting of a 140-acre lake and Channel. As part of the Oakland Estuary system, it harbors a variety of aquatic species including shrimp, fish, crabs, and clams. Although flood control and conveyance infrastructure along the Lake Merritt Channel, such as the box culverts underlying 10th and 12th Streets and the pump station at 7th Street, have drastically limited the lake's connection to the Bay, operational limits to unrestricted tidal flows have been reduced compared to previous decades and the past century[1]. Under the current management scheme, natural tidal flows are allowed but incoming high tides are prevented from entering the lake when rain is forecast in order to provide flood control. Tidal flows are also restricted to keep the Lake at a high level for seaweed harvesting, for boat races, and during unusual circumstances.

Wetlands

Wetlands are defined by the Corps Section 404 implementing regulations as follows: "Those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." To be a wetland, a site must have a predominance of hydrophytic vegetation, evidence of hydric soils, and wetland hydrology existing under the "normal circumstances" for the site.

The Corps also regulates other waters tributary to waters of the U.S. Boundaries between uplands and other waters are determined based on water elevations and geomorphic features. In freshwater conditions, the boundary between uplands and other waters is the ordinary high water mark, which is roughly equivalent to the mean annual flood line. In tidal conditions, the boundary is set by the high tide line, roughly equivalent to mean high water. "Other waters of the United States" generally refers to unvegetated waterways and other water bodies with a defined bed and bank, such as drainages, creeks, rivers, and lakes.

Lake Merritt and the Lake Merritt Channel in the Project area would be characterized as "other waters of the U.S." below mean high water marks. As such, these features were mapped based upon visible mean high water scour lines, debris lines, and algae lines. As shown in Table 4.1.1 below, the mapped acreage that meets criteria as "other waters of the

[1] Monk and Associates, *Biological Assessment*.

U.S." within the Project area is 1.32 acres, while the total acreage of wetlands and waters of the US along the entire Channel from Lake Merritt to I-880 is 8.24 acres.

Table 4.1.1 Wetlands and Waters of the U.S.

Area	Square-Feet Waters of the US	Square-Feet Wetlands
Underground Box Culvert at 12th Street	18,875	0
Channel Section between 12th Street and 10th Street	38,600	0
Subtotal for Lake Merritt Channel Improvement Project	***57,410 sq ft (1.32-acre)***	***0***
Underground Box Culvert at 10th Street	10,000	0
Channel Section between 10th Street and I-880 (includes 7th Street crossing)	274,500	17,221
Total Wetlands and Other Waters of the U.S.	**341,910 sq ft (7.85-acre)**	**17,221 (0.39-acre)**

Source: Monk and Associates. U.S. Army Corps of Engineers Verified Wetland Delineation Map, lake Merritt and Lake Merritt Channel: April 21, 2005

Special Status Species

The USFWS maintains a list of endangered and threatened species pursuant to the Federal Endangered Species Act (FESA). Although no listed species were observed during field surveys conducted for the Project, eight special status fish species have been cited by the CNDDB and the USFWS as potentially present in the waters in the vicinity of the Project site. These species are listed in Table 4.1.2.

Table 4.1.2. Potentially Present Special Status Fish Species in the Project Area

Common Name	Scientific Name	Listing Status[2]	Listing Actions
Chinook salmon - Sacramento River winter-run ESU[1]	*Oncorhynchus tshawytscha*	FE	
Chinook salmon - Central Valley spring-run ESU[1]	*Oncorhynchus tshawytscha*	FT	Critical habitat designation[5]
Chinook salmon - Central Valley fall/late fall-run ESU[1]	*Oncorhynchus tshawytscha*	CS	
Steelhead - Central California Valley ESU[1]	*Oncorhynchus mykiss*	FT[3]	ESA Listing Status[4]; Critical habitat designation[5]
Steelhead - Central California Coast ESU[1]	*Oncorhynchus mykiss*	FT[3]	ESA Listing Status[4]; Critical habitat designation[5]
Coho salmon - Central California ESU[1]	*Oncorhynchus kisutch*	FT	
Delta smelt	*Hypomesus transpacificus*	FT	
Tidewater goby	*Eucyclogobius newberryi*	FT	

1 An Evolutionarily Significant Unit, or "ESU", is a distinctive group of Pacific salmon or steelhead. National Marine Fisheries Service (NMFS) considers an ESU a "species" under the ESA.

2 Current Endangered Species Act listing status code definitions are as follows:

Federally Endangered (FE) - Any species in danger of extinction throughout all or a significant portion of its range (16 U.S.C. 1532(6))

Federally Threatened (FT) - Any species likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range (16 U.S.C. 1532(20)).

Candidate Species (CS) - Substantial information exists in U.S. Fish and Wildlife Service files on biological vulnerability to support proposals to list as endangered or threatened.

3 Updated final listing determinations for 16 salmon ESUs were published in the Federal Register on June 28, 2005 (70 FR 37160)

4 The final listing determinations for the Oregon Coast coho ESU and ten *Oncorhynchus mykiss* ESUs have been extended until December 12, 2005.

5 Final critical habitat designations for 19 species of salmon and steelhead were published in the Federal Register on August 15, 2005 (70 FR 52488).

Source: NOAA, Endangered Species Act Status Reviews And Listing Information, Listing Status Snapshot, July 13, 2005 [http://www.nwr.noaa.gov/1salmon/salmesa/pubs/1pgr.pdf]

Protected Trees

Protected trees are defined in the City of Oakland Tree Protection Ordinance as any coast live oak tree that is larger than 4 inches dbh[2] and any tree that is larger than 9 inches dbh,

[2] dbh (diameter at breast height) is determined by measuring the trunk at 4'-6" from the ground. Multi-trunked trees are measured by combining the diameters of all trunks at 4'-6" from the ground.

except eucalyptus trees, or Monterey Pine trees on city property and in development-related situations where more than five per acre are proposed to be removed. A total of 35 protected trees were identified within the 10-foot tree protection zone between 12th Street and 10th Street, which includes all trees within 10 feet of the limit of construction activities on this portion of the development site.. The species breakdown of protected trees on the portion of the Project site between 12th Street and 10th Street is shown in Table 4.1.3. The implementation of the 10th Street and 7th Street projects will also require removal of protected trees. Any proposed tree removal would be subject to compliance with the Tree Protection Ordinance as part of the planning and implementation of those projects.

Table 4.1.3. Protected Trees

Common Name	Scientific Name	Number of Trees
Regionally Native Species		
Coast redwood	*Sequoia sempervirens*	7
Coast live oak	*Quercus agrifolia*	1
Nonnative Species		
Pine	*Pinus sp.*	4
Cherry	*Prunus sp.*	1
Blackwood	*Acacia melanoxylon*	1
Crabapple	*Malus sp.*	1
Japanese cheesewood	*Pittosporum tobira*	5
Irish yew	*Taxus baccata "Stricta'*	2
Dracaena	*Dracaena sp.*	1
Incense Cedar	*Calocedrus decurrens*	11
Trident Maple	*Acer buegerianum*	1
Total Number of Trees		**35**

Source: Golden Associates. 12th Street Reconstruction Project Plans (Tree Permit Submittal), February 2006.

4.1.2 Regulatory Setting

Various state and federal agencies have jurisdiction over development as it relates to biological resources: the U.S. Army Corps of Engineers, the U.S. Fish and Wildlife Service, the State Water Resources Control Board, the California Regional Water Quality Control Board, and the California Department of Fish and Game. Additionally, the City of Oakland has policies and ordinances that protect biological resources and that informed the design of the Project. This section provides a summary of the various jurisdictions, their regulatory authority, the permits required for development, and other applicable laws and statutes.

Federal Agencies

U.S. Army Corps of Engineers (Corps)

Under Section 404 of the Clean Water Act, the Corps regulates the disposal of dredged or fill material into "waters of the United States." Waters of the United States are defined as interstate waters including wetlands, intrastate lakes, rivers, streams (including intermittent streams), and natural ponds; the use, degradation or destruction of which could affect interstate or foreign commerce.

Section 404 of the Clean Water Act establishes a requirement to obtain a permit prior to any activity that involves any discharge of dredged or fill material into "Waters of the United States," including wetlands. Waters of the United States include navigable waters, interstate waters, all other waters where the use, degradation, or destruction could affect interstate or foreign commerce; tributaries to any of these waters, and wetlands that meet any of these criteria or that are adjacent to any of these waters or their tributaries. Pursuant to Section 404 of the CWA, USACE regulates and issues permits for such activities. Nearly all surface waters and wetlands in California meet the criteria for Waters of the United States, including intermittent streams and seasonal lakes and wetlands. Activities that require a permit under Section 404 include placing fill or riprap, grading, mechanized land clearing, and dredging. Any activity that results in the deposit of dredged or fill material within the "Ordinary High Water Mark"of Waters of the United States usually requires a permit, even if the area is dry at the time the activity takes place. The USACE may either issue individual permits on a case by- case basis or nationwide permits on a program level. Nationwide permits (NWPs) are issued to cover particular fill activities that are expected to cause only minimal adverse effects on the environment.

All NWPs have a specific set of conditions that must be met for the permits to apply to a particular project, as well as specific conditions that apply to all NWPs.

U.S. Fish and Wildlife Service (USFWS)

The USFWS maintains a list of endangered and threatened species pursuant to the Federal Endangered Species Act (FESA). Under Section 7 of FESA, all Federal agencies must, in consultation with USFWS, ensure that their actions do not jeopardize the continued existence of a listed species or destroy or adversely modify critical habitat.

Both the Federal Endangered Species Act (FESA) and the California Endangered Species Act (CESA) require consultation with the appropriate resource agency if a project may result in take of a federal- and/or state-listed threatened or endangered species. Incidental take, or take that occurs while conducting otherwise lawful activities, is not permitted by CDFG, NMFS, or USFWS if it would jeopardize the continued existence of the listed species. If a take were to occur incidental to the purpose of a project, and such

take would not jeopardize the continued existence of a federal listed species, a permit may be authorized by the USFWS and/or NMFS under FESA. NMFS is the agency responsible for administering FESA with respect to listed anadromous species which include all federally listed salmon and steelhead.

If a federally-listed endangered or threatened species is present in "waters of the United States" on the project site, prior to authorizing impacts to "waters of the United States" (i.e., issuing a permit for a proposed action), the Corps would be required to initiate "formal consultation" with USFWS pursuant to Section 7 of FESA. As part of the formal consultation, the USFWS would then be required to prepare a Biological Opinion which would state whether the project will or will not threaten the continued existence of the species. Additionally, if a federally listed endangered or threatened species is present on the project site, outside of the Corps jurisdiction (i.e., outside of "waters of the United States"), then it would be necessary for the project applicant (i.e., the applicant's consultant) to prepare a "habitat conservation plan" or "HCP" pursuant to Section 10 of FESA. If USFWS agrees to the avoidance and mitigation measures outlined in the HCP, then they will issue an "incidental take" permit for the proposed action.

The Federal Migratory Bird Treaty Act of 1918—This Act makes it unlawful to "take" (kill, harm, harass, shoot, etc.) any migratory bird including their nests, eggs, or young. Migratory birds include geese, ducks, shorebirds, raptors, songbirds, wading birds, seabirds, and passerine birds (such as warblers, flycatchers, swallows, etc.).

State Agencies

State Water Resources Control Board (SWRCB)/California Regional Water Quality Control Board (RWQCB)

The SWRCB and RWQCB regulate activities pursuant to sections 401 and 402 of the Clean Water Act of 1972. Under Section 401, the SWRCB and the RWQCB certify that the permits issued by the Corps are consistent with CEQA, the California Endangered Species Act, and SWRCB's mandate to protect beneficial uses of waters of the State. Under Section 402, the agencies ensure that all construction activities that disturb more than one acre of land surface have a National Pollutant Discharge Elimination System (NPDES) permit. The NPDES permit regulates the production and handling of stormwater onsite, and includes the creation of a Stormwater Pollution Prevention Plan (SWPPP).

California Department of Fish and Game (CDFG)

Under Sections 1601-1603 of the California Fish and Game Code, CDFG regulates activities that divert, obstruct, or alter stream flow, or substantially modify the bed, channel, or bank of a stream or its riparian vegetation.

Any proposed activity that would result in any of these modifications to a natural stream channel, and that would adversely affect an existing fish and wildlife resource requires a Streambed Alteration Agreement (SBAA) with CDFG prior to commencing with work in the stream. The SBAA issued will present conditions that the applicant must follow to remain in compliance with Fish and Game Code.

California Endangered Species Act (CESA)—Under Section 2050 of the Fish and Game Code, CDFG also implements CESA. The basic policy of CESA is to conserve and enhance endangered species and their habitats. State agencies will not approve private or public projects under their jurisdiction that would jeopardize threatened or endangered species if reasonable and prudent alternatives are available. CESA requires that all State lead agencies (as defined under CEQA) conduct an endangered species consultation with CDFG if their actions could affect a State listed species.

Local Agencies

City of Oakland General Plan

The City has authority over land and development within the city limits. The City exercises its authority through policies and planning documents such as the General Plan and City Ordinances such as the City Municipal Code. The Open Space Conservation and Recreation (OSCAR) and the Land Use and Transportation Elements of the Oakland General Plan and the Oakland Estuary Plan have numerous policies related to the protection of biological resources. The City's Municipal Code contains policies related to tree preservation. This section lists the policies related to the protection of biological resources that are applicable to the proposed Lake Merritt Channel Improvements Project. The Project's consistency with these policies is discussed in Section 4.1.4, Project Consistency with Applicable Regulations and City Policies.

OSCAR Element

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.

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.

Objective CO-6 To protect the ecology and promote the beneficial uses of Oakland's creeks, lakes, and nearshore waters.

Policy CO-6.4 Manage Oakland's lakes to take advantage of their recreational and aesthetic potential while conserving their ecological functions and resource value. Discourage new recreational uses which impair the ability of the lakes to support fish and wildlife. Support improvements which enhance water circulation, water quality, and habitat value, provided they are cost-effective and are compatible with established recreational activities.

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.

Policy CO-7.1 Protect native plant communities, especially oak woodlands, redwood forests, native perennial grasslands, and riparian woodlands, from the potential adverse impacts of development. Manage development in a way which prevents or mitigates adverse impacts to these communities.

Action CO-7.1.4 Where legally permissible, consider establishing a 150-foot setback along riparian corridors which are wholly contained on public lands.

Policy CO-7.2 Encourage efforts to restore native plant communities in areas where they have been compromised by development or invasive species, provided that such efforts do not increase an area's susceptibility to wildfire.

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.

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.

Policy CO-8.2 Limit recreational uses within wetland "parks" to activities that are consistent with the fragile environmental characteristics of the areas.

These uses may include wildlife refuges, ecological study areas, and where appropriate, interpretive boardwalks and nature centers.

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.

Action CO-9.1.2 Require large-scale development within the habitat of the species listed in Tables 6 and 7 (of the OSCAR) to conduct pre-development surveys to determine whether these species are present. Require site-specific analyses of the effects of the proposed development on the species where appropriate, along with a plan for minimizing those effects. These surveys and analyses may be included in any environmental documentation for a project.

Policy CO-11.1 Protect wildlife from the hazards of urbanization, including loss of habitat and predation by domestic animals.

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.

Policy OS-7.4 Expand and enhance the City's waterfront park areas. Signage and access provisions to existing waterfront parks should be improved. Opportunities for new shoreline parks as depicted in Figure 7 (of the OSCAR) should be pursued as redevelopment along the waterfront occurs. A variety of park environments should be created, including active recreation areas, fishing piers and boating facilities, natural areas, and small "pocket" parks with landscaping and benches, all linked by linear parks or pedestrian paths emphasizing shoreline views and access.

Policy OS-12.1 Incorporate a broad and varied range of tree species which is reflected on a city-maintained list of approved trees. Street tree selection should respond to the general environmental conditions at the planting site, including climate and micro-climate, soil types, topography, existing tree planting, maintenance of adequate distance between street trees and other features, the character of existing development, and the size and context of the tree planting area.

Policy REC-2.3 Protect sensitive natural areas within parks, including creeks and woodlands, and integrate them into park design. Require new

recreational facilities to respect existing park character, be compatible with the natural environment, and achieve a high standard of design quality.

LUTE

Policy W3.2 The function, design and appearance, and supplementary characteristics of all uses, activities, and facilities should enhance, and should not detract from or damage the quality of, the overall natural and built environment along the waterfront.

Policy W3.3 Native plant communities, wildlife habitats, and sensitive habitats should be protected and enhanced.

Estuary Plan Element

Policy OAK-1.1 Encourage the preservation and enhancement of wetland areas. The waterfront should be improved in a manner that maintains and enhances the ecological value of the area in general and the Lake Merritt Channel in particular. In some locations, tidelands function as tidal wetlands, providing marsh habitat for fish, migratory waterfowl, and other animals. Improvements should be encouraged that restore wetland and marsh habitat. Wetlands should be protected by such treatments as setting back trails from the shoreline, installing suitable buffer planting to prevent disruption to nesting and resting areas, seasonal routing of pedestrians to avoid sensitive habitats, etc. As improvements and projects are considered, the City and Port should work with interested groups and organizations to ensure appropriate treatments along the shoreline, particularly along the channel on the eastern bank between I-880 and Embarcadero.

City of Oakland Municipal Code

Title 12, Chapter 12.36 of the Oakland Municipal Code (OMC) requires that a permit be obtained prior to removing protected trees from either City or private property. Protected trees are defined in the Ordinance as follows:

- Any coast live oak tree that is larger than 4 inches dbh.
- Any tree that is larger than 9 inches dbh, except eucalyptus trees, or Monterey pine trees on city property and in development-related situations where more than five per acre are proposed to be removed.

4.1.3 Project Design Development

The restoration components of the Project were designed to improve the physical function and biological elements of Lake Merritt and the Channel. Additionally, Project components were designed to be consistent with General Plan policies adopted to avoid or decrease environmental impacts. As a healthier and more diverse system, the Lake and Channel should be more capable of supporting resident and migratory wildlife species. The Project includes significant resource management efforts aimed at restoring both the historical appearance and function of the Channel and its ecosystems. These efforts include tidal connection improvement and wetland creation, native plant landscaping, habitat enhancement, and data collection, as discussed below.

Tidal Connection Improvement and Wetland Creation

The primary project restoration goal is to reduce structural constraints to tidal connections between the Lake and San Francisco Bay. The replacement of the existing culverts at 10th and 12th Streets with free span bridges will improve tidal action and exchange in the Lake, which will in turn improve flushing, exchange, and water quality, and increase the tidal range. The increased tidal range improves the opportunities for wetland creation.

The Project includes creation of approximately 1.13 acres of open water through the removal of existing culverts at 12th Street and grading of the west bank, and possibly additional acreage as part of the 10th and 7th Street Project. This open water area would be considered open water habitat in the intertidal zone. The Project also includes creation of tidal marsh (approximately 0.71 acres between Lake Merritt and 10th Street, and possibly additional acreage as part of the 10th and 7th Street Project) and upland habitat within the Lake Merritt Channel. These elements restore some of the historical marsh and Channel features that have been lost as the City developed around the lakeshore. Vegetation removal and coincident revegetation programs will also improve habitat integration and connectivity. The wetland fringe on the east side of the Channel (approximately 0.09 acres) will also be expanded to provide roosting habitat for a number of bird species including ducks and egrets.

This restoration would implement and be consistent with City policies CO-5.3, CO-6, CO-6.4, CO-8.1, and OAK-1.1 by improving water quality, promoting beneficial uses of Oakland's waters, enhancing water circulation, mitigating impacts to wetlands, and preserving and enhancing wetlands. In total, 1.82 acres of new open water and tidal marsh will be created between 12th Street and 10th Street. Additional open water and possibly tidal marsh may be created as part of the 10th Street and 7th Street Restoration Projects. A summary of the proposed project restoration and improvement activities is shown in Table 4.1.4.

Table 4.1.4. Grading and Fill Estimates - Lake Merritt Channel Improvements Project*

Activity	Areas of New Fill (Acres)	Areas of New Open Water (Acres)	Areas of New Tidal Marsh (Acres)
Channel Area – Open Water			
a. Removal of Existing Culverts		0.81	
b. West Bank (creation of new open water)		0.32	
c. East Bank (fill along bank)	0.05		
Channel Area – Tidal Marsh			
a. West Bank (creation of tidal wetland)			0.69
b. East Bank (creation of tidal wetland)			0.02
Total Area	**0.05**	**1.13**	**0.71**

Source: Phillip Williams and Associates. Grading and Fill Estimates – Lake Merritt Channel and Shoreline, March 9, 2005.

*Does not include estimates for 10th and 7th Street projects.

Native Plant Landscaping

The plant palette for the tidal marsh areas and Channel bank restoration zones was developed by the City with three primary objectives: 1) creation of viable and sustainable habitat; 2) use of appropriate plant materials for urban setting; and 3) stabilization of marsh plain and Channel bank soils. The plant species identified for use in the Project are based predominately on native plant communities found in similar local and regional ecosystems of the San Francisco Bay Area.

The habitat conditions proposed within the Project are based on environmental restoration habitat priorities for the Lake Merritt/Oakland Estuary system. The current revegetation plan for the Project includes pickleweed in the lower marsh areas; marsh gumplant and salt grass in the upper marsh areas; and transitional zones characterized by native grasses, shrubs, and trees. The Project would be consistent with and would implement City policies CO-7.1, CO-7.2, and OS-12.1 by incorporating native plant landscaping into the Project design.

Habitat Enhancement

A number of measurable habitat benefits will be realized relating specifically to the proposed plant materials and their groupings. Viable wetland and upland habitat conditions will be created that will support a range of terrestrial and avian species. Transitional zones between habitat areas will increase overall habitat value and diversity. The Project would be consistent with and would implement City policies CO-6.4, CO-7.2,

CO-8.2, CO-9.1, CO-11.2, REC-2.3, and W3.3 by conserving ecological functions; restoring native plants; creating protected areas within wetland parks; protecting sensitive species, sensitive natural areas, and wildlife habitats; and enhancing migratory corridors. Benefits of the proposed plantings include, but are not limited to:

- Habitat creation – development of vegetated areas populated with native plant materials will establish foraging and refuge potential for a number of terrestrial and avian species.
- Habitat diversity – specific plant species and groupings associated with different physical zones within the tidal marsh and Channel banks will create diverse and varied habitat conditions. Low growing herbaceous plants, woody shrubs, and different native tree will create a mix of available habitats.
- Buffer/transition zones – plantings along the edges of the tidal marsh and Channel banks will help to protect more sensitive habitat areas from foot and animal traffic. The buffer zones will also feature more upland plant species that will add diversity to the overall Project.
- Soil stabilization – specific regionally native grass and tree species will be used to reconstruct and stabilize banks along the Lake Merritt Channel. These plant materials were identified and selected for their soil stabilization characteristics and their appropriateness for the anticipated environmental conditions. Other plantings around the Project.
- Connectivity – the habitat restoration elements will begin to establish improved habitat connectivity between the Lake and other similar habitat areas within the region.
- Water quality enhancement – the proposed project plantings will provide a reduction of surface run-off and erosion potential. Additionally, proposed plantings should increase permeability and percolation of stormwater runoff into the ground that will slow conveyance of stormwater runoff directly to the Lake and Channel.

Site Survey and Data Collection

Data on the Project site was obtained by Monk and Associates biologists between July 2004 and October 2005. Data collection activities included a wetlands delineation and a database and literature search. Site survey and data collection activities conducted for the Project would be consistent with and would implement City policies CO-5.3.5, CO-8.1, CO-9.1.2, OAK-1.1, and OMC 12.36 by inventorying biological resources on the site, analyzing the impacts of the Project on those resources, and incorporating mitigating features into the Project design.

A wetland delineation was conducted on July 23, 2004 by Monk and Associates staff according to the Corps' 1987 Wetlands Delineation Manual; however, no wetlands or wetland vegetation were present on the site; therefore, none were recorded as part of the delineation.

In accordance with the Delineation Manual, potential waters of the United States and other features were mapped by Monk and Associates staff using a Trimble Pro-XR Global Positioning System (GPS) with sub-meter accuracy. Data were further corrected using base station files from the U.S. Forest Service Remote Sensing Laboratory in Sacramento. While there is as much as 30 inches of error in the placement of the waters of the U.S. on the preliminary delineation map, this error only relates to position and not to the extent or area of waters of the U.S. Mapped features are accurate to 1/1000 of an acre.

The delineation map, which extends from approximately 18th Street to the Municipal Boathouse and from the Lake Merritt Channel to the Embarcadero, was made from the GPS files using AutoCAD and ArcMap 9.3. All spatial data were projected into the California State Plane, NAD 83 coordinate system, Zone 2 and overlaid on a topographic map of the Project area. Following completion, the delineation map was submitted to the U.S. Army Corps of Engineers, whereupon, the map was subject to Corps review and verification. The map was officially verified on April 21, 2005, as indicated in Corps File Number 29368S.

Monk and Associates staff is currently preparing a Biological Assessment (BA) for the Project, which will be submitted along with the 90 percent construction drawings to the National Oceanic and Atmospheric Administration (NOAA). The BA will evaluate the Project's potential effect on species listed as threatened or endangered pursuant to the Federal Endangered Species Act, and will also evaluate Essential Fish Habitat pursuant to the Magnusson-Stevens Act.

Water Quality Protection

Although it is unlikely that listed anadromous fish species (NMFS protected species) will be impacted by the construction project, the Project will include a number of water quality protection features, as discussed below, to ensure that impacts to all fish species are avoided and minimized to the greatest extent possible.

Implementation of an Erosion Control Plan, which is a standard condition imposed by the City of Oakland, will reduce potential impacts to special-status fish species due to possible erosion and sedimentation. As required by the City's Sedimentation Control Ordinance, the plan will be prepared in accordance with the Manual of Standards for Erosion and Sediment Control Measures, published by the Association of Bay Area Governments. Measures could include such as hay bales, hay wattles, and silt fencing to prevent de

minimus fill from accidentally entering Lake Merritt or Lake Merritt Channel during construction; oil absorbent booms and sediment curtains placed downstream of the in-river construction area and near bank construction activities to limit the transport of suspended sediments; revegetation/hydroseeding of barren soils to prevent silt runoff into San Francisco Bay; and careful removal of dredge spoils to prevent suspended materials from re-entering Lake Merritt or Lake Merritt Channel.

In addition to the Erosion Control Plan described above, the implementation of a storm water pollution prevention plan (SWPPP) and a storm water management plan (SWMP), pursuant to RWQCB requirements, will maintain water quality in Lake Merritt and the Lake Merritt Channel.

4.1.4 Project Consistency with Applicable Regulations and City Policies

The Project would be consistent with and would implement City policies related to the protection of biological resources, including those policies cited in previously adopted documents as mitigating the Project's environmental impacts. Specifically, the Project would implement OSCAR Objective CO-6, Policies CO-5.3, CO-7.2, CO-7.1.4, CO-9.1, CO-11-1, CO-11.2, REC-2.3, LUTE Policy W3.3 and W3.2, and Estuary Plan Policy OAK-1.1 by widening the Lake Merritt Channel, restoring the shoreline, and planting native plants, all actions that would improve sensitive habitat and the water quality in Lake Merritt. The Project would be consistent with OSCAR Action CO-5.3.5, CO-6.4, CO-6.5, CO-7.1, CO-7.4, CO-8.1, CO-8.2, Action CO-9.1.2, and OS-12.1 by analyzing the environmental impacts of the Project and incorporating mitigation measures and discouraging uses or activities that would impact sensitive habitat or wetlands. The Project would also implement OSCAR Policy CO-7.4 by enhancing waterfront park areas.

The Project would result in the removal of some protected trees. Regionally native replacement trees will be planted, where feasible, pursuant to City permits and the Project would be consistent with the City's Tree Protection Ordinance. Additionally, the Project design and associated removal of some protected trees will yield a number of measurable habitat benefits, including establishment of regionally native species to improve foraging and refuge potential for a number of terrestrial and avian species; greater diversity of available habitats; protection of sensitive habitat areas from foot and animal traffic; stabilization of the banks along the Lake Merritt Channel; improved habitat connectivity between the Lake and other similar habitat areas within the region; and increased permeability and percolation of stormwater runoff.

4.1.5 Impacts and Mitigation Measures

Thresholds of Significance

Under CEQA, a significant effect is defined as a substantial, or potentially substantial, adverse change in the environment. The guidelines implementing CEQA direct that this determination be based on scientific and factual data. Below is a summary of the criteria of significance. These criteria have been developed by the City of Oakland based on Appendix G of the CEQA Guidelines and tailored to incorporate regulations, rules, policies, plans and ordinances applicable to Oakland projects.

The following thresholds are broad enough in scope to account for all reasonably expected potentially significant environmental effects. A project's effects on biotic resources would be significant if the project would result in any of the following:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Have a substantial adverse impact on federally protected wetlands (as defined by Section 404 of the Clean Water Act) or state protected wetlands (through direct removal, filling, hydrological interruption, or other means;
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with an established resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan; or
- Fundamentally conflict with the City of Oakland Tree Preservation and Removal Ordinance (Oakland Municipal Code (OMC) Chapter 12.36) by removal of protected trees under certain circumstances. Factors to be considered in determining significance include:
  1) The number, type, size, location and condition of (a) the protected trees to be removed and/or impacted by construction and (b) the protected trees to remain, with special consideration given to native trees.[3]

[3] Oakland Planning Code Section 17.158.280E2 states that "Development related" tree removal permits are exempt from CEQA if no single tree to be removed has a dbh of 36 inches or greater and the cumulative trunk area of all trees to be removed does not exceed 0.1 percent of the total lot area.

- Fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect biological resources. Although there are no specific, numeric/quantitative criteria to assess impacts, factors to be considered in determining significance include whether there is substantial degradation of riparian and aquatic habitat through: (a) discharging a substantial amount of pollutants into a creek; (b) significantly modifying the natural flow of the water; (c) depositing substantial amounts of new material into a creek or causing substantial bank erosion or instability; or (d) adversely impacting the riparian corridor by significantly altering vegetation or wildlife habitat.

Less Than Significant Impacts

Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species.

As noted in Section 4.1.1, the Project area does not contain and candidate, sensitive, or special status plant or terrestrial animal species. Regarding special status fish species, Lake Merritt is a highly modified lake environment and, as such, does not presently contain natural habitat typical of the San Francisco Bay estuary such as eel grass (*Zostra marina*) beds, mudflats, and/or tidal wetlands. It is also highly degraded due to untreated urban runoff and very limited tidal flushing caused by structural limitations that are currently in place. Given its current condition, the lake does not provide the necessary breeding, nursery, and feeding habitat for any of the species listed in Table 4.1.2. "Potentially Present Special Status Fish Species in the Project Area", nor does it provide suitable habitat for species such as Pacific herring (*Clupea pallasi*) and Pacific anchovy (*Stolephorus pacificus*). Therefore, the Project is unlikely to affect marine or anadromous fish species protected pursuant to the Federal Endangered Species Act (ESA) or the Magnusson/Stevens Act.

One federally listed fish species regulated by USFWS, tidewater goby (*Eucyclogobius newberryi*), was reported from Lake Merritt as recently as 1979. However, it is the opinion of Ryan Olah, USFWS Coast-Bay-Delta Branch Chief/Supervisor, that the tidewater goby does not currently occupy Lake Merritt habitat, and that water quality degradation has likely led to its local extinction.[4] Mr. Olah further asserts that the Project and associated channel improvements, which would improve the natural tidal regime, shoreline habitat, and water quality at Lake Merritt, is consistent with the draft recovery plan for tidewater goby and would ultimately, have no affect on the species. Consequently,

[4] Monk and Associates. *Biological Assessment*

the Project would not require a Section 7 consultation by and between the Corps and the USFWS.

Because of the presumed absence of any ESA species in the Channel, construction-related impacts are unlikely. Nevertheless, a number of water quality protection features have been incorporated into the Project design and/or are required pursuant to standard conditions implemented by the City of Oakland, such as the preparation of a Creek Protection Permit, Erosion Control Plan, grading plan, and stormwater management plan. See Appendix C, D and E for the requirements related to these permits and plans. Project design will also include the following measures that will provide protection for aquatic species:

- describe measures for protecting environmentally sensitive areas (ESA) within the Project area through delineating them with high-visibility ESA fence
- oil absorbent booms and sediment curtains placed downstream of the in-river construction area and near bank construction activities to limit the transport of suspended sediments;
- revegetation/hydroseeding of barren soils to prevent silt runoff into San Francisco Bay; and
- and careful removal of dredge spoils to prevent suspended materials from reentering Lake Merritt or Lake Merritt Channel.

Fundamentally conflict with the City of Oakland tree protection policy.

The project would fully comply with the City of Oakland Tree Protection Ordinance. Compliance is achieved by obtaining a permit for the removal of any protected trees and by replanting with predominantly native species. Those trees to remain on-site shall be protected during construction per the terms of the Tree Protection Ordinance.

Protected trees are defined in the City of Oakland Tree Protection Ordinance as any coast live oak tree that is larger than 4 inches dbh and any tree that is larger than 9 inches dbh, except eucalyptus trees, or Monterey Pine trees on city property and in development-related situations where more than five per acre are proposed to be removed. A total of 35 protected trees have been identified within the 10-foot tree protection zone between 12th Street and 10th Street, which includes all trees within 10 feet of the limit of construction activities on this portion of the development site. The species breakdown of protected trees on the Project site is shown in Table 4.1.3. The majority of the trees slated for removal are nonnative species whose habitat value is derived largely from their use as ornamental or shade trees. The 35 trees to be removed are a subset of the trees listed for removal within the 12th Street Project. They have been included in Tree Removal plans reviewed by the public for the 12th Street Project. The implementation of the 10th Street and 7th Street projects will also require removal of protected trees. Any proposed tree

removal would be subject to compliance with the Tree Protection Ordinance as part of the planning and implementation of those projects.

As required by the City's Tree Protection Ordinance, the Project includes revegetation with predominantly native planting material, including species appropriate for upland habitat and marsh habitat. Selection criteria for these species would be based upon native plant communities found in similar local and regional ecosystems of the San Francisco Bay Area. Consideration would also be given to the particular environmental restoration habitat priorities of the Lake Merritt/Oakland Estuary system. The 10th Street and 7th Street portion of the Project would also incorporate regionally native plant material as part of any revegetation plan to ensure that the plant palette would be consistent throughout the Project area.

The project will comply with the posting and public noticing requirements of Oakland's Municipal Code 12.36 regarding the removal of City-Owned trees. Per Oakland's Municipal Code 12.36, adequate protection shall be provided during the construction period for any trees which are to remain standing. See Appendix F for a list of requirements related to tree removal of City-owned trees and for tree protection measures.

By cultivating regionally native plant material, the Project would yield a number of measurable habitat benefits, including the following: establishment of foraging and refuge potential for a number of terrestrial and avian species; greater diversity of available habitats; and protection of sensitive habitat areas from foot and animal traffic; stabilization of the banks along the Lake Merritt Channel; improved habitat connectivity between the Lake and other similar habitat areas within the region, and increased permeability and percolation of storm water runoff. Overall, the Project would be beneficial in terms of habitat enhancement, stabilization, and protection, and is not expected to have a substantially adverse impact on existing tree resources.

Removal of the existing trees along the Channel would result in a loss of canopy and foraging, nesting, and roosting habitat. The channel area contains relatively dense foliage (especially along the western bank) that provides nesting habitat for California towhee and white-crowned sparrow. A small flock of foraging white-crowned sparrows was observed in the project area, along with two California towhees and a lesser goldfinch. Urban bird populations, including those around Lake Merritt, have adapted well to the constant presence of human pedestrian and vehicular traffic, and are opportunistic in their choice of foraging and roosting habitat. Urban birds are quite adept at moving through the urban landscape while foraging, and except for nest sites and/or long-term colonial roost sites, are not "tied down" to individual trees. None of the trees proposed for removal provide unique habitat values beyond those already present in the surrounding Lake Merritt landscape. Birds that occasionally use these trees will adapt to their absence by finding nearby areas (i.e., trees and shrubs) in which to forage and roost.

The temporary impact is not considered significant, since alternate habitat exists in the vicinity and the habitat proposed for removal is not considered to be high value. In addition, the planting of new native species will offset any short-term, localized habitat loss by increasing the amount of tree habitat around Lake Merritt over the long term, resulting in a net benefit to the local bird community.

Although the City is planning to remove additional trees in 2006 as part of the 12th Street Reconstruction Project and other improvement projects around the Lake, the cumulative loss of canopy is not considered significant since the park vegetation is predominantly ornamental and does not provide a high habitat value for native species. Both the Lake Merritt Channel Improvement Project and the 12th Street projects include replacement vegetation that is predominantly native. The Channel Improvements Project includes riparian species such as California buckeye (Aesculus Californica), western sycamore (*Plantanus racemosa*), willow (*Salix spp.*), big leaf maple (*Acer macrophyllum*), and western redbud (*Cercis occidentalis*); and native intertidal and marsh plantings that will provide a more appropriate riparian habitat for terrestrial and avian species resulting in improved habitat for foraging and nesting in the long term.

Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations.

Construction. The project would include removal of much of the existing vegetation with the exception of specific mature trees within the project boundaries and grading along the banks of the channel, which could result in adverse effects to the environment. The project would include placement of temporary rock slope and other erosion protection measures which could result in adverse effects to the environment.

The effects of vegetation removal to existing terrestrial, aquatic, and avian species are discussed previously in this section. The Channel does not currently support riparian habitat. With the exception of the eight coast redwoods and one live oak, the existing planting is non-native and/or ornamental. The removal of non-native vegetation would allow revegetation with high value native planting that will promote a denser utilization of the Channel area by native species. The transformation from an urban park environment to one naturalistic in form and function will subsequently lead to higher usage by native species. The intent is to restore, to the greatest extent practicable, the Channel and Channel vegetation to a naturalistic bay estuary.

The placement of fill in navigable waters is regulated by the US Army Corps of Engineers (Corps). The Corps has evaluated the potential effects of the Project and has indicated that it may be processed according to their Nationwide Permit, which is a programmatic process used for projects where impacts related to the placement of fill are not considered

substantial or that will fundamentally enhance the regulated waterbody. As explained more fully in Section 4.4 Hydrology of this DEIR, the work in the Channel would be conducted after the area had been dewatered to prevent sediment from reaching the Channel waters. Dewatering is an erosion and sediment control technique that is commonly used to prevent significant impacts to aquatic environments. The Erosion Control Plan that is routinely required by the City of Oakland as a standard condition of approval will explain this activity in more detail and will be subject to review and approval by the Director of Public Works. Please refer to Appendix C and Appendix D for further discussion of the requirements of the Erosion Control Plan.

The planned activities have been discussed informally with both the US Army Corps of Engineers, and the Regional Water Quality Control Board. Permit applications describing the planned activities in the Channel will be submitted and will be reviewed. The goal of creating new and expanded riparian and marsh habitat is supported by all resource agencies, and the permits may include additional conditions as appropriate to ensure protection of resources during construction.

Operation. The Project includes the creation of 1.84 acres of new open water or tidal marsh habitat, for a net gain of 1.64 acres of upland habitat. The Project also includes bank and soil stabilization to the existing Channel bank, which would limit the scour and erosion that is currently occurring and protect created wetlands. The overall goal of the Project is to create a more naturalistic and sustainable habitat along the Channel that will in the long term reduce the current rate of sedimentation transport to the Lake and Channel.

The Project includes revegetation with predominantly regionally native species that would be appropriate to an upland and tidal marsh environment, which in turn would support the reintroduction or expansion of native species and plant communities. Overall, the Project is expected to have a beneficial effect on existing upland or other sensitive natural community resources. The 10th Street and 7th Street Projects provide additional opportunities to create new open water and habitat along the Channel by continuing the design established by the Lake Merritt Channel Improvements Project.

Have a substantial adverse impact on federally or state protected wetlands.

Construction. Based on the wetland delineation conducted by Monk and Associates on July 23, 2004, the only portion of the Project area that contains existing wetlands and wetland vegetation is the 7th Street Project area. Therefore no impacts to wetlands would occur during construction of the 12th and 10th Street Projects.

The wetlands within the 7th Street Project area are located along the east and west sides of the Channel, north and south of the 7th Street crossing. The City is proposing to construct a

diversion Channel at the 7th Street crossing to improve tidal flow and access. The precise extent of disturbance required for this construction is not known at this time, but would not likely extend beyond the concrete wing walls, and would not therefore be likely to directly disturb existing wetlands.

The Corps is currently processing an application from the City for a Section 404 Permit pursuant to the Clean Water Act. As discussed earlier, the Corps is the Federal agency charged with regulating the placement of fill in wetlands and navigable waters of the US. The City will also be required to submit an application to the Corps for the 10th Street and 7th Street Projects. The Corps will issue a permit for each project that will include mitigation requirements for any identified impacts to wetlands. Any identified impacts to wetlands would be implemented as part of approvals from both the Corps and RWQCB pursuant to their regulatory authority.

In addition to any specific Corps or RWQCB requirements, the City's standard conditions of approval requiring the preparation of an Erosion Control Plan and Creek Protection Permit would offer further protection of wetlands during the construction period. Together these requirements would ensure that potential impacts to wetlands would be mitigated to a less-than-significant level. Appendix C contains additional information related to the City's Grading and Erosion and Sedimentation Control Ordinances. Appendix E contains additional information related to the City's Creek Protection Permit.

Operation. The Project includes the creation of wetlands in the form of tidal marsh. Approximately 0.69 acres of new tidal marsh on the west bank of the Lake Merritt Channel and 0.02 acres of marsh on the east bank for a total of approximately 0.71 acres of new tidal marsh would be created. In addition, the removal of structural constraints along Lake Merritt shoreline and Channel will create approximately 1.13 acres of open water. As a result, a total of 1.84 acres of new open water and tidal marsh will be created as part of the Project. Additional open water and possibly tidal marsh may also be created as part of the 10th Street and 7th Street Restoration Projects.

Benefits derived from the creation of new wetland habitat include the following: partial restoration of historical marsh and Channel features, improved habitat integration and connectivity, and provision of roosting habitat a variety of avian species. The creation of open water areas would also improve tidal action and exchange in the Lake, and improve access for resident and migratory fish species. Overall, the creation of new wetland and open water habitat would attract wildlife and would improve the natural function and connectivity of the Lake Merritt/Oakland Estuary system, thereby resulting in an overall beneficial impact. The Project also includes bank and soil stabilization to the existing Channel bank, which would limit the scour and erosion that is currently occurring and protect created wetlands. These beneficial effects would be extended throughout the 10th Street and 7th Street Projects.

Interfere substantially with the movement of any native resident or migratory fish or wildlife species.

Construction. The activities required for the removal of the existing culverts in the Channel could interfere with the movement of native fish and terrestrial species. Although the tidal flow between the Lake and the Channel will continue throughout construction, the flow will be constrained to one half of the Channel during culvert removal. The Channel habitat is currently considered to be highly degraded, due to untreated urban runoff and very limited tidal flushing caused by structural limitations that are currently in place. Given its current condition, the lake and Channel provide very limited breeding, nursery, and feeding habitat for aquatic species, and therefore the potential impacts of construction to aquatic species would be limited and are not considered to be significant.

The planned removal of vegetation along the Channel will displace resident terrestrial and avian species during construction. The effects of vegetation removal to existing terrestrial, aquatic, and avian species are discussed previously in this section. As noted previously, aside from the exposed Channel, the site does not have riparian vegetation that serves as an important cover or provide a movement corridor.

Potential impacts to nesting species protected by the Migratory Bird Treaty Act are considered potentially significant and are discussed later in this Chapter under Significant Impacts.

Operation. By reducing structural constraints to tidal connections between the Lake and San Francisco Bay and creating approximately 1.13 acres of new open water, the Project would improve tidal action and exchange in the Lake.

Revegetation with predominantly native upland and tidal marsh species would create a superior habitat for existing wildlife around the Lake and would also support the introduction of new native aquatic, terrestrial, and avian species. These beneficial effects would be extended throughout the 10th Street and 7th Street Projects.

Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan.

The Project site is not located in an area covered by a Habitat Conservation Plan or Natural Conservation Community Plan.

Fundamentally conflict with the City of Oakland Creek Protection Ordinance.

According to the City's creek protection ordinance, a project would have a significant impact on riparian or aquatic habitat if it would discharge a substantial amount of pollutants into a creek; significantly modify the natural flow of the water; deposit substantial amounts of new material into a creek; cause substantial bank erosion or instability; or adversely impact the riparian corridor by significantly altering vegetation or wildlife habitat.

Construction. During construction the primary potential impacts of the Project include erosion, deposition of sediments, and altering vegetation. Although the Project would result in beneficial effects in the long term, the construction period effects could be adverse.

The Conditions of Approval within the Creek Protection Permit required for this project, will include numerous aspects that will reduce possible impacts due to sedimentation and erosion. A list of Conditions of Approval which may be applied to this project are included within Appendix E. Some of those measures include the following:

1. All erosion and sediment control measures implemented during construction activities, as well as construction site and materials management, shall be in strict accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the State of California Regional Water Quality Board, San Francisco Bay Region.

2. Prior to the issuance of a grading permit, the applicant shall prepare an erosion control plan for review and approval by the Building Services Division. The plan shall include mechanical and vegetative measures to reduce erosion and sedimentation, and appropriate seasonal maintenance. There shall be no sediments or runoff into the creek resulting from the construction. All slopes must be protected from erosion caused by rain splash and water flows, both during and after construction. All disturbed areas shall be temporarily protected from erosion by implementing seeding/mulching and/or erosion control blankets/mats until permanent erosion control measures are in place.

3. Prior to issuance of a grading permit, the applicant shall submit a stormwater management plan to Engineering Services for review and approval. The stormwater management plan shall include specific details related to a method of on-site detention, retention, and/or infiltration for the runoff water from the new dwelling unit's roof, as well as other impervious surfaces on site. Engineering data shall be included with the site improvement plans verifying that the project shall not result in a substantial increase of storm water runoff volume or velocity to creeks or stormdrains. Projects shall also not result in a substantial increase of pollutants (including automotive drippings, sediment, leaves, toxics, etc.) both

during construction and after the project is complete. The mitigation measures indicated in the applicant's Creek Protection Plan are incorporated herein by reference.

4. During all construction activities on sloped properties, the downhill end of the construction area must be protected with silt curtains and/or hay bales oriented parallel to the contour of the slope (at a constant elevation) to prevent erosion to creeks and/or stormdrains.

Implementation of an Erosion Control Plan, which is a standard condition imposed by the City of Oakland, will reduce potential impacts due to possible erosion and sedimentation. As required, the plan will be prepared in accordance with the Manual of Standards for Erosion and Sediment Control Measures, published by the Association of Bay Area Governments. Measures could include such as hay bales, hay wattles, and silt fencing to prevent de minimus fill from accidentally entering Lake Merritt or Lake Merritt Channel during construction; oil absorbent booms and sediment curtains placed downstream of the in-river construction area and near bank construction activities to limit the transport of suspended sediments; revegetation/hydroseeding of barren soils to prevent silt runoff into San Francisco Bay; and careful removal of dredge spoils to prevent suspended materials from reentering Lake Merritt or Lake Merritt Channel.

In addition to the Erosion Control Plan described above, the implementation of a storm water pollution prevention plan (SWPPP) and a storm water management plan (SWMP), pursuant to RWQCB requirements, will maintain water quality in Lake Merritt and the Lake Merritt Channel during construction.

In regards to vegetation removal, the Project would remove all vegetation along the Channel within the Project boundaries as part of the creation of new tidal marsh areas and a new upland habitat corridor. The effects of these activities to existing terrestrial, aquatic, and avian species are discussed previously in this section. The effects to the Channel as a riparian corridor are not considered to be significant because the existing vegetation along the Channel is not riparian in character. With the exception of the nine coast redwoods and one live oak, the existing planting are highly ornamental and do not provide appropriate habitat for riparian species. The removal of this vegetation is considered to be less-than-significant in light of the planned revegetation with high value upland habitat species that will promote a denser utilization of the Channel area by native species.

Operation. The Project would restore connectivity to the larger estuarine system thereby improving circulation and resulting in a more natural tidal exchange. These effects are all considered to be highly beneficial. The Project also includes bank and soil stabilization measures that would limit erosion and would result in decreased stormwater runoff to the

Lake and Channel. Habitat enhancements outlined in the Project plans would also attract wildlife, create additional roosting and nesting sites along Lake Merritt Channel, and would better facilitate wildlife movement within and between habitats. The Erosion Control Plan and SWPPP, described in Section 4.1.3 of this EIR and required by RWQCB will ensure that water quality is protected throughout the construction period. Overall, the Project is expected to have a beneficial effect on existing riparian or aquatic resources and would not conflict with the City's Creek Protection Ordinance.

Significant Impacts

Impact BIO-1: Impede the use of native wildlife nursery sites.

There are a number of tall trees on the Project site. These trees provide potential nesting habitat for raptors such as red-tailed hawk, red-shouldered hawk, and passerine birds. The Project would remove 31 trees, many of which are fully mature and provide potential nesting habitat for species of raptors and other migratory birds. Raptors (birds of prey) and most passerine birds are protected under the Migratory Bird Treaty Act. To comply with the Migratory Bird Treaty Act, all active nest sites would have to be avoided while birds are nesting.

> **Mitigation Measure BIO-1:** To avoid any nesting season conflict in construction of the 12th Street, 10th Street, or 7th Street Projects, trees shall be removed before the start of the nesting season (February 15). If tree removal is slated for any portion of the nesting season a biologist shall first conduct a nest survey of the area 30 days in advance of start of work. If no nesting is found to be occurring, work can proceed as planned. If nest activity is found, the biologist shall flag off a suitable non-disturbance buffer area that will remain until the young have fledged. Meanwhile, work outside the buffer area can proceed as planned.
>
> **Significance after Mitigation:** Less than Significant.

4.2 GEOLOGY AND SOILS

This section evaluates the Project's potential effect on geology and soils, and describes mitigation measures to reduce or eliminate any identified significant or potentially significant impacts. The information in this chapter is based on a *Geotechnical Investigation Report 12th Street Reconstruction Project, Oakland, California* prepared by Geo/Resource Consultants, Inc. in May 2005.

Section 4.2.3, Project Design Development describes the design features created to benefit soils and geology. The Project design was informed and developed through a process that included review and compliance with City of Oakland policies and standard conditions of approval. Section 4.2.4 describes the Project's consistency with City policies and ordinances

4.2.1 Existing Environmental Setting

Regional Geology

The Project site is on the south side of Lake Merritt, which is connected through a channel to the estuary of San Francisco Bay. The Bay is a drowned river valley formed in a northwest-southeast trending trough within the Coast Range geologic province. The trough is bounded by the San Andreas and Hayward faults. The valley was formed approximately 3 million years ago as a result of tilting to the east of the San Francisco-Marin block along the Hayward fault.

The site is located on an alluvial plain adjacent to the San Francisco Bay margin. Based on available geologic maps, the site is underlain by as much as 900 feet of young, unconsolidated alluvial sediments, possibly including Old Bay Clay. Bedrock is likely to be on the order of about 900 feet deep. Young Bay Mud is distributed locally in the vicinity of the site.

Seismicity and Tectonic Setting

The site lies within a mapped Seismic Hazard Zone, as delineated by the State of California on the Oakland East and Parts of the Las Trampas Ridge Quadrangle (CGS, 2000). Specifically, the site is within a liquefaction hazard zone. As a result, specific information and procedures are required to address the hazard of liquefaction.

Oakland is located within a seismically active region, which has experienced a number of strong earthquakes during the 200-year period for which historical records exist.

Active faults in close proximity to Oakland that may cause severe ground shaking include the Hayward, San Andreas, Seal Cove-San Gregorio, and Calaveras faults. These faults are considered active based either on historical fault rupture or on geologic evidence that clearly demonstrates fault rupture during Holocene time (approximately within the last 11,000 years).

The site is not crossed by an active fault, as indicated on the current Alquist-Priolo Earthquake Fault Map published by the California Geologic Survey (formerly Division of Mines and Geology (CDMG, 1982, 1997a, 1998 Supplement). The site is approximately 3.2 miles from the Hayward fault, the closest active fault, and 15 miles from the San Andreas fault (CDMG, 1998). Other active faults in this region that may cause moderate to strong ground shaking are the Calaveras, Concord-Green Valley, and Greenville faults. Summaries of nearby earthquake-producing faults are presented in the table below.

Table 4.2.1 Closest Earthquake Fault Magnitudes and Acceleration

Fault	Maximum Credible Magnitude [1]	Estimated Peak Horizontal Ground Acceleration (g) [2]	Distance From Site miles (km)
Hayward	7.1	0.47	3.2 (5.2)
Calaveras	6.8	0.19	13.7 (22)
San Andreas (1906)	7.9	0.34	15 (24)
Concord-Green Valley	6.7	0.15	16 (26)
San Gregorio	6.9	0.15	19 (31)

1. California Division of Mines and Geology, 1998

2. Campbell and Bozorgnia, 1994; Campbell, 1997

Surface and Subsurface Conditions

The site of the proposed channel improvements is located in and along the edges of the Lake Merritt channel as well as along the shoreline of Lake Merritt. The general elevation of the site is approximately six feet above mean sea level.

In the area near the channel opening of the lake, the depth of fill and soft bay clay and silt was found to be in the upper 40 to 50 feet, and the fill typically consists of yellow brown to dark brown clays. Below the fill, soft sandy clays, and sandy silts were discovered. Higher strength soils consisting of stiff to very stiff clays underlie the soft clay zone. The stiff clay exhibits high strength in laboratory testing.

Within the channel area, there is medium stiff to stiff clay and clay fill and some dense sand in the upper 20 to 35 feet.

Groundwater

Groundwater has been measured in the project area at a depth of approximately 5 to 25 feet below ground surface (bgs). No other groundwater was measured in other test borings because it was obscured by drilling fluid. In general, it is anticipated that the groundwater will be close to the lake water level. The groundwater level may rise or fall due to seasonal precipitation and surface runoff.

Ground Rupture

Based on current geologic data published by the State of California, there are no known active faults beneath the site. The Hayward fault is considered to be the closest active fault to the site.

Liquefaction

Liquefaction is the sudden loss of shear strength in saturated, loose granular soils during earthquake shaking due to rapid compaction and a sudden increase in pore water pressure. Liquefaction potential depends on duration and intensity of earthquake shaking, particle size distribution of the soil, density of the soil and elevation of the groundwater. Generally, liquefaction occurs in cohesionless, sandy or silty soils.

Soils encountered at the site in our borings consist of predominantly fill and soft Bay Clay and silt, with minor dense sand, to approximately 40 to 50 feet bgs. Stiff to very stiff clays underlie the softer soils. Groundwater has been measured in nearby borings at a depth of approximately 5 to 25 feet bgs.

Lateral Spreading

Lateral spreading is generally caused by liquefaction of soils on gentle slopes, resulting in predominantly horizontal displacement and lateral extension of the soil mass accompanied by shear and tensile cracking of the ground surface. Lateral spreading can also occur on nearly flat-lying terrain where horizontal displacement takes place toward an unsupported slope face such as a steep embankment. At the project site, the potential for lateral spreading is considered to be low due to the soil type.

Lurching

Lurching is a process in which strong seismic shaking causes cracking, wrenching and chaotic displacement of the ground surface in soft, weak soils. It is typically associated with liquefaction and therefore occurs mostly in loose saturated cohesionless soils. Sandy or muddy water may erupt from the cracks producing sand boils. There is low potential

for lurch cracks to develop in the medium to dense sands underlying the site due to the soil type.

Settlement and Landslides

Earthquake shaking can produce compaction and densification of loose granular soils. Based on the information from the soil borings, bearing soils underlying the site have a low probability of undergoing differential settlement or densification during a strong seismic event.

Landslides occur by loss of soil and/or rock shear strength, typically on slopes, and may be triggered by saturated ground conditions and/or seismic events. Slopes within the project area are comprised of fill and alluvial soils, and are moderately steep. Existing slopes appear to be stable under present conditions.

4.2.2 Regulatory Setting

Various state and federal agencies have jurisdiction over development as it relates to biological resources; they are listed below. The City of Oakland has policies and ordinances that protect geology and soils and that have informed the design of the Project. This section provides a summary of the various jurisdictions, their regulatory authority, the permits required for development, and other applicable laws and statutes.

State Agencies

California Geological Survey (CGS)

Previously known as the Division of Mines and Geology, CGS develops and disseminates technical information and advice on the state's geology, geologic hazards, and mineral resources. Following damaging earthquakes and landslides in the 1970's and 1980's, legislation was passed that focused CGS's authority on several fronts, including:

- establishing a "strong-motion instrumentation program," to record the response of rock, soil and structures to ground motion caused by earthquakes;
- enacting the Alquist-Priolo Earthquake Fault Zoning Act, which mandates the delineation of zones along traces of hazardous faults; and
- enacting the Seismic Hazards Mapping Act, which established a program to identify and map seismic hazard zones; and the identification and mapping of geologic hazards and estimates of potential consequences and likelihood of occurrence.

Alquist-Priolo Earthquake Fault Zoning Act

This law, passed in 1972 and previously known as the Alquist-Priolo Special Studies Zones Act, seeks to mitigate the hazard of surface faulting. The act requires the State Geologist, who also serves as the chief of CGS (see above), to establish regulatory zones known as "earthquake fault zones" (EFZs) around the surface traces of potentially or recently active faults and to prepare and distribute maps of these zones. Cities and counties are required to withhold approval of most kinds of development projects in EFZs until an investigation is conducted by a licensed geologist determining the precise location of active-fault traces and assessing the hazard of surface fault rupture in the area. The act prohibits the construction of most types of structures for human occupancy within 50 feet, generally, of any active fault.

Seismic Hazards Mapping Act

The Seismic Hazards Mapping Act was passed in 1990. Although similar to the Alquist-Priolo Earthquake Fault Zoning Act, it addresses earthquake hazards other than the hazard of surface fault rupture. The law requires the State Geologist to identify and map zones prone to seismically induced liquefaction, ground-shaking, landslides and other forms of ground failure resulting from earthquakes. Prior to approving a development project, affected local governments must require a geotechnical report identifying all seismic hazards, and may approve projects only after the nature and severity of the hazards have been evaluated and appropriate mitigation measures have been incorporated. Finally, affected property owners must disclose to prospective buyers the fact that the property is located within a seismic hazard zone.

California Building Code Title 24 of the California Code of Regulations

California Building Standards Code sets forth the fire, life-safety and other building related regulations applicable to any structure fit for occupancy statewide for which a building permit is sought. Within Title 24, Part 2 is the California Building Code (CBC), which establishes general standards for the design and construction of buildings, including provisions related to seismic safety. The CBC has been revised many times over the years to increase the earthquake resistance of structures, often in response to structural lessons learned from major earthquakes in this country and elsewhere.

Local Agencies

City of Oakland Municipal Code

The City of Oakland has adopted three ordinances that govern the review of projects seeking permits for demolition, grading, and building. As a City Project, the channel

improvements have been designed in accordance with the principles and requirements of these ordinances:

The *Grading Ordinance* (Ordinance No. 10312) requires grading permits for earth moving activities under specific 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 *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 the 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.

The implementation of these ordinances influences project plans through the incorporation of the following typical project components:

- The use of straw wattles along riparian zones to prevent sediment from reaching watercourses, where it can adversely affect water quality;
- Regular watering of graded portions of the construction site to prevent wind blown dust;
- Covering any cut and/or fill stockpiles to prevent erosion from rain or wind; and
- Covering cut and fill materials during transport to prevent wind blown dust.

City of Oakland General Plan

Safety Element

The following policies and actions are from the Safety Element of the Oakland General Plan, updated in November 2004.

Policy GE-1: Develop and continue to enforce and carry out regulations and programs to reduce seismic hazards and hazards from seismically triggered phenomena.

Action GE-1.2: Enact regulations requiring the preparation of site-specific geologic or geotechnical reports for development proposals in areas subject to earthquake-induced liquefaction, settlement or severe ground shaking, and conditioning project approval on the incorporation of necessary mitigation measures.

Policy GE-2: Continue to enforce ordinances and implement programs that seek specifically to reduce the landslide and erosion hazards.

Action GE-2.1: Continue to enforce provisions under the subdivision ordinance requiring that, under certain conditions, geotechnical reports be filed and soil hazards investigations be made to prevent grading from creating unstable slopes, and that any necessary corrective actions be taken.

Action GE-2.2: Continue to enforce the grading, erosion and sedimentation ordinance by requiring, under certain conditions, grading permits and plans to control erosion and sedimentation.

Action GE-2.3: Continue to enforce provisions under the creek protection, storm water management and discharge control ordinance designed to control erosion and sedimentation.

OSCAR Element

Objective CO-1: To protect and preserve soil as a resource for healthy plant, animal, and human life.

Policy CO-1.1: Regulate development in a manner which protects soil from degradation and misuse or other activities which significantly reduce its ability to support plant and animal life. Design all construction to

ensure that soil is well secured so that unnecessary erosion, siltation of streams, and sedimentation of water bodies does not occur.

Action CO-1.1.1: 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: 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: Consider soil constrains 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 2.0: To minimize safety hazards, environmental impacts, and aesthetic impacts associated with development on hillsides and in seismic high-risk areas.

Policy CO-2.1: Encourage development practices which minimize the risk of landsliding.

Action CO-2.2.2: Incorporate known land stability information in the City's permit tracking system and the Measure 1 geographic information systems (GIS) program.

Policy CO-2.3: Require development on filled soils to make special provisions to safeguard against subsidence and seismic hazards.

Policy CO-2.4: Minimize hillside cuts and fills and the removal of desirable vegetation. Limit large-scale grading to those areas where it essential to development. Where hillside grading does occur, reshape the terrain in smooth, naturally appearing contours rather than flat, terraced benches. Immediately replant and reseed graded areas to reduce soil loss.

Policy CO-6.6: 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 OS-9.1: Design new development to preserve natural topography and terrain. Enhance prominent topographic features where appropriate by parks, plazas, or architectural expressions.

4.2.3 Project Design Development

Project design development activities specifically related to geology and soils included exploratory test borings, laboratory tests, and engineering analysis, the results of which were described in the *Geotechnical Investigation Report 12th Street Reconstruction Project, Oakland, California* prepared by Geo/Resource Consultants, Inc. in May 2005.

These activities included:

- Drilling of ten (10) test borings for the roadway and bridge structure area;
- Laboratory tests on selected samples to evaluate engineering properties;
- Engineering analysis to provide design recommendations regarding:
  - Suitable foundation type and geotechnical design criteria; for bridge structures and retaining walls;
  - Settlement estimate;
  - Lateral resistance;
  - Seismic and geologic hazard considerations for design;
  - Site preparation and grading criteria;
  - Subgrade preparation;
  - Pavement section design for the roadway;
  - Lateral pressure for retaining walls;
  - General slope stability for the embankments; and
  - Construction considerations.

Based on these analyses, the *Geotechnical Investigation Report* recommended designs for driven pile foundations, pile installation, pressuring for lateral resistance, seismic criteria, subgrade preparation, site preparation and grading, drainage, and structural backfill all of which will be incorporated in the Project design.

4.2.4 Policy Consistency Analysis

The Project would be consistent with and would implement City policies and ordinances related to the protection of geology and soils, including those policies cited in previously adopted documents as mitigating the Project's environmental impacts. The Project would comply with City ordinances including the *Grading*, *Sedimentation and Erosion Control*, and *Creek Protection, Stormwater Management and Discharge Control Ordinances*. The

geotechnical report and grading plan for the Project have been submitted to the City and an Erosion Control Plan is currently being prepared. Additionally, all Best Management Practices to control erosion and sediment run-off during both construction and operation of the Project would be implemented.

The Project would implement *OSCAR* Policies CO-1.1, CO-2.1, CO-2.3, CO-2.4, CO-6.6, and OS-9.1, and Action CO-1.1.3 by ensuring that Project design secures soil from erosion, incorporates suitable base materials and drainage, minimizes landsliding and subsidence, reshapes the terrain naturally, replants and reseeds graded areas, minimizes fill in the Channel (considered a portion of the Bay), and preserves the natural topography and terrain on the site.

The Project would be consistent with *Safety Element* Policies GE-1, GE-2, Actions- GE-1.2, 2.1, 2.2, and 2.3, *OSCAR* Objectives CO-1 and CO-2.0, Action CO-1.1.1, and CO-1.1.2 by incorporating measures to reduce seismic, landsliding, and erosion hazards; and adhering to all geotechnical recommendations as outlined in the geotechnical report and the City's Ordinances.

4.2.5 Impacts and Mitigation Measures

Thresholds of Significance

Under CEQA, a significant effect is defined as a substantial, or potentially substantial, adverse change in the environment. The guidelines implementing CEQA direct that this determination be based on scientific and factual data. Below is a summary of the criteria of significance. These criteria have been developed by the City of Oakland based on Appendix G of the CEQA Guidelines and tailored to incorporate regulations, rules, policies, plans and ordinances applicable to Oakland projects.

The following thresholds are broad enough in scope to account for all reasonably expected potentially significant environmental effects. A project's effects on geology and soils would be significant if the project would result in any of the following:

- Expose people or structures to substantial risk of loss, injury, or death involving:
  - Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map or Seismic Hazards Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publications 42 and 117 and PRC §2690 et. seq.);
  - Strong seismic ground shaking;
  - Seismic-related ground failure, including liquefaction, lateral spreading, subsidence, collapse; or

- Landslides;

- Result in substantial soil erosion or loss of topsoil, creating substantial risks to life, property, or creeks/waterways;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994, as it may be revised), creating substantial risks to life or property;
- Be located above a well, pit, swamp, mound, tank vault, or unmarked sewer line, creating substantial risks to life or property;
- Be located above landfills for which there is no approved closure and post-closure plan, or unknown fill soils, creating substantial risks to life or property ; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

Less Than Significant Impacts

Expose people or structures to substantial risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, lateral spreading, subsidence, collapse, or landslides.

The Project is located in the seismically-active Bay Area. The active Hayward fault, located approximately three miles to the east, could cause strong ground shaking at the site and it is likely that the site will be affected by moderate to strong seismic shaking sometime during the life of the Project. There is some potential that a very strong earthquake could produce some ground disruption, such as a limited amount of liquefaction or lurch cracking. The Project is not located within an Alquist-Priolo Earthquake Fault Zone. The risk of fault rupture of the ground surface at the Project site is low. Design and construction of the facility shall be in strict accordance with current earthquake resistance standards and the extent of ground disruption is not likely to be great enough to significantly damage the Project; therefore, impacts from seismic activities are less than significant.

The risk of liquefaction, lateral spreading, and lurching is low due to the presence of predominantly clayey soils and the density of sandy soils. Foundation support shall be constructed in accordance with design recommendations; therefore, lurching impacts on the proposed building pile foundation under the assumed conservative conditions of fill saturation are not anticipated to be significant.

Based on the information from the soil borings, bearing soils underlying the site have a low probability of undergoing differential settlement or densification during a strong

seismic event. Existing slopes in the Project area appear to be stable; however, grading would consist of channel widening, placement of embankment fills with slopes as steep as 3 horizontal to 1 vertical (3h:1v), and construction of retaining walls. Retaining walls would largely be pile supported, gaining support from stiff clays below the walls and exposed slopes.

The Project plans implement all of the design recommendations detailed in the *Geotechnical Investigation Report* for ensuring that the Project will not be susceptible to damage resulting from seismic activities. Specific recommendations include specifications for the length, capacity, and installation of driven precast, prestressed 12-inch square concrete piles required for the Project. Other recommendations for seismic criteria and lateral resistance will be incorporated as well.

Result in substantial soil erosion or loss of topsoil, creating substantial risks to life, property, or creeks/waterways.

Construction. The Project includes the replacement of the existing box culverts connecting Lake Merritt Channel to Lake Merritt with a clear span bridge, grading to create a tidal marsh along the western bank of the channel, and grading along the eastern bank of the channel to improve stability and decrease the potential for erosion and scour. This grading could lead to erosion and deposition of sediments in the channel which would adversely affect water quality. Similar levels of grading can be expected with the removal of box culverts at 10th Street, and the potential creation of a diversion channel at the 7th Street crossing.

The implementation of standard conditions of approval would ensure that potential related to erosion and associated effects to the Channel from the Lake Merritt Channel Improvements Project are less than significant. Standard conditions of approval imposed by the City require the Project construction contractor to apply for a Creek Protection Permit and to develop an Erosion Control Plan (ECP) implementing sedimentation and erosion control measures to prevent sediments or excavated material from entering the Lake Merritt Channel. The City requires that the ECP be in accordance with ABAG Standards for Erosion and Sediment Control Measures and/or the procedures and methods described in the SFRWQCB Erosion and Sediment Control Field Manual, and address the following activities:

- describe measures for protecting environmentally sensitive areas (ESA) within the Project area through delineating them with high-visibility ESA fence
- construct temporary fiber rolls on slopes as slope interrupter devices
- filter sediment laden flows from the Project area to off-site by introducing linear sediment barrier such as silt fences

- install storm drain inlet protection at existing inlets to protect municipal storm drains systems
- require entrance/outlet tire wash to enable cleaning of construction equipments and vehicles
- cover temporary stockpiles of soil with plastic sheeting to prevent the creation of dust and debris
- implement permanent erosion control measures such as landscaping and turf on disturbed soil areas

Refer to Appendix C and Appendix D for further discussion of the requirements of the Erosion Control Plan. Refer to Appendix E for a list of the Conditions of Approval likely to be contained within the Creek Protection Permit.

The Project design includes features to reduce the potential for erosion during the construction period. These features, which are described more fully below, include dewatering of portions of the channel so that construction work can proceed in the "dry" and all bank stabilization features can be implemented before Channel waters are reintroduced.

The removal of the existing box culvert system would be carried out in two stages. The first stage would involve constructing a temporary retaining wall in the center of the box culvert system, so that there would be four boxes on either side of it. The ends of the retaining wall would be extended beyond the box culverts and connected to the western bank of the channel. This commonly used procedure allows for dewatering of the area so that the removal of the four box culverts and reconstruction of the channel bed and banks can be accomplished in a dry environment in which sediments generated by the extensive grading are contained and not allowed to enter the channel. During this stage, the western bridge abutments would be constructed.

In the second stage, the temporary retaining wall connected to the western bank would be removed and replaced with a temporary retaining wall that is connected to the eastern bank of the channel. Water from the eastern side of the channel would be redirected to the newly constructed western half of the channel, while dewatering, box culvert removal, channel bed and bank reconstruction, and bridge abutments can be carried out on the eastern half of the channel. Once the channel works are complete, the temporary retaining wall would be removed.

Operation. The operation of the Project would result in benefits to erosion through the construction of bank stabilization and armoring such that the existing scouring and erosion along the Channel would be substantially decreased or eliminated.

Be located on expansive soil, creating substantial risks to life or property.

The Project area consists of primarily sandy soils, with some clay present as fill. Due to the fact that the Project bridges will be pile supported, expansive soils are not an issue. The clay is not considered to be expansive in the Project area.

Be located above a well, pit, swamp, mound, tank vault, or unmarked sewer line, creating substantial risks to life or property.

The Project area is not located above a well, pit, swamp, mound, tank vault, or unmarked sewer line. Geotechnical soil borings indicate the presence of fill material, bay clays and silts, and other sediments consistent with the site's location.

Be located above landfills for which there is no approved closure and post-closure plan, or unknown fill soils, creating substantial risks to life or property.

The closest landfill to the project is the Altamont Landfill and Resource Recovery Facility, located at 1048 Altamont Pass Road in Livermore, approximately 35 miles from the Project. The Project site itself is not located above a landfill.

Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater.

The Project involves widening of the Channel, habitat restoration, and installation of native plantings and does not involve the development of any residential, commercial, or industrial uses that would generate wastewater.

Significant Impacts

The Project would not result in any potentially significant impacts to geology and soils.

4.3 HAZARDS AND HAZARDOUS MATERIALS

The information in this chapter is based on a *Phase I Environmental Site Assessment* (ESA) (BASELINE, August 2004), and a *Phase II Soil and Groundwater Investigation* report (BASELINE, January 2005). These technical reports were prepared as a result of the preparation of the Estuary Policy Plan EIR and the Measure DD Addendum, which included a mitigation measure requiring hazardous materials testing for future projects.

Section 4.3.3, Project Design Development describes the design features created to prevent impacts from hazardous materials. The Project design was informed and developed through a process that included review and compliance with City of Oakland policies and standard conditions of approval. Section 4.3.4 describes the Project's consistency with City policies and ordinances.

4.3.1 Existing Environmental Setting

The project site is relatively level and located approximately 20 to 25 feet above mean sea level (msl) (USGS, 1980). Native soils in the project vicinity have been classified by the US Department of Agriculture Soil Conservation Service as moderately-coarse sands to a depth of at least five feet below ground surface (EDR, 2004a). Most of the area adjacent to the channel was marsh land or open water in 1889, the date of the first available land use resource, and was filled in the early 1900s with material of unknown origin.

Based on topographic features, shallow groundwater in the site vicinity would be expected to flow to the south, toward Oakland Inner Harbor, although the local groundwater flow direction is likely influenced by Lake Merritt, immediately north of the Project site, and the Lake Merritt Channel itself.

Soil Investigations

A Phase I and Phase II analysis has been completed for the 12th Street Reconstruction Project pursuant to the mitigation requirements of the 2002 Addendum and the Estuary Plan EIR.

Thirty-four sites within one-quarter mile of the Project site appear on federal, state, and local agency databases of sites associated with hazardous materials storage, disposal, or release. Based on available details and the locations and distances from the Project site, none of the releases identified in the database review would be likely to affect the channel improvements specifically.

In total, three soil samples (out of a total of eight) taken at the 12th Street Reconstruction Project site contained lead above the California hazardous waste threshold and

construction/trench worker environmental screening levels. Since these samples were collected from near surface soils immediately adjacent to Project area roadways, they would be expected to contain the highest concentrations of total and soluble lead from historic vehicle exhausts in the Project area. Deeper soils, and soils further away from the roadways, would be expected to contain lower concentrations of total and soluble lead. None of the samples taken in the channel Project area contained elevated concentrations of lead or other contaminants and no further testing in this area is required. Further soil testing adjacent to roadways is currently underway to determine whether the soils can be reused during construction or must be disposed of offsite.

Historical Land Uses

Historical land uses at the Project site were determined by reviewing historical aerial photographs from 1939, 1947, 1958, 1965, 1982, and 1993 and historical Sanborn Fire Insurance Maps from 1949, 1966, and 1970. Historical topographic maps from 1932 through 1993 were reviewed to verify information on the aerial photographs and Sanborn Maps.

Two historical land uses associated with hazardous materials were identified in the channel improvements Project vicinity:

- Much of the area adjacent to the channel was filled with material of unknown origin between 1903 and 1911. It appeared that some additional fill was performed during the 1950s, when the Project site roadways were built in their current configuration. As the source of the material is unknown, it is possible that the material may have contained contaminants such as heavy metals and/or organic compounds.
- A gasoline station was present near the Project site (near the East 12th Street and First Avenue intersection) from at least 1939 until 1957. One other gasoline station was historically located adjacent to the Project site: at the intersection of Lakeshore Avenue and First Avenue, which operated from at least 1939 until 1957. Releases of gasoline or waste oil from underground storage tanks at this site could potentially have affected soil and groundwater quality at the channel.

Current Land Uses/Site Reconnaissance

A visual reconnaissance of the Project site and properties within one block of the Project site was conducted by a BASELINE geologist on July 26, 2004. No sheen, odors, or other indication of hazardous material release on the water of the Lake Merritt channel was noted during the reconnaissance.

Aerially-Deposited Lead

A Phase I investigation for the 12th Street Reconstruction Project, prepared in August 2004, identified the potential for contaminants to be present in fill materials near the proposed channel excavation, and aerially deposited lead from vehicle exhausts to be present in shallow soils near Project site roadways (BASELINE, 2004). An investigation was conducted to implement the sampling recommendations in the Phase I report. The Phase II investigation included the collection and analysis of eight samples of fill materials, two of which were from locations near the Lake Merritt Channel; eight shallow soil samples from eight locations adjacent to Project site roadways; and two sediment samples from two locations near the Lake shore. The location of samples taken from the channel improvements Project area are indicated in Figure 4.3.1.

Neither of the samples taken in the channel area contained elevated concentrations of lead or other contaminants and no further testing in this area is required.

Lead and Asbestos in Building Materials

Current Project development plans would not require demolition or renovation of any buildings and therefore would not expose any lead or asbestos in building materials used prior to 1911. Federal, State, and local requirements govern the abatement and disposal of lead-based paint and asbestos-containing materials. State and Federal OSHA construction worker health and safety standards for lead and asbestos would also apply to any renovation or demolition activities.

CirclePoint℠
The *whole* view.

FIGURE 4.3-1.
SAMPLING LOCATIONS

4.3.2 Regulatory Setting

Federal Agencies

U.S. Environmental Protection Agency (EPA) is the main regulatory agency of the federal government on water and air quality, hazardous materials, environmental justice, and other important environmental issues. The major federal laws that form the legal basis for the EPA's programs on hazardous materials are:

- Resource Conservation and Recovery Act (RCRA): regulates hazardous waste from its generation to its ultimate disposal, including transportation, treatment and storage; amendments to the law created a comprehensive framework for the management of underground storage tanks (USTs).
- Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), better known as "Superfund:" regulates the clean-up of closed or abandoned sites that are contaminated with hazardous waste; important subsequent changes and additions to the Superfund program were made by the Superfund Amendments and Reauthorization Act (SARA).
- Emergency Planning and Community Right-to-Know Act (EPCRA), also known as Title III of SARA: this disclosure law requires facilities to report on toxic chemicals and releases in order to help increase the public's knowledge and access to information, and help communities improve safety procedures.
- Toxic Substances Control Act (TSCA): enables the tracking of approximately 75,000 industrial chemicals produced or imported into the U.S., and allows the EPA to ban the manufacture and import of those chemicals that pose unreasonable risks.
- Clean Air Act (CAA): established a permit program for large stationary sources of air pollution, created a comprehensive approach to reducing pollution from motor vehicles, requires industrial plants to develop plans to prevent accidental releases of HAPs, and established the Chemical Safety Board to investigate such accidents; amendments to the act passed in 1997 expanded the EPA's authority to regulate HAPs from stationary sources.

State Agencies

California Environmental Protection Agency (Cal/EPA) is an "umbrella" agency made up of the following six boards, departments and offices charged with protecting human health and the environment in California:

- Air Resources Board (ARB): sets air-quality standards and emission standards for fuels and motor vehicles; establishes control measures for toxic air contaminants (TACs); and assists local air quality districts with the regulation of stationary air-pollution sources.

- Department of Pesticide Regulation (DPR): regulates the registration, sale and use of pesticides.
- Department of Toxic Substances Control (DTSC): regulates hazardous waste, including the clean-up of contaminated sites.
- California Integrated Waste Management Board (IWMB): manages the state's solidwaste stream, regulates landfills and other waste-management facilities, and cleans up illegal dumps.
- Office of Environmental Health Hazard Assessment (OEHHA): evaluates risks posed by hazardous substances, and develops and disseminates toxicological and medical information relevant to decisions concerning public health.
- State Water Resources Control Board (SWRCB): in coordination with nine regional water quality control boards (RWQCBs), develops and enforces water-quality objectives and implementation plans to protect the beneficial uses of the state's waters; the City of Oakland falls within the jurisdiction of the San Francisco Bay RWQCB.

Local Agencies

City of Oakland Hazardous Materials Area Plan

State law requires cities that serve as their own lead enforcement agency for the regulation of hazardous materials to prepare an emergency preparedness and response plan in the event of a disaster related to the use, storage or transport of hazardous materials. Oakland's plan, prepared by the city's OES, addresses specific emergency-response responsibilities, protocols and procedures; pre-emergency planning; coordination of response activities with state, federal and other local agencies; training of response personnel; public-safety and information guidelines; emergency-response supplies, equipment and resources; and incident critique and follow-up. Also included in the plan are maps showing the location of facilities with significant concentrations of hazardous materials, evacuation routes from these facilities, and the location of "sensitive receptors" such as schools, hospitals and nursing homes.

Oakland's Household Hazardous-Waste Element

As required by state law, the City of Oakland has prepared a household hazardous waste (HHW) element, which seeks to ensure that HHW is not mixed with ordinary, non-hazardous solid waste at disposal. (While called an "element," this document is not part of the Oakland General Plan). This element has among its goals to eliminate HHW disposal to landfills, reduce the generation of HHW, provide adequate opportunities for collection of HHW, ensure that the management of HHW follows the hazardous-waste hierarchy (see previous section), and ensure public health and safety and protection of the environment in managing HHW.

Urban Land Redevelopment (ULR) Program

In Oakland, many of the large remaining developable sites were in former industrial use and are likely to require some level of hazardous-materials remediation. The ULR program is a collaborative effort by the City of Oakland and the principal agencies charged with enforcing environmental regulations in Oakland—DTSC, SFRWQCB, and Alameda County Environmental Health—to facilitate the cleanup and redevelopment of contaminated properties in the City. The program clarifies environmental investigation requirements, standardizes the regulatory process and establishes Oakland-specific criteria that, when met, adequately address the risk posed by contamination to human health. The ULR program assists developers of brownfields to obtain faster regulatory-agency approval of corrective actions, reduce the cost of implementing corrective actions, provide potential lenders with greater certainty regarding environmental costs and facilitate communication with persons who live and work in the vicinity of development sites.

City of Oakland General Plan

The City has authority over land and development within the city limits. The City exercises its authority through policies and planning documents such as the General Plan and City Ordinances such as the City Municipal Code. The Open Space Conservation and Recreation (OSCAR) and the Land Use and Transportation Elements of the Oakland General Plan and the Oakland Estuary Plan have numerous policies related to the protection of biological resources. The City's Municipal Code contains policies related to tree preservation. This section lists the policies related to the protection of biological resources that are applicable to the proposed Lake Merritt Channel Improvements Project. The Project's consistency with these policies is discussed in Section 4.3.4, Policy Consistency Analysis.

Safety Element

The City of Oakland General Plan Safety Element, updated in November 2004, lists local policies related to hazardous materials. Those policies, and actions related to the policies, are detailed below.

Policy HM-1: Minimize the potential risks to human and environmental health and safety associated with the past and present use, handling, storage and disposal of hazardous materials.

Action HM-1.6: Through the Urban Land Redevelopment program, and along with other participating agencies, continue to assist developers in the environmental clean-up of contaminated properties.

OSCAR Element

Policy CO-1.2: Minimize hazards associated with soil contamination through the appropriate storage and disposal of toxic substances, monitoring of dredging activities, and clean-up of contaminated sites. In this regard, require soil testing for development of any site (or dedication of any parkland or community garden) where contamination is suspected due to prior activities on the site.

Action CO-5.3.5: Continue to use the environmental review process to ensure that future road construction and dredging projects incorporate measure 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.

Policy REC-4.2: Encourage maintenance practices which conserve energy and water, promote recycling, and minimize harmful side effects on the environment. Ensure that any application of chemical pesticides and herbicides is managed to avoid pollution of ground and surface waters.

Action REC-5.5.2: Prepare a list of those parks which are more likely to contain soil toxicity problems. Perform soil testing at the sites identified where remediation is required.

Estuary Plan Element

OAK-1.3: Undertake remediation of contaminants in conjunction with development and/or improvement of relevant sites.

OAK-15: Require the remediation of contaminants prior to development and/or improvement of the site

City of Oakland Municipal Code

The City of Oakland Municipal Code includes regulations for the handling of the hazardous materials in the City. Title 8, Chapter 8.12 of the Oakland Municipal Code (OMC) adopts the California Health and Safety Code (Health and Safety Code Section 25500 et seq.) related to hazardous materials.

Regulatory Agency Database Review

BASELINE contracted with EDR, Inc., an environmental information service, to search Federal, State, and local regulatory agency databases pertaining to hazardous material use and releases on properties at and near the project site. A listing of the databases searched is provided in Table 2 of the Phase I ESA. Thirty-four sites associated with hazardous materials were identified within a one-quarter mile radius of the 12th Street Reconstruction Project site in the database review.

Two properties in the vicinity of the channel improvements project (1200 Lakeshore Avenue and Laney College) were listed in regulatory agency databases. Neither of the sites were found to affect the Project area as discussed below.

- The 1200 Lakeshore Avenue site was listed on the CHMIRS database of hazardous materials incidents for a December 2003 release of sewer water, which was evaluated and determined not to be hazardous.
- Laney College is listed on the LUST and Notify 65 databases due to a release of diesel from a UST that was discovered in February 1995. Contaminated soils were excavated and disposed of, and the case was closed in October 1995. Laney College was also listed as having three registered diesel USTs, and is on the HAZNET database as a generator of asbestos-containing waste and PCB-containing waste. None of the reported releases on adjoining properties would be expected to affect proposed development on the project site.

4.3.3 Project Design Development

Project design development activities specifically related to hazardous materials included review of historical land use information, a site reconnaissance, and a review of regulatory agency database information, the results of which were described in the *Phase I Site Assessment*, conducted in August 2004.

The *Phase I Site Assessment* recommends appropriate treatment of hazardous materials. The recommendations include sampling for aerially deposited lead, of fill material, and in other areas of historical concern. By implementing the recommendations in the *Phase I Site Assessment*, the design of the Project will include appropriate treatment of hazardous materials.

The City will prepare a Risk Management Plan (RMP) to ensure that worker health and safety is protected. The RMP will establish soil mitigation and control specifications for grading and construction activities at the site, including health and safety provisions for monitoring exposure to construction workers, procedures to be undertaken in the event that previously unreported contamination or subsurface hazards are discovered, and emergency procedures and responsible personnel. The RMP will also include procedures

for managing contaminated soils removed from the site to ensure that any excavated soils containing contaminants are stored, managed, and disposed of in accordance with applicable regulations. The Project will be consistent with all of the applicable policies by implementing the recommendations and analysis found in the RMP.

4.3.4 Policy Consistency Analysis

The Project would be consistent with and would implement City policies related to the hazardous materials, including those policies cited in previously adopted documents as mitigating the Project's environmental impacts. The Project has implemented Safety Element Policies HM-1 and Action HM-1.6, OSCAR Policy CO-1.2, Policy Action REC-5.5.2, and Estuary Plan Policy OAK-1.3, OAK-15 by performing testing for hazardous materials on the site and minimizing potential risks to human and environmental health by remediating hazardous materials contamination on sites. The Project would be consistent with OSCAR Polices Action CO-5.3.5 and Policy REC-4.2 by using the environmental review process to incorporate measures to protect water quality and minimize the application of chemicals to landscaping materials.

4.3.5 Impacts and Mitigation Measures

Thresholds of Significance

Under CEQA, a significant effect is defined as a substantial, or potentially substantial, adverse change in the environment. The guidelines implementing CEQA direct that this determination be based on scientific and factual data. Below is a summary of the criteria of significance. These criteria have been developed by the City of Oakland based on Appendix G of the CEQA Guidelines and tailored to incorporate regulations, rules, policies, plans and ordinances applicable to Oakland projects.

The following thresholds are broad enough in scope to account for all reasonably expected potentially significant environmental effects. A project's effects on hazards and hazardous materials would be significant if the project would result in any of the following:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
- Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and would result in a safety hazard for people residing or working in the project area;
- Be located within the vicinity of a private airstrip, and would result in a safety hazard for people residing or working in the project area;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Less Than Significant Impacts

Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

The proposed channel improvements would not involve the transport, use, or disposal of hazardous materials, and thus would not in and of itself create a hazard to the public or the environment.

Cars and trucks traveling along the Project's public roadways could be involved in accidents which could lead to the release of fuel or other toxic material into the environment. However, this risk exists currently and is present on all public roadways. The Project would not create a new risk of upset or accidental release of contaminants.

There are two schools in the Project area: Laney College and the Dewey Academy. Although these schools are located within one-quarter mile of the Project they would not be adversely affected because the project would not create a significant hazard to the public or the environment.

Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

As indicated in above in Section 4.3.1, according to the database search performed by BASELINE, there was one building on the Project site that was listed on the State Leaking Underground Storage Tank database due to a release of diesel from an underground storage tank. This release was deemed to be historical upon removal of the building in 1993, and had only affected soil in the immediate location. Contaminated soils were excavated and treated, and the case was closed in May 1994, indicating that remediation had been satisfactorily completed. This reported release would not be expected to affect development of the Project.

Be located within an airport land use plan or, within two miles of a public airport or public use airport, or private airstrip, and would result in a safety hazard for people residing or working in the project area.

Oakland International Airport is located approximately eight miles southeast of the Project area, well beyond the two-mile threshold. Furthermore, the proposed channel improvements would not introduce new uses that would be hazardous to the public or the environment.

Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

The City would maintain access through the Project area throughout the construction period and the Project would therefore not interfere with the City's emergency response plan. The City is developing a comprehensive staging and construction access plan to ensure that pedestrians, bicyclists, and motorists would all have access through the site during the construction period.

Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

The Project is located in an urbanized area at the heart of the City of Oakland. Since 1889, the Project area has been developed with a mix of residential and commercial land uses, and is not susceptible to wildland fires.

Significant Impacts

The following discussion describes significant impacts to hazards and hazardous materials that would result from the Project.

Impact HAZ-1: The final design of the 10th and 7th Street Reconstruction Projects could encroach into area containing contaminated soils.

Although a Phase I Site Assessment was performed for the Lake Merritt Channel Improvements Project area, the property from 10th Street south to I-880 has not been surveyed for possible presence of contaminated soils. Implementation of these projects could therefore result in exposure of construction workers to hazardous materials.

Mitigation Measure HAZ-1a: The City shall perform a Phase I Site Assessment for the 10th Street Project to determine whether historical land uses warrant additional soil sampling in the Project area. The City shall implement all recommendations of the Phase I Site Assessment, including excavation and offsite disposal of contaminants and preparation of a Worker Health and Safety Plan, if required. As recommended previously in the Oakland Estuary Plan DEIR, if hazardous substances are encountered 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.

Mitigation Measure HAZ-1b: The City shall perform a Phase I site assessment for the 7th Street Project to determine whether historical land uses warrant additional soil sampling in the project area. The City shall implement all recommendations of the Phase I site assessment, including excavation and offsite disposal of contaminants, and preparation of a Worker Health and Safety Plan, if required. As recommended previously in the Oakland Estuary Plan DEIR, if hazardous substances are encountered 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.

Significance after Mitigation: Less than significant.

4.4 HYDROLOGY AND WATER QUALITY

The information in this chapter is based on a series of technical memoranda prepared by Philip Williams & Associates Ltd. and incorporates all design features recommended in those reports:

- Basis of Design Elements (February 16, 2005)
- Modeling Results for Vegetation Colonization Elevation (January 6, 2005)
- Modeling Results for Bridge Widths (October 22, 2004)
- Design Flood Levels (August 25, 2004)
- MIKE 11 Modeling Results (January 27,2005)
- Wind Wave Generation and Run-up (January 5, 2005)

Section 4.4.3, Project Design Development describes the design features created to benefit hydrology and water quality. The Project design was informed and developed through a process that included review and compliance with City of Oakland policies and standard conditions of approval. Section 4.2.4 describes the Project's consistency with City policies and ordinances.

4.4.1 Existing Environmental Setting

Lake Merritt is an approximately 140-acre lake in downtown Oakland, California. Fresh water inflow is delivered to the lake via the municipal storm drain system. The lake is connected to the San Francisco Bay by a channel that extends from the southern end of the lake to the Alameda estuary. The channel and lake are subject to tidal flows from the San Francisco Bay, but tidal exchange is limited by the current flow capacity of the channel.

Historically, the channel connecting Lake Merritt to the Bay was a wide, shallow tidal slough channel surrounded by tidal wetland and mud flats, and the tidal range of the lake was similar to that of the Bay. With development, the channel has been confined to a relatively narrow corridor and numerous structures have been built that limit the amount of tidal flow that can enter and exit the lake in a given tide cycle. Culverts associated with road crossings at 12th and 10th Streets and a pump station at 7th Street provide the most significant limitations to flow. The pump station at 7th Street is operated by the Alameda County Flood Control and Water Conservation District and is used to manage lake levels during the rainy season to reduce the risk of flooding.

The FEMA–City of Oakland Flood Insurance Study, 1982 identifies the 'Approximate base flood elevation' of the Lake at elevation 2.0 City of Oakland vertical datum (COO feet).

The predicted flood elevations for Lake Merritt are 2.2 COO for a 25-year storm event and 3.2 COO for a 100-year storm event.

4.4.2 Regulatory Setting

State and Regional Agencies

San Francisco Bay Regional Water Quality Control Board

The streams and receiving waters in the project vicinity are within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board (RWQCB-Region 2). The RWQCB's Water Quality Control Plan specifies the beneficial uses, describes the water quality objectives, and provides an implementation plan for the surface waters in the vicinity of the project area. Pertinent to the proposed project, and under the implementation plan for non-point source surface water control, guidance for highway runoff control are provided as a part of urban runoff management. In addition, the implementation plan includes a program for managing and setting goals for erosion and sediment control.

Local Agencies

Alameda County Flood Control and Water Conservation District (ACFCWCD)

The district, a unit of the Alameda County Public Works Agency, is responsible for the construction, operation, and maintenance of the major stormdrainage facilities throughout Alameda County. The ACFCWCD is divided into ten flood-control zones, each covering a different drainage basin; Zone 12—created as a result of the October 1962 floods—provides flood protection to the cities of Oakland and Emeryville. To reduce the risk of flooding, the district designs and builds structures to meet the existing and projected need for flood control. In Oakland, such projects have included the channelization of large portions of the city's main creeks, and construction of the Lake Merritt pump station, which regulates the water level in the lake. In coordination with the federal government, the ACFCWCD also maps flood plains in the cities and unincorporated areas of the county.

City of Oakland Municipal Code

The City of Oakland has adopted three ordinances that govern the review of projects seeking permits for demolition, grading, and building. As a City Project, the channel improvements have been designed in accordance with the principles and requirements of these ordinances:

The *Grading Ordinance* (Ordinance No. 10312) requires grading permits for earth moving activities under specific 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 *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 the 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.

City of Oakland General Plan

Safety Element

The following policies and actions are from the Safety Element of the Oakland General Plan, updated in November 2004.

Policy FL-1: Enforce and update local ordinances, and comply with regional orders that would reduce the risk of storm-induced flooding.

Action FL-1.3: Comply with all applicable performance standards pursuant to the 2003 Alameda Countywide National Pollutant Discharge Elimination System municipal stormwater permit that seek to manage increases in stormwater runoff flows from new-development and redevelopment construction projects.

Action FL-1.4: Continue to enforce the grading, erosion and sedimentation ordinance by prohibiting the discharge of concentrated stormwater flows by other than approved methods.

Action FL-1.5: Continue to enforce provisions under the creek protection, storm water management and discharge control ordinance designed to keep watercourses free of obstructions and protect drainage facilities.

Action FL-2.2: Continue maintenance efforts to keep storm drains and creeks free of obstructions—while retaining vegetation in the channel, as appropriate—to allow for the free flow of water.

OSCAR Element

Objective CO-5: To minimize the adverse effects of urbanization on Oakland's groundwater, creeks, lakes, and nearshore waters.

Policy CO-5.1: Encourage groundwater recharge by protecting large open space areas, maintaining setbacks along creeks and other recharge features, limiting impervious surfaces where appropriate, and retaining natural drainage patterns within newly developing areas.

Policy CO-5.2: Support efforts to improve groundwater quality, including the use of non-toxic herbicides and fertilizers, the enforcement of anti-litter laws, the clean-up of sites contaminated by toxics, and ongoing monitoring by the Alameda County Control and Water Conservation District.

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 materials 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.

Action CO-5.3.2: Improve maintenance of storm drain inlets, channels, pipes, and catch basins to ensure their proper operation and reduce the amount of debris and sediment flowing to creeks. Operate a regular Office of Public Works debris removal program to ensure that storm flows can be accommodated and that erosion resulting from clogged storm drains is minimized. As funding permits, replace antiquated storm drains in the hill areas with drains with adequate capacity to convey stormwater runoff during the rainy season.

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 development and dredging projects in collaboration with Caltrans and the Port.

Objective CO-6: To protect the ecology and promote the beneficial uses of Oakland's creeks, lakes, and nearshore waters.

Policy CO-6.1: Protect Oakland's remaining natural creek segments by retaining creek vegetation, maintaining creek setbacks, and controlling bank erosion. Design future flood control projects to preserve the natural character of creeks and incorporate provisions for public access, including trails, where feasible. Strongly discourage projects which bury creeks or divert them into concrete channels.

Objective CO-6.2: Strictly enforce local, state, and federal laws and ordinances on the maintenance of creeks and watercourses. Abate health and safety hazards along and within creeks through a variety of measures, including creek clean-up programs, stronger enforcement of litter and anti-dumping laws, and vegetation management requirements for properties abutting creeks.

Objective CO-6.4: Manage Oakland's lakes to take advantage of their recreational and aesthetic potential while conserving their ecological functions and resource value. Discourage new recreational uses which impair the ability of the lakes to support fish and wildlife. Support improvements which enhance water circulation, water quality, and habitat value, provided they are cost-effective and are compatible with established recreational activities.

Policy CO-6.5: Protect the surface waters of the San Francisco Estuary system, including the San Francisco Bay, San Leandro Bay, and the Oakland Estuary. Discourage shoreline activities which negatively impact marine life in the water and marshland areas.

Policy CO-6.6: 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 OS-8.1: Pursue additional public access to creeks at feasible locations, including city parks, schools, flood control easements, and City-owned properties

along creeks. Encourage the development of trails or linear parks within creek corridors, with priority placed on creeks traversing public or institutional properties that may be developed in the future.

Policy OS-8.2: Support programs to restore or "daylight" sections of creek that have been culverted or buried in the storm drain system, provided that the following conditions exist: (1) broad-based community support for the project; (2) availability of financial resources for the project; and (3) no significant health, safety, flooding, or erosion hazards would result from the project. Place priority for daylighting on properties where additional opportunities for recreational access would be created.

Action OS-8.2.2: Coordinate major creek restoration programs with the Oakland Offices of Public Works, Parks and Recreation, Planning and Building, Housing and Neighborhood Development, Police and Fire Departments, Alameda County Flood Control and Water Conservation District, Countywide Clean Water Program, US Army Corps of Engineers, State Departments of Water Resources and Fish and Game, and any other directly involved agencies or organizations.

LUTE

Policy W3.1 Waterfront objectives, policies, and actions regarding geology, land stability, erosion, soils, water quality, flood hazards, wetland plant and animal habitats, and air quality and pollutants, shall be consistent with and in compliance with the Open Space, Conservation, and Recreation Element of the City's General Plan.

Policy W3.2 The function, design and appearance, and supplementary characteristics of all uses, activities, and facilities should enhance, and should not detract from or damage the quality of, the overall natural and built environment along the waterfront.

Policy W3.3 Native plant communities, wildlife habitats, and sensitive habitats should be protected and enhanced.

Estuary Plan Element

Policy OAK-1: Protect and enhance the natural and built components that establish the waterfront's unique environment.

Policy OAK-1.1: Encourage the preservation and enhancement of wetland areas.

4.4.3 Project Design Development

The City of Oakland conducted numerous design-level studies of the existing hydrology of Lake Merritt and the channel to inform the overall design of the Lake Merritt Channel Improvements Project. The results of these studies will also inform the continuation of the planned pedestrian pathways and habitat enhancements between 10th Street and I-880. In particular, the following components were evaluated and considered in the Project design:

- **Tidal Circulation and Width of the Future Channel.** The current and future movement of water in and out of the Lake is based on the tidal cycle. Based on studies of tidal circulation a width of 100 feet was selected to provide adequate tidal circulation and accommodate site constraint. An optimum span width of 100 feet was selected for the bridge across the Channel to accommodate the desired channel width noted above.
- **Channel Hydraulics and Shoreline Protection.** A study of channel hydraulics was prepared to assess the depth, flow rate, and velocity of water as it moves through the channel under current and future conditions. The study included calculations for channel scour–the potential for localized erosion associated with the proposed 12th Street bridge crossing. Recommendations on the type, location, and extent of shoreline protection were based on the results of this study to ensure that shoreline protection along the southern end of Lake Merritt was designed to withstand estimated wave action. This information was also used to design the bridge abutments to protect against scour and to accommodate the future tidal action in the channel, including identifying the best location, depth, and materials used for the bridge abutments.
- **Wind/Wave Generation.** The potential for bank erosion caused by wind-generated waves on the Lake was studied. Winds predominantly originate in the east and cause wave action along the west shoreline in front of the Kaiser Center. The width of the Channel and Channel hydraulics could create wind/wave generation that would cause erosion; therefore, the Project design was analyzed for its potential to erode banks due to wind/wave generation.
- **Path and Infrastructure Location.** The location of key project elements was evaluated relative to predicted water levels in the lake and Channel to ensure proper placement.
- **Tidal Marsh Area Location.** The elevation of the tidal marsh area was based on analysis of water levels to ensure an appropriate amount of water availability to support the desired plant communities.

The City intends to extend these same hydrological design principles to the 10th Street and 7th Street Projects to ensure consistency among all three projects and also to ensure that the hydraulics of the channel are integrated to ensure maximum efficiency.

4.4.4 Policy Consistency Analysis

The Project would be consistent with and would implement City policies and ordinances related to hydrology, including those policies cited in previously adopted documents as mitigating the Project's environmental impacts. The Project would comply with City ordinances including the *Grading*, *Sedimentation and Erosion Control*, and *Creek Protection, Stormwater Management and Discharge Control Ordinances*.

The Project would be implement *OSCAR* Policies CO-5, CO-5.2, CO-5.3.5, CO-6.4, LUTE Policy W3.3, and Estuary Plan Policies OAK-1 and OAK-1.1 by minimizing adverse effects to surface and groundwater, improving water quality, preserving ecological functions, and protecting and enhancing natural communities and sensitive habitats. The Project would be implement *OSCAR* Policies CO-5.1, CO-6.1, OS-8.1, and OS-8.2 by controlling bank erosion, allowing additional public access at feasible locations, supporting the restoration of the Project area.

The Project would be consistent with *Safety Element* Policies FL-1, FL-1.3, Actions- FL-1.4, 1.5, 2.2, and CO-5.3.2 by enforcing local ordinances to reduce the risk of storm-induced flooding, controlling stormwater flows, and protecting drainage facilities. The Project would be consistent with *OSCAR* Policy CO-5.2 and CO-6.5, Action CO-5.3.5, Objective CO-6, CO-6.2 by protecting water quality and reducing litter along waterways. Additionally, the Project would be consistent with OSCAR Action OS-8.2.2, LUTE Policies W3.1 and W3.2 by being consistent with OSCAR policies and enhancing the overall natural and built environment along waterfront areas.

4.4.5 Impacts and Mitigation Measures

Thresholds of Significance

Under CEQA, a significant effect is defined as a substantial, or potentially substantial, adverse change in the environment. The guidelines implementing CEQA direct that this determination be based on scientific and factual data. Below is a summary of the criteria of significance. These criteria have been developed by the City of Oakland based on Appendix G of the CEQA Guidelines and tailored to incorporate regulations, rules, policies, plans and ordinances applicable to Oakland projects.

The following thresholds are broad enough in scope to account for all reasonably expected potentially significant environmental effects. A project's effects on hydrology and water quality would be significant if the project would result in one or more of the following

- Violate any water quality standards or waste discharge requirements;

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or proposed uses for which permits have been granted);
- Result in substantial flooding on- or off-site;
- Create or contribute substantial runoff which would exceed the capacity of existing or planned stormwater drainage systems;
- Create or contribute substantial runoff which would be an additional source of polluted runoff;
- Otherwise substantially degrade water quality;
- Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, that would impede or redirect flood flows;
- Place within a 100-year flood hazard area structures which would impede or redirect flood flows;
- Expose people or structures to a substantial risk of loss, injury or death involving flooding;
- Result in inundation by seiche, tsunami, or mudflow;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course, or increasing the rate or amount of flow, of a Creek, river or stream in a manner that would result in substantial erosion, siltation, or flooding, both on- or off-site; or Fundamentally conflict with elements of the City of Oakland Creek Protection (OMC Chapter 13.16) ordinance intended to protect hydrologic resources.

Less Than Significant Impacts

The following discussion describes less-than-significant impacts to hydrology and water quality that would result from the construction and operation of the Lake Merritt Channel Improvements Project.

Violate any water quality standards, waste discharge requirements or otherwise substantially degrade water quality, or result in substantial erosion or siltation on- or off-site that would affect the quality of receiving waters.

Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site.

Fundamentally conflict with elements of the City of Oakland Creek Protection (OMC Chapter 13.16) ordinance.

Operation Period. The Project would include a 100-foot channel width that would improve water circulation and water quality in the lake. Therefore, the Project would have beneficial impacts to water quality by increasing tidal exchange and water circulation and would result in a net improvement in the water quality of the Lake and the channel. By removing the existing culverts at 12th Street and 10th Street, and improving the flow of channel waters at 7th Street, the water quality and natural tidal flushing action that would normally be present in this estuarine environment would be greatly enhanced and impacts from operation would be less than significant. The operation of the Project would result in benefits to erosion through the construction of bank stabilization and armoring such that the existing scouring and erosion along the Channel would be substantially decreased or eliminated.

Construction Period. The Project includes the replacement of the existing box culverts connecting Lake Merritt Channel to Lake Merritt with a clear span bridge, grading to create a tidal marsh along the western bank of the channel, and grading along the eastern bank of the channel to improve stability and decrease the potential for erosion and scour. This grading could lead to erosion and deposition of sediments in the channel which could adversely affect water quality. Similar levels of grading can be expected with the removal of box culverts at 10th Street, and the potential creation of a diversion channel at the 7th Street crossing.

The Project design includes features to reduce the potential for erosion during the construction period. These features, which are described more fully below, include dewatering of portions of the channel so that construction work can proceed in the "dry" and all bank stabilization features can be implemented before channel waters are reintroduced.

The removal of the existing box culvert system would be carried out in two stages. The first stage would involve constructing a temporary retaining wall in the center of the box culvert system, so that there would be four boxes on either side of it. The ends of the retaining wall would be extended beyond the box culverts and connected to the western bank of the channel. This commonly used procedure allows for dewatering of the area so that the removal of the four box culverts and reconstruction of the channel bed and banks can be accomplished in a dry environment in which sediments generated by the extensive grading are contained and not allowed to enter the channel. During this stage, the western bridge abutments would be constructed.

In the second stage, the temporary retaining wall connected to the western bank would removed, and replaced with a temporary retaining wall that is connected to the eastern

bank of the channel. Water from the eastern side of the channel would be redirected to the newly constructed western half of the channel, while dewatering, box culvert removal, channel bed and bank reconstruction, and bridge abutments can be carried out on the eastern half of the channel. Once the channel works are complete, the temporary retaining wall would be removed.

During the dewatering process, pumped water would be passed through a sediment-settling device, such as a portable tank or settling basin, before returning the water to the channel. The methods utilized by the Contractor shall meet the Association of Bay Area Governments (ABAG) Standards for Erosion and Sediment Control, and/or the methods described in the San Francisco Regional Water Quality Control Board (SFRWQCB) Erosion and Sediment Control Field Manual. Similar erosion control measures would be extended throughout the 10th Street and 7th Street Projects.

Standard condition of approval imposed by the City require the Project construction contractor to apply for a Creek Protection Permit and to develop an Erosion Control Plan (ECP) implementing sedimentation and erosion control measures to prevent sediments or excavated material from entering the Lake Merritt Channel. The ECP shall be in accordance with ABAG Standards for Erosion and Sediment Control Measures and/or the procedures and methods described in the SFRWQCB Erosion and Sediment Control Field Manual, and shall address the following activities:

The ECP shall describe measures for protecting environmentally sensitive areas (ESA) within the Project area through delineating them with high-visibility ESA fence. Additionally, temporary fiber rolls shall be constructed on slopes as slope interrupter devices. Sediment laden flows from the Project area to off-site shall be filtered by introducing linear sediment barrier such as silt fences. Storm drain inlet protection shall be installed at existing inlets to protect municipal storm drains systems. Entrance/outlet tire wash shall be required to enable cleaning of construction equipments and vehicles. Temporary stockpile of soil would be covered with plastic sheeting to prevent creation of dust and debris. Permanent erosion control measures shall involve landscaping and turf on disturbed soil areas.

Refer to Appendix C and Appendix D for further discussion of the requirements of the Erosion Control Plan. Refer to Appendix E for a list of the Conditions of Approval likely to be contained within the Creek Protection Permit.

The implementation of the standard conditions of approval would ensure that potential impacts to hydrology and water quality are less than significant.

Create or contribute substantial runoff which would exceed the capacity of existing or planned stormwater drainage systems.

Create or contribute substantial runoff which would be an additional source of polluted runoff.

Under current conditions, untreated storm water runoff from this area drains to the channel and lake untreated. The 12th Street Project includes new drainage systems designed to collect stormwater and safely convey it to new discharge points. For the Project area that drains to the Channel, the 12th Street Project includes the construction of two stormwater detention basins and a system of biofiltration swales that would provide water quality treatment prior to discharge. The detention basins are designed to provide treatment of at least 85 percent of the average annual runoff from more than 60 percent of the Project area that drains to the channel. As a result, the Project is not anticipated to create substantial runoff in excess of existing or planned stormwater drainage systems; nor would it provide an additional source of polluted runoff; violate any water quality standards or waste discharge requirements; or otherwise substantially degrade water quality.

Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or proposed uses for which permits have been granted).

The Project would not involve the use of any water during the operational period. The Project would incrementally improve groundwater recharge through the removal of the existing culverts at 12th Street and 10th Street and through the use of biofiltration swales and stormwater detention basins.

Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course, or increasing the rate or amount of flow, of a Creek, river or stream in a manner that would result in substantial erosion, siltation, or flooding, both on- or off-site.

Construction. The Project includes the replacement of the existing box culverts connecting Lake Merritt Channel to Lake Merritt with a clear span bridge increasing the rate of flow through the Channel during tidal cycles, grading to create a tidal marsh along the western bank of the channel, and grading along the eastern bank of the channel to improve stability and decrease the potential for erosion and scour. The removal of culverts and associated grading could lead to erosion and deposition of sediments in the channel which would adversely affect water quality. Similar levels of grading can be expected with the removal of box culverts at 10th Street, and the potential creation of a diversion channel at the 7th Street crossing.

- The implementation of standard conditions of approval would ensure that potential related to erosion and associated effects to the Channel from the Lake Merritt Channel Improvements Project, 10th Street Project, and 7th Street Project are less than significant. Standard conditions of approval imposed by the City require the Project construction contractor to develop an Erosion Control Plan (ECP) implementing sedimentation and erosion control measures to prevent sediments or excavated material from entering the Lake Merritt Channel. The City requires that the ECP be in accordance with ABAG Standards for Erosion and Sediment Control Measures and/or the procedures and methods described in the SFRWQCB Erosion and Sediment Control Field Manual.

In accordance with the requirements of an ECP, the Project design already includes features to reduce the potential for erosion during the construction period, portions of the channel will be dewatered so that construction work can proceed in the "dry" and all bank stabilization features can be implemented before channel waters are reintroduced.

The removal of the existing box culvert system would be carried out in two stages. The first stage would involve constructing a temporary retaining wall in the center of the box culvert system, so that there would be four boxes on either side of it. The ends of the retaining wall would be extended beyond the box culverts and connected to the western bank of the channel. This commonly used procedure allows for dewatering of the area so that the removal of the four box culverts and reconstruction of the channel bed and banks can be accomplished in a dry environment in which sediments generated by the extensive grading are contained and not allowed to enter the channel. During this stage, the western bridge abutments would be constructed.

In the second stage, the temporary retaining wall connected to the western bank would removed, and replaced with a temporary retaining wall that is connected to the eastern bank of the channel. Water from the eastern side of the channel would be redirected to the newly constructed western half of the channel, while dewatering, box culvert removal, channel bed and bank reconstruction, and bridge abutments can be carried out on the eastern half of the channel. Once the channel works are complete, the temporary retaining wall would be removed.

Operation. The Project has been carefully designed to enhance the natural flow of tidal water in and out of Lake Merritt through the channel, and to improve the efficiency of stormwater outflow from the lake during a storm event. More efficient stormwater outflows will reduce peak water levels in the lake during storm events, reducing flood hazard on and off-site. At the same time, it will increase peak flow rates and velocities in the channel.

The following table summarizes estimated flow rates, velocities and water levels during a design storm event under pre- and post-project conditions (from PWA 35% Basis of

Design report, 6/05; based on MIKE11 computer model results). The planned removal of the existing culverts at 12th and 10th Streets, the planned improvement of hydraulic flow at the 7th Street pump station, and the planned increase in the size of the channel will accommodate potential increases in channel flow while reducing the peak water level in the lake and channel. The 12th Street project design includes reconfiguration and stabilization of the channel banks between 12th and 10th streets to accommodate increased flows without substantial erosion within the channel.

Table 4.4-1 Wet Weather MIKE11 Model Results

	Existing Conditions	Post-Project
Peak water surface elevation (lake)	1.9 COO ft	1.3 COO ft
Peak water surface elevation (channel)	1.7 COO ft	1.3 COO ft
Peak velocity (channel)	2.7 ft/s	3.2 ft/s
Peak discharge (channel)	973 cfs	1919 cfs

COO = City of Oakland vertical datum

Daylighting of creeks and removal of culverts is called out in policies of the Open Space Conservation and Recreation Element of the General Plan as a means of restoring the natural creek ecosystems within the City limits. The design of the channel banks and the tidal marsh areas has been accomplished in accordance with the City's Creek Protection Ordinance and the Sedimentation and Erosion Control Ordinance such that all potential impacts have been addressed through project design and no mitigation beyond compliance with the Ordinance itself would be required.

Result in substantial flooding on- or off-site.

Operation. The Project has been designed to accommodate the 100-year flood without resulting in flooding of the roadways. In extreme flood events, the pathways underneath the 12th Street bridge may flood temporarily, but it is assumed that use of the park areas would not be a high priority during these times, and furthermore the floodwaters would recede quickly following the cessation of the storm. The lower elevation of the pedestrian pathways below the 12th Street bridge was chosen to prevent the need for higher retaining walls which would have been required to prevent the flooding of the pathways during the infrequent storm events.

The 10th Street and 7th Street portion of the Project would also be designed to accommodate the 100-year flood. Combined with the use of the 7th Street pump station to accelerate the outflow of water from Lake Merritt preceding storm events, these Projects would contribute to the effective management of stormwater run-off and would not result in substantial flooding off-site.

Water levels in the lake and channel will not be significantly affected by the 12th Street Reconstruction Project alone, since other constrictions will remain to limit channel flows. However, with the addition of the 10th Street and 7th Street projects, water levels in both the lake and channel are expected to be reduced during storm events, reducing overall flood hazard.

Construction.

Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map that would impede or redirect flood flows.

Place within a 100-year flood hazard area structures which would impede or redirect flood flows.

Expose people or structures to a substantial risk of loss, injury, or death involving flooding.

Result in inundation by seiche, tsunami, or mudflow.

The Project is a channel widening and habitat restoration project and would not place any housing or structures within a 100-year flood zone such that they would impede or redirect flood flows; expose people or structures to substantial risk of loss, injury, or death; or result in inundation by seiche, tsunami, or mudflow. The Project would improve the flow of water out of Lake Merritt during storm events by removing the existing culverts at 12th Street and widening the channel to accommodate higher flow rates.

The 10th Street and 7th Street portion of the Project would also be designed to accommodate a higher level of flow through widening of the channel and improving the flow capacity at the 7th Street pump station.

Significant Impacts

The Project would not result in any potentially significant impacts.

5.0 Alternatives

5.1 INTRODUCTION

As mandated by § 15126.6 of State CEQA Guidelines, an EIR must describe and consider a reasonable range of alternatives to the proposed project. Section 15126.6(f) further states that the "range of alternatives required in an EIR is governed by a "rule of reason" that requires the EIR to set forth only those alternatives necessary to permit a reasoned choice." Thus, the following discussion focuses on those alternatives capable of eliminating or reducing the level of significance of one or more of the environmental impacts of the project, even if the alternative would impede to some degree the attainment of some of the project objectives, or would be more costly. Alternatives considered may result in new impacts that would not result from the proposed Project.

Among the factors that may be used to eliminate alternatives from detailed consideration is the failure of the alternative to meet the basic project objectives, its infeasibility, or its inability to avoid significant environmental impacts. In accordance with § 15126.6(f)(1) of the State CEQA Guidelines, the factors that may be taken into account when addressing the feasibility of alternatives are: site suitability, economic viability, availability of infrastructure, General Plan consistency or other plan or regulatory limitations; jurisdictional boundaries, and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site. CEQA Guidelines § 15126(d) states, in part, that the significant effects of alternatives may be discussed, but "in less detail than the significant effects of the project as proposed."

5.2 DESCRIPTION OF ALTERNATIVES

Alternative 1: No Project/No Build Alternative

This Draft EIR evaluates one project alternative: the No Project/No Build (No Project) Alternative scenario. The No Project Alternative is a "No Build" Alternative. As directed by the State CEQA Guidelines [Section 15126.6 (e)(3)(B)], when a project is a development project on an identifiable property, the "no project' alternative is the circumstance under which the project does not proceed. If disapproval of the project under consideration would result in predictable actions by others, such as the proposal of some other project, the "no project" consequence should be discussed.

Alternative 1, the No Project Alternative, assumes no construction or changes on the Project site. The Project site would remain in its current state and there would be no construction of a new clearspan bridge for 12th Street, no channel widening and water quality improvements, no Channel shoreline improvements, including marsh terrace grading and slope stabilization, and intertidal and upland planting and irrigation systems. Public access would be the same under the No Project Alternative.

The No Project Alternative would not be consistent with the City of Oakland's General Plan policies adopting water quality improvements. Additionally, the No Project Alternative would not meet the goals of the Project to connect the isolated southern shoreline of Lake Merritt with surrounding districts; improve traffic, bicycle, and pedestrian circulation; create a recreational park and open space; enhance the connection between Lake Merritt, the Lake Merritt Channel, and the Oakland Estuary; and improve water quality and habitat for fish and wildlife.

5.3 COMPARATIVE ANALYSIS

The following discussion describes the alternative and considers whether it would have a mitigating or adverse effect, when compared to the Project. Table 5.1 summarizes the impact comparison and Section 5.4 discusses the environmentally superior alternative.

Biological Resources

Under the No Project Alternative, channel improvements improving the natural tidal regime, shoreline habitat, and water quality at Lake Merritt would not be constructed. Additionally, improvements yielding a number of measurable habitat benefits would not occur, including the establishment of foraging and refuge potential for a number of terrestrial and avian species; greater diversity of available habitats; and protection of sensitive habitat areas from foot and animal traffic; stabilization of the banks along the Lake Merritt Channel; improved habitat connectivity between the Lake and other similar habitat areas within the region, and increased permeability and percolation of stormwater runoff. No wetlands would be constructed and vegetation removal and coincident revegetation programs improving habitat connectivity would not be implemented. None of the benefits for existing riparian or aquatic resources would occur, and impacts under the No Project Alternative would be greater than under the proposed Project.

Geology and Soils

Under the No Project Alternative, no grading would occur. However, the No Project Alternative would also not include construction of channel improvements, including habitat enhancements that would reduce soil erosion. Although grading of the Project site could result in some impacts to geology and soils, the Project would include mitigation

measures to reduce these impacts to a less than significant level. Under the No Project Alternative, habitat enhancements that would increase bank stability and reduce soil erosion would not be constructed; therefore, the No Project Alternative would have slightly greater impacts than the proposed Project.

Hazards and Hazardous Materials

Under the No Project Alternative, there would be no construction or earthmoving activities and therefore no disturbance of contaminated soils. However, the Project site contains some areas of existing contaminated fill materials near the proposed new open Lake Merritt Channel, adjacent to project site roadways, and from two locations near the Lake shore. Under the No Project Alternative, these contaminated fills would not be remediated, resulting in greater impacts than under the proposed Project.

Hydrology and Water Quality

Under the No Project Alternative, no improvements enhancing the flow of channel waters at 7th Street would be constructed. Additionally, there would be no implementation of natural stormwater treatments and no removal of culverts would occur. Improvements meant to accelerate the outflow of water from Lake Merritt preceding storm events, thereby contributing to the effective management of stormwater run-off and reducing flooding off-site would not be implemented. The No Project Alternative would not result in the benefits to the hydrology and water quality of Lake Merritt and the Channel provided by the proposed Project and this impact would be greater than under the Project.

5.4 SUMMARY OF ALTERNATIVE IMPACTS

This section summarizes the comparative impacts of the alternative when compared to the Project. Table5-1 lists the level of significance of the impacts of the Project to each environmental area analyzed and shows whether the impacts anticipated under the alternative would be equal, lesser, or greater than the Project.

Table 5.1 Comparison of Potentially Significant Impacts of Alternatives to Proposed Project

Environmental Topic	Proposed Project (without mitigation)	No Project Alternative
Biology	S	+
Geology and Soils	LTS	+
Hazards and Hazardous Materials	S	+
Hydrology and Water Quality	S	+
+ = Impact greater than proposed Project		
Ø = Impact similar to proposed Project		
– = Impact less than proposed Project		

Source: CirclePoint, 2005.

5.5 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of an environmentally superior alternative. If the "No Project" alternative is determined to be the environmentally superior alternative, CEQA requires that the EIR identify an environmentally superior alternative among the other alternatives (State CEQA Guidelines Section 15126.6[e]). The identification of the environmentally superior alterative results from a comparison of impacts that would result from each alternative, as shown in Table 5-1. This table presents a comparative evaluation of the ability of the alternative to avoid or substantially reduce any significant impact of the Project. The table shows the level of significance after mitigation for each significant impact of the Project.

All potential significant impacts resulting from the Project would be less than significant with the incorporation of standard conditions of approval and mitigation measures included in the Project. Based on this analysis, the proposed Project would be the environmentally superior alternative because it proposes improvements that would provide a number of measurable habitat benefits, including establishing foraging and potential refuge for a number of terrestrial and avian species, provide greater diversity of available habitats, protect sensitive habitat areas from foot and animal traffic, stabilize banks along the Lake Merritt Channel, improve habitat connectivity between the Lake and other similar habitat areas within the region, and increase permeability and percolation of stormwater runoff. The Project would also remediate hazardous materials contained in Project area soils, consolidate the existing stormwater collection system, implement natural stormwater treatments, and improve the efficiency of stormwater outflow from the lake during a storm event reducing potential flooding off-site, creating a net benefit to the environment.

6.0 Other CEQA-Required Considerations

6.1 INTRODUCTION

As required by CEQA, this chapter presents discussions related to growth inducement; significant irreversible environmental changes; effects found not to be significant; unavoidable significant effects; and the relationship between short-term and long-term uses of the environment. The focus of this chapter is on the environmental effects of the Lake Merritt Channel Improvements Project and the potential for growth induced by implementation of the Project.

6.2 GROWTH-INDUCING IMPACTS

Section 15126.2(d) of the State CEQA Guidelines defines a project as growth inducing if it would directly or indirectly foster or remove obstacles to economic or population growth or result in the construction of additional housing. Examples of projects likely to have significant growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand and development of new residential subdivisions or industrial parks in areas that currently are only sparsely developed or are undeveloped.

Direct Impacts

Project components would consist of the widening of the Lake Merritt Channel, including widening of the streambed, stream banks, and upland areas between Lake Merritt and I-880. The Project would restore tidal marsh and would include features that are intended to improve water quality in the Channel, including grading of the marsh terrace and slope stabilization along the Channel shoreline. The Project would include planting and irrigation of intertidal and upland native plants such as pickleweed (lower marsh areas), marsh gumplant and salt grass (upper marsh areas and transitional zones characterized by native grasses), shrubs and trees, and the installation of biofiltration basins to restore the natural ecosystem of the Channel. These improvements would result in physical changes relative to biological resources, geology and soils, hydrology and water quality, and hazardous materials; however, these actions would not specifically result in the construction of housing or create employment, which could foster economic growth and

be a direct growth-inducing impact. Therefore, the Project would not directly generate growth-inducing impacts.

Indirect Impacts

The Project would implement improvements to the southern Lake Merritt area and Channel as part of the broader 12th Street, 10th Street, and 7th Street Projects. The Project would be implemented by construction and landscaping companies that employ workers. However, a substantial labor pool exists in the Bay Area for these workers and it is anticipated that these employees would be drawn from existing and adjacent communities in the Bay Area. While this development would require the construction of some new infrastructure, this infrastructure would either replace existing infrastructure, or due to the geographic location and the proposed size these infrastructure improvements would only serve the Project area. Additionally, although the Project would be considered an amenity for the residents of the area, Oakland, and the East Bay, the scale of the improvements is not such that they would generate demand for housing or economic development beyond what currently exists in the area. For these reasons, the Project would not indirectly induce growth.

6.3 SIGNIFICANT IRREVERSIBLE CHANGES

An EIR must identify any significant irreversible environmental changes that could be caused by the Project. These may include current or future uses of non-renewable resources, and secondary or growth-inducing impacts that commit future generations to similar uses. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified. The State CEQA Guidelines describe three distinct categories of significant irreversible changes: 1) changes in land use which would commit future generations to specific uses; 2) irreversible changes from environmental actions; and 3) consumption of nonrenewable resources.

Changes in Land Use Which Would Commit Future Generations

The Project would result in the widening of the Lake Merritt Channel, restoration of tidal marsh, and planting and irrigation of intertidal and upland native plants. While the Project would allow for development at the Project site, this development would occur as redevelopment of previously developed and currently underutilized areas.

The Project does not propose the development of a previously inaccessible area. The Project site was previously developed with parkland as well as the Lake Merritt Channel. Although these improvements could commit future generations to the recreational uses provided by the Project, the area could be further improved or land uses changed at a

future date. The environmental changes resulting from these improvements would be beneficial and would not permanently commit future generations to changes in land use.

Irreversible Changes from Environmental Actions

Irreversible changes to the physical environment could occur from accidental releases of hazardous materials, including solvents, fuels, and paints, associated with development of the Project. However, Project construction activities would comply with all City regulations for hazardous materials regulations and policies and these activities would not create irreversible changes to the environment. No other irreversible changes would result from the adoption and implementation of the Project.

Consumption of Nonrenewable Resources

Nonrenewable resources are those resources that cannot be replenished by natural means, including oil, natural gas, and iron ore. Renewable natural resources are those resources that can be replenished by natural means, including water, lumber, and soil.

Consumption of nonrenewable resources includes increased energy consumption, conversion of agricultural lands, and lost access to mining reserves. No agricultural lands would be converted and no access to mining reserves would be lost with implementation of the Project. Development of the Project would result in the consumption of minor amounts of nonrenewable resources during construction and operation, such as electricity, natural gas, and gasoline. Development of the Project would also require the consumption of renewable materials, such construction materials, water, and soil. Use of these resources would not increase the overall rate of use of any natural resource, or result in the substantial depletion of any nonrenewable natural resource.

6.4 CUMULATIVE EFFECTS OF THE PROJECT

CEQA defines cumulative impacts as "two or more individual effects, which, when considered together, are considerable, or which can compound or increase other environmental impacts." Section 15130 of the CEQA Guidelines requires that an EIR evaluate potential environmental impacts that are individually limited but cumulatively significant. These impacts can result from the proposed project alone, or together with other projects. The CEQA Guidelines state: "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects." Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

The determination of a project's cumulative effects involves the identification of the following:

- Direct and indirect effects of the proposed action;
- Which resources, ecosystems, and human communities are affected; and
- Whether these effects are cumulatively important.

The analysis of cumulative impacts for each environmental factor can employ one of two methods to establish the effects of other past, current, and probable future projects. A lead agency may select a list of projects, including those outside the control of the agency, or alternatively, a summary of projections. These projections may be from an adopted general plan or related planning document, or from a prior environmental document that has been adopted or certified, and that describe or evaluate regional or area-wide conditions contributing to the cumulative impact.

For this EIR, the list of cumulative projects is taken from the *Open Space, Conservation and Recreation Element Mitigated Negative Declaration* (OSCAR MND) (October 1995); the *Oakland General Plan Land Use and Transportation Element EIR* (LUTE EIR) (February 1998); the *Estuary Policy Plan EIR* (June 5, 1998); and the *Addendum for the Oakland Clean Water, and the Safe Waterfront Parks and Recreation Trust Fund Ballot Measure* (Measure DD Addendum) (June 2002). These documents considered the programmatic impacts of build-out of the City pursuant to the land use designations and densities proposed. As stated previously, this project is consistent with the existing open space and recreation land use designations assigned to the project area.

Cumulative Impact Discussion

The following discussion describes the cumulative impacts of the Project on biological resources, geology and soils, hazards and hazardous materials, and hydrology and water quality, and determines whether the impacts of the Project in combination with other projects planned in the area would be cumulatively considerable.

Biological Resources

The area considered for the cumulative impacts analysis for biological resources extends from the Lake Merritt shoreline at the mouth of the Channel to I-880 and includes the Lake Merritt Channel, associated tidal marsh areas, and terrestrial parklands. The Project would provide measurable habitat benefits, including establishing foraging and potential refuge for a number of terrestrial and avian species, providing greater diversity of available habitats, protecting sensitive habitat areas from foot and animal traffic, stabilizing banks along the Lake Merritt Channel, improving habitat connectivity between the Lake and other similar habitat areas within the region. These improvements would

result in a net benefit to biological resources and there would be no cumulative impact to biological as a result of the Project.

Mitigation Measures: No additional mitigation measures are required.

Geology and Soils

The cumulative impact area for geology and soils is the Project site. The Project has been designed to reduce impacts to geology and soils to a less than significant level by incorporating measures to ensure that the proposed channel bed, channel banks, and tidal marsh area improvements incorporate the appropriate slope and slope protection into their design where necessary to prevent scouring during storm events and to withstand the daily tidal flow. Although the site is located within a potential liquefaction hazard zone, the presence of predominantly clayey soils and the density of sandy soils make the potential for liquefaction low. There would be no impact to geology and soils and the Project would have no cumulative impact.

Mitigation Measures: No additional mitigation measures are required.

Hazards and Hazardous Materials

The area for cumulative impacts to hazards and hazardous materials includes roughly the area bordered to the north by the Camron Stanford House parking lot, Lake Merritt, and Foothill Boulevard; to the west by Lakeshore Drive, Oak Street, Courthouse Plaza and the Oakland Museum; to the south by the Oakland Museum, Kaiser Convention Center, and 10th Street; and to the east by Oakland Public School buildings, East 12th Street, and First Avenue and a one-quarter mile radius of the project site (for the database review). The Project would remediate small amounts of contaminated soil on the Project site a beneficial impact, and would not result in cumulative impacts to hazards and hazardous materials.

Mitigation Measures: No additional mitigation measures are required.

Hydrology and Water Quality

The cumulative impact area for hydrology and water quality includes Lake Merritt and the Channel. The Project would increase permeability and percolation of stormwater runoff, consolidate the existing stormwater collection system, implement natural stormwater treatments, and improve the efficiency of stormwater outflow from the lake during a storm event reducing potential flooding off-site, creating a net benefit to the environment. The Project would not result in any cumulative impacts to hydrology and water quality.

Mitigation Measures: No additional mitigation measures are required.

7.0 References

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Appendix A
NOP

CITY OF OAKLAND

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

NOTICE OF PREPARATION
OF DRAFT TIERED ENVIRONMENTAL IMPACT REPORT

The Oakland Community and Economic Development Agency, Planning and Zoning Division, is preparing a Draft Environmental Impact Report (EIR) for the Lake Merritt Channel Improvements Project. Your comments on the scope and content of the EIR are requested

The Lake Merritt channel improvements are proposed as part of the 12th Street Reconstruction Project, one of the 2002 projects approved by Oakland voters as part of the Clean Water, Safe Waterfront Parks and Recreation Trust Fund Bond Measure ("Measure DD"). During the detailed design process for the proposed channel improvements additional work encompassing channel restoration and habitat enhancement were added; these components are considered to be beyond the scope of the original 12th Street Reconstruction Project. The City has now determined that additional review pursuant to the California Environmental Quality Act (CEQA) is required prior to final approval and implementation of this project.

An "Initial Study" was prepared in 2002 for all projects proposed under Measure DD and the City determined that all potentially significant impacts could be reduced to a less than significant level through mitigation measures that had already been incorporated into the project subsequent to their identification in other certified environmental documents. Pursuant to CEQA Guidelines Section 15162, the City found that no further environmental review was required and an Addendum was prepared and approved for all Measure DD projects.

This Draft EIR will tier off of the previous environmental analyses to provide sufficient additional data to support environmental clearance of the proposed improvements to the Lake Merritt channel with the additional project components of channel restoration and habitat enhancement.

The City of Oakland is the Lead Agency for this project, which means that the City of Oakland is the public agency with the greatest responsibility for either approving or carrying out the project. This notice is being sent to Responsible Agencies and other interested parties. Responsible Agencies are those public agencies, in addition to the City of Oakland, that also have a role in approving or carrying out the project. Responsible Agencies will rely upon the EIR that has been prepared when considering approvals related to the project. When the Draft EIR is published, it will be sent to all Responsible Agencies and to others who respond to this Notice of Preparation or who otherwise indicate that they would like to receive a copy.

Please send any response you may have regarding this notice so that it is received no later than **November 21, 2005** at **4:00 p.m.** Your response should be directed to Joel Peter, via mail to City of Oakland, Construction and Field Services Division, 250 Frank H. Ogawa Plaza, Suite 4344, Oakland, CA 94612, or via facsimile to (510) 238-6633, or via email to jmpeter@oaklandnet.com. Please reference case number ER050015 in your response. Any questions concerning this notice should be directed to Joel Peter at (510) 238-7276 or jmpeter@oaklandnet.com.

PROJECT TITLE: Lake Merritt Channel Improvements

PROJECT LOCATION: The project area includes the Lake Merritt Channel and adjoining banks between Lake Merritt and I-880 in the City of Oakland, Alameda County, California.

PROJECT DESCRIPTION: The project includes the removal of culverts and widening of the Lake Merritt channel to improve tidal flow and flushing, creation of a tidal marsh along the edges of Lake Merritt channel; the introduction of native plant species to restore native habitats along the channel and adjoining areas; the creation of bio-filtration swales to promote natural treatment of storm water; and the use of natural shoreline treatments to the greatest extent feasible to promote natural hydrological functions in the channel area.

The Lake Merritt Channel Improvements project is an augmentation of the 12th Street Reconstruction Project, which includes consolidation of 12th Street into a 6-lane boulevard as well as creation of a new clear span bridge over the Lake Merritt channel, creation of a new pedestrian bridge over the channel, creation of new open space areas, pathways, and landscaping, and improvements to utilities and storm water infrastructure.

PROBABLE ENVIRONMENTAL EFFECTS: The proposed project would enhance the hydrological tidal function of the channel by increasing tidal flow between Lake Merritt and the estuary. The proposed improvements would also enhance the habitat value in the channel and adjoining upland areas through the creation of a tidal marsh and planting of appropriate native inter-tidal and upland species. The project also includes the development of natural storm water treatment areas to promote natural filtration rather than runoff to the storm water collection system.

Date: October 20, 2005
File No.: ER050015

Claudia Cappio
Director of Development
Environmental Review Officer

Appendix B
Initial Study

DRAFT INITIAL STUDY

Prepared for
The City of Oakland

Lake Merritt Channel Wetlands and Widening Project Initial Study

Prepared by

CirclePoint℠
The *whole* view.
135 Main Street, Suite 1600
San Francisco, CA 94105

April 2006

Lake Merritt Channel Wetlands and Widening Project Initial Study

Project Description

1. *Project Title and Number:* Lake Merritt Channel Wetlands and Widening Project Initial Study

2. *Lead Agency Name and Address:* City of Oakland, Public Works Agency, 250 Frank Ogawa Plaza, Suite 4314, Oakland, CA 94612

3. *Contact Person and Phone Number:* Jose Martinez, CIP Coordinator, (510) 238-3546

4. *Project Location:* Lake Merritt Channel (See Figure 1, Project Location)

5. *General Plan Designation:* Park and Urban Open Space

6. *Zoning:* Open Space and Resource Conservation Area

7. *Description of Project:* The Project would implement the following improvements to the Lake Merritt Channel:
    - Channel Widening. Under the 12th Street Project, the Channel, streambed, stream banks, and upland areas between Lake Merritt and 10th Street would be widened. Future improvements envisioned as part of the 10th Street and 7th Street projects would conform to the design established by the 12th Street Project.
    - Channel Shoreline Improvements. Under the 12th Street Project, a tidal marsh would be restored along the banks of the channel between Lake Merritt and 10th Street. Shoreline improvements planned as part of the 10th Street and 7th Street Projects would conform to the design established by the 12th Street Project. The creation of the tidal marsh as part of the 12th Street Project would include the following features that are intended to improve water quality in the Channel:
        - Marsh terrace grading and slope stabilization along the Channel shoreline.
        - Intertidal and Upland Planting/Irrigation of appropriate native plants such as pickleweed (lower marsh areas), marsh gumplant and salt grass (upper marsh areas and transitional zones characterized by native grasses), shrubs and trees, and the installation of biofiltration basins to restore the natural ecosystem of the Channel. (See Figure 3.4, West Channel Shoreline Landscaping Plan).

8. *Surrounding Land Uses and Setting:* The channel area project site is currently parkland associated with Lake Merritt. The channel area is bounded to the east by Lake Merritt, to the north by the Kaiser Convention Center, to the West by Laney College, and to the South by Oakland Unified School District property.

9. *Construction Phasing*: The 12th Street Reconstruction Project, of which the Project is a component, is currently in the design stage, with 90 percent of the Project plans complete. Construction of the Lake Merritt Channel Improvements Project would last approximately two years, from 2006 to 2008 and would include two overlapping phases (hardscape and softscape) , as described below.

   The hardscape phase of the Lake Merritt Channel Improvements Project would begin in July/August 2006 and would continue through August 2008. This phase would consist of channel widening and bridge construction at 12th Street, including mobilization (July/August 2006), steel sheet piling for dewatering (August 2006-June 2007), removal of 12th Street culverts (August 2006-June 2007), construction of two retaining walls (August 2006-June 2007), construction of the 12th Street bridge (July-February 2008) and a pedestrian bridge (May-August 2008).

   The softscape phase of the Lake Merritt Channel Improvements Project would begin in August 2006 and end in February 2008. This phase of Project construction would construct shoreline improvements at the Lake Merritt Channel and would include Channel/Lake excavation (August 2006-June 2007), marsh terrace grading/slope stabilization (July-February 2008), and intertidal and upland planting/irrigation (July 2007-February 2008). Demolition of the existing structures on the Project site would occur during summer months (July-August), and grading for the Project would occur following demolition but would not extend beyond the start of the rainy season (Oct. 15).

10. *Other public agencies whose approval is required (e.g. permits, financing approval, or participation agreement):*

Table 1. Project Approvals

Agency	Approvals/Permit
City of Oakland	Certify EIR
	Authorize bidding for Project and approve contract
	Adopt Mitigation Monitoring Reporting Program
U.S. Army Corps of Engineers	Confirm Wetland Delineation; issue Section 404 permit

Agency	Approvals/Permit
U.S. Fish and Wildlife/National Marine Fisheries Service	Approve Biological Assessment–review other aspects as necessary
California Department of Fish and Game	Review and approve Streambed Alteration Agreement
San Francisco Regional Water Quality Control Board	NPDES Permit, C.3 Guidelines Compliance Approval
California Coastal Conservancy	Approve Project in order to authorize expenditure of Coastal Conservancy funds

Source: CirclePoint, 2005.

Environmental Factors Potentially Affected:

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

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

Determination

On the basis of this initial evaluation:

I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared. ☐

I find that although the proposed project could have a significant effect on the environment there will not be a significant effect in this case because the mitigation measures described in the attached sheet have been added to the project. ☐

I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. ☒

I find that the proposed project MAY have a significant effect(s) on the environment, but at least one effect has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets, if the effect is a "potentially significant impact" or "potentially significant unless mitigated." An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. ☐

I find that although the proposed project could have a significant effect on the environment, there WILL NOT be a significant effect in this case because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards and (b) have been avoided or mitigates pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed project. ☐

_____ _____

Claudia Cappio — Date:

Manager, Major Development Projects

ENVIRONMENTAL IMPACT CHECKLIST

I. Aesthetics

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

a. through c. ***No impact.*** The Project would be a visual benefit to the surrounding area by enhancing visual quality through planting materials, increased buffer around Lake Merritt, trees, and the addition of park space along the Estuary. No new structures are proposed within scenic vistas open to the public and no designated scenic highways are in the vicinity of any proposed project. Beneficial visual impacts and less than significant impacts are anticipated to result from the Project.

d. *Less than Significant Impact.* The project would include exterior lighting fixtures for the proposed walkways along the Channel. The City's standard conditions of approval for the installation of exterior lighting would ensure that area residents would not be adversely affected by glare.

II. Agricultural Resources

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or with a Williamson Act contract?	☐	☐	☐	☒
c) Involve other changes in the existing environment which due to their location or nature, could individually or cumulatively result in loss of Farmland to non-agricultural use?	☐	☐	☐	☒

a. through c. *No Impact.* The project site is located near downtown Oakland in an urbanized area consisting of commercial, industrial and residential uses. There are no agricultural land uses in the project vicinity. See Figure 1, Project Location.

III. Air Quality

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with or obstruct implementation of the applicable Air Quality Attainment Plan or Congestion Management Plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☐	☐	☒
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	☐	☐	☐	☒
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
e) Create objectionable odors affecting a substantial number of people?	☐	☐	☐	☒

a. through c, and e. ***No Impact.*** The proposed parklands are consistent with the existing and proposed uses for the area surrounding Lake Merritt and the Channel and no change to the General Plan land use designation is being requested. Urban parklands and their users in and of themselves do not generate increases in pollutant levels or odors, nor would they conflict with or obstruct implementation of the applicable Air Quality Attainment Plan or Congestion Management Plan, or violate any air quality standard or contribute substantially

to an existing or projected air quality violation. The Project does not include any additional facilities or activities that could result in potential impacts to air quality.

d. ***Less than Significant.*** Development proposals normally have the potential to expose sensitive receptors to pollutant concentrations during construction. The proposed project would require demolition of some existing structure and extensive grading which could result in windblown dust and particulate matter.

During construction various diesel-powered vehicles and equipment would be in use on the site, and diesel trucks would be used to carry demolition debris from the site. The California Air Resources Board (CARB) identifies particulate matter from diesel-fueled engines as a toxic air contaminant.

Health risks from toxic air contaminants are a function of both concentration and duration of exposure. Construction-related sources are mobile and transient in nature. Because of its short duration, health risks from construction emissions of diesel particulate would be a less-than-significant impact.

City of Oakland standard conditions of approval require the adherence to the Bay Area Air Quality Management District (BAAQMD) Dust Control Measures. Implementation of these measures would ensure that potential impacts related to dust control during demolition, grading, and construction activities are addressed.

IV. Biological Resources

	Potentially Significant Impact	**Potentially Significant Unless Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special status species in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and	☐	☐	☒	☐

Wildlife Service?				
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☐	☒	☐
c) Have a substantial adverse impact on federally protected wetlands as defined by Section 404 of the Clean Water Act (including but not limited to: marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☒	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with an established resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Conservation Community Plan, or other approved local, Regional, or state habitat Conservation plan?	☐	☐	☐	☒

a. through f. The Project's potential effects on biological resources are presented in the Draft EIR.

V. Cultural Resources

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archeological resource, pursuant to Section 15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique paleontological resource, site, or unique geologic features?	☐	☐	☒	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

a. through d. ***No Impact.*** Based on a literature search of the California Historic Resources Information System, no known cultural resources are present within the project area. An archeological monitoring plan has been prepared in accordance with the City's Historic Preservation Plan to ensure that any previously unknown resources encountered during grading and excavation activities are properly identified and protected. See standard conditions of approval in Appendix X.

VI. Geology and Soils

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Expose people or structures to potential substantial adverse effects including the risk of loss, injury or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	☐	☐	☐	☒
ii) Strong seismic ground shaking?	☐	☐	☒	☐
iii) Seismic-related ground failure, including liquefaction?	☐	☐	☒	☐
iv) Landslide?	☐	☐	☐	☒
b) Would the project result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☒	☐

d) Be located on expansive soil, as defined in table 18-1b of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☒	☐
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

a. through e. The Project's potential effects on geological resources are presented in the Draft EIR.

VII. Hazards and Hazardous Materials

	Potentially Significant Impact	**Potentially Significant Unless Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or	☐	☐	☒	☐

waste within one-quarter mile of an existing or proposed school?				
d) Be located on a site which is included on a list of hazardous materials sites complied pursuant to Government Code Section 65962.5 and as a result, would it create a significant hazard to the public or the environment?	☐	☐	☒	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to the risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	☐	☐	☐	☒

a. through h. The Project's potential effects regarding hazards and hazardous materials are presented in the Draft EIR.

VIII. Hydrology and Water Quality

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted?	☐	☐	☒	☐
c) Substantially alter the existing drainage patterns of the site or area including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off-site?	☐	☒	☐	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-or off-site?	☐	☐	☒	☐

e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted run-off?	☐	☒	☐	☐
f) Otherwise substantially degrade water quality?	☐	☒	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	☐	☐	☒	☐
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☒	☐
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

a. through j. The Projects potential effects on hydrology and water quality are presented in the Draft EIR.

IX. Land Use and Planning

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

a. through c. ***No Impact.*** The project is consistent with the existing open space and resource conservation area zoning and General Plan land use designations for the project site. The Project would enhance the existing land uses by improving water quality, restoring habitat, and increasing access to parks and open space. Additionally, the Project would implement the habitat conservation policies contained in the Open Space Conservation and Recreation Element of the General Plan, and other similar objectives contained in the Estuary Policy Plan. Therefore, the Project would not conflict with any applicable habitat conservation plan or natural community conservation plan affecting the area. Hence, this topic is not analyzed further in this EIR.

X. Mineral Resources

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

a. and b. ***No Impact.*** The California Department of Conservation (Department) classifies potential mineral resourced in lands within the San Francisco Bay Region (California Department of Conservation, 1996). The Department classifies the project site as "Mineral Resource Zone (MRZ) 1" which includes areas where "adequate information indicates that no significant mineral deposits are present or where it is judged that the likelihood exists for their presence." Therefore, this topic is not analyzed further in this EIR.

XI. Noise

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

a., b., and d. ***Less than Significant Impact.*** The Project would result in short-term increases in noise during construction. Standard conditions of approval would ensure that the project adheres to the City's adopted construction hours, best management practices for muffling equipment and restrictions on idling.

c., e., and f. ***No Impact.*** The project would not result in a substantial permanent increase in the ambient noise level since the existing open space and recreational uses would not change. The project is not located within an airport land use plan or in the vicinity of a private airstrip.

XI. Population and Housing

	Potentially Significant Impact	**Potentially Significant Unless Mitigation Incorporated**	**Less Than Significant Impact**	**No Impact**
Would the project:				
a) Induce substantial population growth in an area, either directly, (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a. through c. ***No Impact.*** The Project does not propose the construction of housing and would not result in the displacement of any persons or structures. Therefore, this topic is not analyzed further in the EIR.

XII. Public Services

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?	☐	☐	☐	☒
ii) Police protection?	☐	☐	☐	☒
iii) Schools?	☐	☐	☐	☒
iv) Parks?	☐	☐	☐	☒
v) Other public facilities?	☐	☐	☐	☒

a. *No Impact*. Fire, police, and emergency services are already provided to the Project area, and the proposed enhanced park and open space uses would not change the need for any of these services. The Project would not increase residential population and would have no impact on the provision of schools or need for parks within the City. However, the Project would improve an existing park area, which would be a beneficial impact. Therefore, this topic is not analyzed further in this EIR.

XIV. Recreation

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☒	☐
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☒	☐

a. and b. ***Less than Significant Impact.*** The Project would improve and enhance existing park, recreation and conservation areas. Although the Project may result in increased use of the area, this increase is not anticipated to create a significant impact on the physical condition of the area or create the further need to expand or construct any new facilities. The project would not result in the removal of any facilities currently considered a park by the City of Oakland. Therefore, this topic is not analyzed further in this EIR.

XV. Transportation and Traffic

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

a. through g. *No Impact.* The Project does not involve the alteration of existing roadways or the construction of new roadways. The 12th Street project does involve alteration of existing roadways and a traffic study preformed for that project demonstrates that the future level of service will remain at an acceptable level (LOS C) pursuant to adopted City policy. Therefore, this topic is not analyzed further in this EIR.

XVI. Utilities and Service Systems

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☒	☐
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☒	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☒	☐
e) Result in a determination by the wastewater treatment provider which serves or may serve the	☐	☐	☒	☐

project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☒	☐
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☒	☐

a. through g. ***Less than Significant Impact.*** The Project is located in a densely developed urban area currently served by utilities and service systems, and would result in an incremental increase in demand for utilities and service systems in the immediate project area. The Community Services Analysis prepared for the LUTE as well as the OSCAR MND stated that future expansion of recreational or conservation areas were well within the capacity of existing utilities and service systems. The Project, as part of the broader 12th Street Reconstruction includes improvements to the stormwater collection system through consolidation of the existing network and incorporation of natural features such as bio swales to reduce runoff. Therefore, this topic is not analyzed further in this EIR.

XVII. Mandatory Findings of Significance

	Potentially Significant Impact	Potentially Significant Unless Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have the potential to degrade quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☐	☒	☐
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☐	☒	☐
c) Have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

a. ***Potentially Significant Unless Mitigation Incorporated.*** Impacts to biological resources will be discussed in the Draft EIR. There are no known cultural resources on the project site and standard conditions of approval would adequately protect any cultural resources uncovered during project construction.

b. ***Less than Significant Impact.*** The proposed project land uses are consistent with the City's planning policies and land use projections for the City. These land uses have been considered with overall growth in the City (including consideration of increases in traffic, noise, changes to air quality, etc.) and the project would not result in any cumulatively considerable impacts.

c. ***Less than Significant Impact.*** The implementation of the mitigation measures identified in this initial study would reduce potential impacts to a less than significant level and the project would not result in impacts that would cause substantial adverse effects on human beings, either directly or indirectly.

Sources:

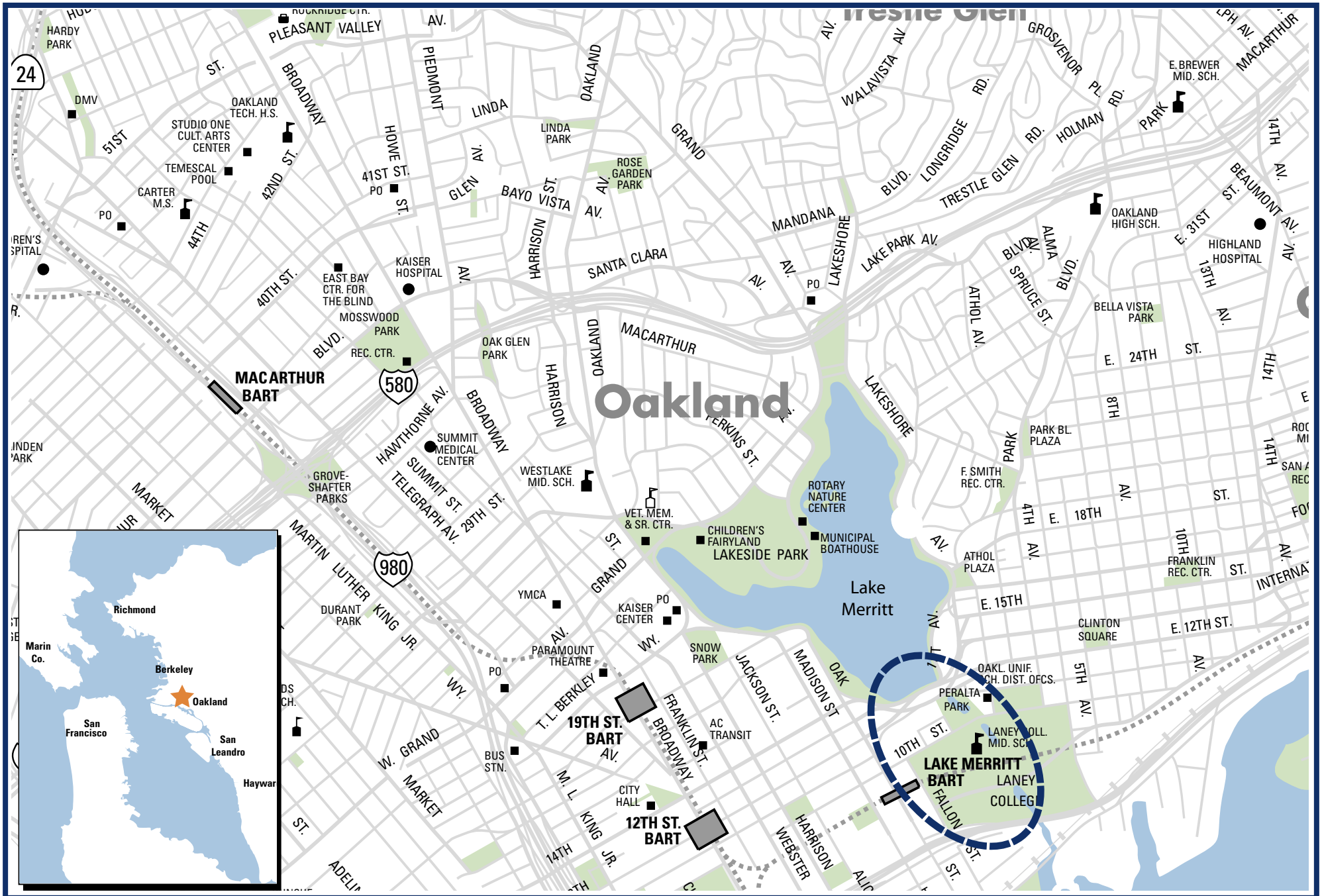
City of Oakland General Plan.

Project Plans, February 2006.

OFR 96-03, Update of Mineral Land Classification: Aggregate Materials in South San Francisco Bay Production-Consumption Region. Kohler-Antablin, Susan, 1996.

TJKM Transportation Consultants, Traffic Modeling Methodology and Operation Study for the 12th Street Improvement Project, February 22, 2005.

William Self Associates, Inc., Records Search: 12th Street Reconstruction Project, July 13, 2004.



CirclePoint℠
The *whole* view.

FIGURE 1
PROJECT LOCATION

Appendix C
Requirements for the Erosion Control Plan

Appendix C

REQUIREMENTS FOR THE EROSION CONTROL PLAN AS SPECIFIED BY THE GRADING ORDINANCE AND AS SUPPLEMENTED BY THE SEDIMENTATION CONTROL ORDINANCE

This appendix sets forth the requirements for erosion and sedimentation control as routinely required by the City of Oakland for all projects involving disturbance of soil. These requirements are as specified by the Grading Ordinance 10312 CMS, dated January 18, 1983 and as supplemented by the Sedimentation Control Ordinance 10446 CMS, dated March 13, 1984.

Requirements per Grading Ordinance 10312 CMS
The City of Oakland requires a grading permit for all projects involving more than 50 cubic yards of excavation or fill, provided that either:

a) the existing or resulting slope will exceed 20%, or
b) the vertical distance between the top and bottom of excavation or fill will exceed five (5) feet at any location.

This Ordinance would therefore apply to the Lake Merritt Channel Improvements Project.

Section 2-6.073 of the Grading Ordinance 10312 requires that as part of the grading permit, an Erosion Control Plan shall be prepared by a Civil Engineer, subject to review and approval by the Director of Public Works, and shall include all of the following:

(1) Interim Measures: The Erosion Control Plan shall include interim erosion and sedimentation control measures to be taken during wet seasons until permanent erosion and sedimentation control measures can adequately minimize erosion, excessive storm water runoff and sedimentation measures.

The Plan shall include all necessary measures to be taken to prevent excessive storm water runoff of or carrying by storm water runoff of solid materials on to lands of adjacent property owners, public streets, or to water courses as a result of conditions created by grading operations.

The Plan shall include but not be limited to such measures as short term erosion control planting, waterproof slope covering, check dams, interceptor ditches, storm drains, dissipation structures, diversion dikes, retarding berms and barriers, devices to trap, store, and filter out sediment, and storm water retention basins.

Erosion control work and sediment control work shall be coordinated with the grading work.

(2) Permanent Measures: The Plan shall include permanent erosion and sedimentation control measures which shall be primarily oriented towards prevention of erosion and shall include, but not be limited to, such measures as permanent erosion control planting, paved ditches, planted swales, benches, storm drains, dissipation structures, rip rap, and storm water retention basins.

Requirements per Sedimentation Control Ordinance 10446 CMS

The *Sedimentation Control Ordinance* 10446 CMS supplements and clarifies Section 2-6.03 of the Grading Ordinance by noting that "Any person who performs grading, clearing, and grubbing or other activities that disturb the existing soil shall take appropriate preventative measures to control erosion, sedimentation of eroded materials onto adjacent lands, public streets or rights-of-way, or carrying of eroded materials to any water course by any route.

The Sedimentation Control Ordinance also adds a new Section 2-6.031 to the Grading Ordinance to clarify that "Preventative measures shall be those prescribed in the Manual of Standards for Erosion and Sediment Control Measures" of the Association of Bay Area Governments, dated June 1981, and as subsequently amended. (now updated as of 1995)

Preventative measures shall include both interim and permanent measures to control erosion and sedimentation. Interim measures shall be taken during the period October 15 to April 15 until permanent control measures are complete and effective.

Interim measures shall include but not be limited to waterproof slope covering, drainage ditches around slopes, short term erosion control planting, slope benching, rip rap, storm drains, and energy dissipation structures.

Permanent measures shall include, but not be limited to completion of buildings, walls, or other structures, permanent planting, paved ditches, slope benching, rip rap storm drains, paving, and energy dissipation structures.

Appendix D
Standard Conditions of Approval for Grading, Geotechnical, Erosion Control & Drainage

Appendix D

STANDARD CONDITIONS OF APPROVAL FOR GRADING, GEOTECHNICAL, EROSION CONTROL & DRAINAGE

This appendix sets forth the Standard Conditions of Approval for the grading, geotechnical, erosion and sedimentation control, and drainage as routinely required by the City of Oakland for all projects involving disturbance of soil.

Grading Activities.
No grading shall occur without a valid Grading and Obstruction Permit issued by the Building Services Department. All graded slopes shall be planted to prevent erosion according to an Erosion Control Plan approved by the Building Services Department, and issued prior to the subject grading permit.

Grading, Erosion and Drainage Plan.
Prior to issuance of grading permit and during construction.
The applicant shall submit for review and approval by the Building Services Division a Site Grading and Drainage plan in conformance with City standards and "Best Management Practices" (BMP) for use during construction. The plan shall indicate the methods, means, and design to conduct site run-off, attenuate storm drainage flow, and minimize sedimentation and erosion during and after construction activity (utilizing a combination of permeable surfaces, subsurface-drainage, silt debris barriers, drainage retention systems, and/or filtration swale landscaping). All graded slopes or disturbed areas shall be temporarily protected from erosion by implementing seeding, mulching and/or erosion control blankets/mats until permanent erosion control measures are in place. No grading shall occur without a valid grading permit issued by the Building Services Division or within the period of October 15 through April 15 unless specifically authorized in writing by the Building Services Division.

Steep Slope Erosion Control Measures.
Prior to issuance of grading permit and during construction.
The applicant shall implement the following additional site-specific steep-slope erosion and sediment control measures:

a) Provide a [insert length] leveler dissipater and placed parallel with the topographic contours.

b) Provide fiber roll slope protection spaced at [insert spacing] on center placed parallel to contours.

c) Provide landscaping beds created with terraced retaining walls at [insert retaining wall height] minimum height each. The landscaping beds shall be designed in coordination with the required dissipaters to filter and slow run-off drainage. The retaining walls and landscape planting shall be permanently maintained as indicated in [insert condition no.].

Grading Activity Status Reports and Map.
Prior to issuance of grading permit and during grading activities.

The project engineer shall file status reports to be followed by a final completion report, along with a geologic mapping of all cut-and-fill pads and slopes within the graded area, as a condition of the project grading permit. Locations of subdrains and clean-outs shall be shown on the approved grading map. The applicant shall ensure periodic monitoring of project grading activities by a geotechnical engineer.

Storm Drainage Compliance.

Prior to issuance of a grading permit

The applicant shall ensure that all proposed improvements shall comply with all provisions of the Alameda County's National Pollutant Discharge Elimination System (NPDES) permit issued on February 19, 2003, and related post-construction Best Management Practices (BMP) that would apply to the project; all proposed improvements shall also comply with the Clean Water Act (1972) as amended by the Water Quality Act of 1987, and City of Oakland Storm Water Management and Controls Ordinance No. 11590 C.M.S. and Creek Protection Ordinance No. 12024; and shall utilize all BMPs to prevent sediments or pollutants from entering the storm drain system or watercourses. The impact of the proposed improvements on the storm drain system and watercourses shall be mitigated to the extent practicable by using site design techniques such as minimizing impervious surfaces, minimizing disturbed area, clustering and constructing grass/vegetated swales.

Grading Hours.

During grading activities.

Grading shall only take place between 7:30 AM and 6:00 PM daily, except that no grading shall take place on Saturdays or Sundays or Federal holidays, unless upon written request and approval by the Planning and Zoning Division. Saturday grading activity shall be evaluated on a case by case basis, with criteria including the proximity of residential uses. No grading shall occur without a valid grading permit issued by the Building Services Division or within the period of October 15 through April 15 unless specifically authorized in writing by the Building Services Division.

Note: Municipal Code allows grading 7:00AM - 9:00PM Monday-Friday; ½-day on Saturday)

Appendix E
Standard Conditions of Approval As Required By Creek Protection Permit

Appendix E

STANDARD CONDITIONS OF APPROVAL AS REQUIRED BY CREEK PROTECTION PERMIT

This appendix sets forth Standard Conditions of Approval typically included within a Creek Protection Permit for a project similar to the Channel Improvement Project. A Creek Protection Permit will be required for this project as specified in the Creek Protection, Storm Water Management and Discharge Control Ordinance, Chapter 13.16 of the Oakland Municipal Code.

As per this Ordinance, "in granting a Creek Protection Permit, the Chief of Building Services may attach such conditions thereto as he/she deems reasonably necessary to carry out the purposes and intent of this Chapter, including without limitations, protecting the Creek, the Riparian Corridor and Vegetation, safeguarding life, public and private property, and to assure all Development or Work is carried out in an orderly manner in conformance with all regulations and without creating a public nuisance."

Standard Conditions

1. This project shall be constructed and operated in accordance with the plans submitted on (date), except as modified by the creek protection conditions listed below and design review conditions attached and incorporated into case (number).
2. This permit shall become effective upon satisfactory compliance with these conditions. This permit shall expire one (1) calendar year from the date of this letter, unless actual construction or alteration, or actual commencement of the authorized activities in the case of a permit not involving construction or alteration, has begun under necessary permits by this date. Upon written request and payment of appropriate fees submitted no later than the expiration date, the Zoning Administrator may grant an extension of this date.
3. The project is approved pursuant to the Creek Protection Ordinance only and shall comply with all other applicable codes, requirements, regulations and guidelines imposed by other affected departments, including but not limited to the City's Planning and Zoning Division, Building Services Division, and the Fire Chief. Minor changes to approved plans may be approved administratively by the Zoning Administrator. Major changes to the approved plans shall be reviewed by the Zoning Administrator.
4. No deviation shall be made from the required creek protection measures without prior written approval from the City Planning & Zoning Department. The City of Oakland reserves the right at any time during construction to require certification by a licensed professional that the as-built project conforms with all applicable Creek Protection Ordinance requirements. Failure to construct the project in accordance with Creek Protection Ordinance requirements, approved plans and the attached Conditions of Approval may result in the City taking enforcement action, including without limitation: issuing a stop work order, remedial reconstruction, delays in obtaining any Certificate of Occupancy, imposing additional conditions, and/or revocation of this permit.

5. At least one (1) copy of the approved plans, along with this Approval Letter and Conditions of Approval, shall be available for review at the job site at all times.
6. The applicant shall defend, indemnify, and hold harmless the City of Oakland, its agents, officers, and employees from any claim, action, or proceeding (including legal costs and attorney's fees) against the City of Oakland, its agents, officers or employees to attack, set aside, void or annul, an approval by the City of Oakland, the Office of Planning and Zoning Division, Planning Commission, or City Council relating to this project. The City shall promptly notify the applicant of any claim, action or proceeding and the City shall cooperate fully in such defense. The City may elect, in its sole discretion, to participate in the defense of said claim, action, or proceeding.
7. Final plans submitted for Building Permit shall be in substantial compliance with all Creek Ordinance requirements and Creek Protection Permit Conditions of Approval. The Building Permit shall not be issued until reviewed and approved by the Building Official.
8. The applicant/owner(s) shall record the conditions of approval attached to this creek protection permit with the Alameda County Recorder's Office in a form prescribed by the Director of City Planning.

Landscaping

1. Prior to the issuance of a building permit, the applicant shall submit for review and approval by the Planning and Zoning Division a detailed landscape and irrigation plan prepared by a licensed landscape architect or other qualified person. Such plan shall include a planting schedule, detailing plant types and locations, and a system for irrigation of plantings. The applicant shall plant and maintain only native riparian plants in and adjacent to riparian corridors. Along the riparian corridor, native riparian plants shall not be disturbed by any project to the maximum extent feasible. Areas disturbed along the riparian corridor shall be replanted with mature native riparian vegetation and be maintained to ensure survival.
2. All landscaping indicated on the approved landscape plan shall be installed prior to the issuance of a Certificate of Occupancy, unless bonded pursuant to the provisions of Section 17.124.50 of the Oakland Planning Code.
3. All landscaping areas and related irrigation shown on the approved plans shall be permanently maintained in neat and safe conditions, and all plants shall be maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with all applicable landscaping requirements. All paving or other impervious surfaces shall occur only on approved areas.

Erosion and Stormwater Runoff

1. [Optional condition] Prior to the issuance of a building permit, a revised driveway design shall be reviewed and approved by the Engineering Services Division. The revised driveway design shall specify the use of a pervious paving material (such as

interlocking pavers, pervious asphalt, gravel, and/or tire strips) in place of the solid concrete driveway surface shown on the submitted site plan.

2. All erosion and sediment control measures implemented during construction activities, as well as construction site and materials management, shall be in strict accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the State of California Regional Water Quality Board, San Francisco Bay Region.
3. Prior to the issuance of a grading permit, the applicant shall prepare an erosion control plan for review and approval by the Building Services Division. The plan shall include mechanical and vegetative measures to reduce erosion and sedimentation, and appropriate seasonal maintenance. There shall be no sediments or runoff into the creek resulting from the construction. All slopes must be protected from erosion caused by rain splash and water flows, both during and after construction. All disturbed areas shall be temporarily protected from erosion by implementing seeding/mulching and/or erosion control blankets/mats until permanent erosion control measures are in place.
4. Prior to issuance of a grading permit, the applicant shall submit a stormwater management plan to Engineering Services for review and approval. The stormwater management plan shall include specific details related to a method of on-site detention, retention, and/or infiltration for the runoff water from the new dwelling unit's roof, as well as other impervious surfaces on site. Engineering data shall be included with the site improvement plans verifying that the project shall not result in a substantial increase of storm water runoff volume or velocity to creeks or stormdrains. Projects shall also not result in a substantial increase of pollutants (including automotive drippings, sediment, leaves, toxics, etc.) both during construction and after the project is complete. The mitigation measures indicated in the applicant's Creek Protection Plan (dated xx/xx/xx) are incorporated herein by reference.
5. During all construction activities on sloped properties, the downhill end of the construction area must be protected with silt curtains and/or hay bales oriented parallel to the contour of the slope (at a constant elevation) to prevent erosion to creeks and/or stormdrains.

Grading

1. Prior to any grading activities, the applicant shall submit and receive approval for a site grading and drainage plan in conformance with City standards and "Best Management Practices" (BMP) for use during construction. No grading shall occur without a valid Grading Permit issued by the Building Services Division.
2. No grading shall occur within the period of October 15 through April 15 unless specifically authorized in writing by Engineering Services.

Technical Reports

1. All mitigation measures set forth in any submitted geotechnical, hydrological, and/or biological report(s) shall be incorporated in the project. Technical report consultant(s) shall be retained by the applicant to make site visits during all grading and construction activities within twenty (20) feet of the top of the creek bank; and as follow-up, submit to the Building Services Division a letter certifying that the mitigation measures set forth in the Creek Permit submittal material have been instituted during construction of the project.

Construction Activities

1. All work in or near creek channels must be performed with hand tools and by a minimum number of people. Immediately upon completion of this work, soil must be repacked and native vegetation planted.
2. The applicant shall submit a construction staging and phasing plan to the Building Services Division with the application for any building or grading permits for the project. The construction management conditions shall be included, as well as any additional detailed information or conditions required by Building Services. The plan shall at least include the following items:
    a) Onsite location for storage of construction materials and equipment;
    b) Designation of construction worker parking areas, including off-site parking areas, if required;
    c) Details of debris removal and disposal;
    d) Mitigation measures for potential adverse impacts of construction activities on adjacent properties, such as noise impacts from operation of heavy equipment, dust from grading, disruption of traffic flow, etc.; and
    e) Provisions for onsite restroom facilities for workers.
3. Prior to the beginning of construction, the applicant shall delineate the limit of construction by installing a barrier fence at the maximum distance feasible from the top of the creek bank. The limit of construction fence shall remain in place throughout the entire construction period.
4. During all construction activities, dust control measures shall be instituted and maintained during construction to minimize air quality impacts. The measures shall include:
    a) Installing sandbags or other erosion control measures to prevent silt runoff to public roadways;
    b) Watering all active construction areas as necessary to control dust;
    c) Covering stockpiles of debris, soils or other material if blown by the wind;
    d) Sweeping adjacent public rights-of-way and streets daily if visible soil material or debris is carried onto these areas.
    e) Covering all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard;
    f) Enclosing, covering, watering twice daily or applying non-toxic soil binders

to exposed stockpiles (dirt, sand, etc.);

g) Hydroseeding or applying non-toxic soil stabilizers to inactive construction areas; and

h) Replanting vegetation in disturbed areas as quickly as possible.

5. All work shall apply the "Best Management Practices" (BMPs) for the construction industry, and as outlined in the Alameda Clean Water Program pamphlets - including BMPs for dust, erosion and sedimentation abatement per Section 15.04 of the Oakland Municipal Code. The measures shall include, but not be limited to:

    a) On sloped properties, the downhill end of the construction area must be protected with silt curtains and hay bales oriented parallel to the contour of the slope (at a constant elevation) to prevent erosion to creeks and/or stormdrains.

    b) All work in or near creek channels must be performed with hand tools and by a minimum number of people. Immediately upon completion of this work, soil must be repacked and native vegetation planted.

    c) Minimize removal of natural vegetation or ground cover from the site in order to minimize the potential for erosion and sedimentation problems. Maximize the replanting of the area with native vegetation as soon as possible. All bare slopes must be covered with staked tarps when rain is occurring or is expected.

    d) Install filter materials (such as sandbags, filter fabric, etc.) at the storm drain inlet nearest the downstream side of the project site prior to: start of the rainy season (October 1); site dewatering activities; street washing activities; saw cutting asphalt or concrete; and in order to retain any debris or dirt flowing into the City storm drain system. Filter materials shall be maintained and/or replaced as necessary to ensure effectiveness and prevent street flooding.

    e) Ensure that concrete/granite supply trucks or concrete/plaster finishing operations do not discharge wash water into street gutters, drains, or creeks.

    f) Direct and locate tool and equipment cleaning so that wash water does not discharge into creek.

    g) Create a contained and covered area on the site for the storage of bags of cement, paints, flammables, oils, fertilizers, pesticides, or any other materials used on the project site that have the potential for being discharged to the storm drain system by wind or in the event of a material spill. No hazardous waste material shall be stored on site.

    h) Cover stockpiles of debris, soils or other material subject to being blown by the wind;

    i) Gather all construction debris on a regular basis and place them in a dumpster or other container which is emptied or removed on a weekly basis. When appropriate, use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution.

    j) Remove all dirt, gravel, rubbish, refuse and green waste from the sidewalk,

street pavement, and storm drain system adjoining the project site. During wet weather, avoid driving vehicles off paved areas and other outdoor work.

k) Broom sweep the sidewalk and public street pavement adjoining the project site on a daily basis. Caked-on mud or dirt shall be scraped from these areas before sweeping. At the end of each workday, the entire site must be cleaned and secured against potential erosion, dumping, or discharge to creeks or stormdrains.

Dewatering and Diversion

1. Prior to the start of any construction activity, a full Dewatering and Diversion Plan complete with a contingency plan must be submitted and approved by City. All proposed dewatering and diversion practices are to be consistent with the current requirements of a Streambed Alteration Agreement issued by the California Department of Fish and Game.

2. If installing any dewatering or diversion device(s), ensure that construction and operation of the devices meet the standards for erosion and sediment control practices as set forth within this Creek Protection Permit.

3. Construct coffer dams and stream diversion system of a non-erodible material which will cause little or no siltation. Maintain coffer dams and the stream diversion system in place and functional throughout the construction period. If the coffer dams or stream diversion system fail, repair immediately. Remove devices only after construction is completed and the site is stabilized.

4. Pass pumped water through a sediment-settling device before returning the water to the channel. Provide velocity dissipation measures at the outfall to prevent erosion.

5. When any dam or other artificial obstruction is being constructed, maintained, or placed in operation, ensure that sufficient water is allowed to pass downstream at all times to maintain aquatic life below the dam.

6. No heavy equipment shall operate in the live stream, except as may be necessary to construct coffer dams to divert stream flow and isolate the work site.

7. The operator shall hire a biologist, with all necessary State and Federal permits, to relocate all fish/amphibians within the work site prior to dewatering. Captured fish/amphibians shall be moved to the nearest appropriate site on the stream. The Operator/Contractor shall check daily for stranded aquatic life as the water level in the dewatering area drops. All reasonable efforts shall be made to capture and move all stranded aquatic life observed in the dewatered areas. Capture methods may include fish landing nets, dip nets, buckets and by hand. Captured aquatic life shall be released immediately in the nearest appropriate site on the stream. This condition does not allow for the take or disturbance of any state or federally listed species, or state listed species of special concern.

Appendix F
Requirements for the Tree Permit As Specified By the Tree Protection Ordinance

Appendix F

REQUIREMENTS FOR THE TREE PERMIT AS SPECIFIED BY THE TREE PROTECTION ORDINANCE

This appendix sets forth the requirements for tree removal and tree protection as routinely required by the City of Oakland for all projects involving trees. These requirements are as specified by the Protected Tree Ordinance.

The project will comply with City requirements regarding the removal of City-Owned trees. This includes the following procedures:

A. Tree Posting. Except as exempted in Section 12.36.140 of the O.M.C., all city-owned trees proposed for removal shall be posted by the Office of Parks and Recreation. A tree tag shall be affixed to each tree proposed for removal in plain view of the street. The tags shall not be removed until such time as tree removal is approved or denied by the city for the tree(s) in question.

B. Public Notice and Input. The Office of Parks and Recreation shall, within ten working days of tree posting, notify property owners of all parcels located adjacent to the site of proposed tree removal(s) in writing of the fact that city-owned trees have been proposed to be removed, and the closing date for public input. The Office of Parks and Recreation shall accept public comment regarding the proposed removal of city-owned trees for a period of not less than twenty (20) working days following proper site posting.

C. Tree Removal Determinations. The Tree Reviewer of the Office of Parks and Recreation shall review all proposed city-owned tree removals and shall be responsible for making all necessary findings for approval or denial of such removals, including attaching all necessary conditions of approval.

Any telephone calls or written comments received regarding the public input period shall be considered in the preparation of findings, and written records of such calls and/or comments shall be entered into the permanent Tree Reviewer files.

D. Tree Removal Approval and Denial. Based upon the determinations of the Tree Reviewer, and except as otherwise stated herein, the Office of Parks and Recreation shall approve or deny city-owned tree removals within twenty (20) working days of application. The Office of Parks & Recreation shall suspend all city-owned tree removals until the appeal deadline established in Section 12.36.120 has expired.

If the proposed tree removal(s) are approved and not appealed, the city-owned tree(s) shall be removed in accordance with regular work schedules. If the proposed tree removal(s) are not approved, the city-owned tree(s) shall not be removed. Following approval of city-owned tree removal, the Office of Parks and Recreation shall post a public notice thereof in plain view on the site while tree removal work is underway.

E. Appealed Permits. Once a decision has been made regarding an appeal of city-owned tree removal, such tree removal shall be processed as described in subsection D of this section. (Prior code § 7-6.073)

Per Oakland's Municipal Code 12.36, adequate protection shall be provided during the construction period for any trees which are to remain standing. Measures deemed necessary by the Tree Reviewer in consideration of the size, species, condition and location of the trees to remain, may include any of the following:

1. Before the start of any clearing, excavation, construction or other work on the site, every protected tree deemed to be potentially endangered by said site work shall be securely fenced off at a distance from the base of the tree to be determined by the Tree Reviewer. Such fences shall remain in place for duration of all such work. All trees to be removed shall be clearly marked. A scheme shall be established for the removal and disposal of logs, brush, earth and other debris which will avoid injury to any protected tree.

2. Where proposed development or other site work is to encroach upon the protected perimeter of any protected tree, special measures shall be incorporated to allow the roots to breathe and obtain water and nutrients. Any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter shall be minimized. No change in existing ground level shall occur within a distance to be determined by the Tree Reviewer from the base of any protected tree at any time. No burning or use of equipment with an open flame shall occur near or within the protected perimeter of any protected tree.

3. No storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees shall occur within the distance to be determined by the Tree Reviewer from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. No heavy construction equipment or construction materials shall be operated or stored within a distance from the base of any protected trees to be determined by the tree reviewer. Wires, ropes, or other devices shall not be attached to any protected tree, except as needed for support of the tree. No sign, other than a tag showing the botanical classification, shall be attached to any protected tree.

4. Periodically during construction, the leaves of protected trees shall be thoroughly sprayed with water to prevent buildup of dust and other pollution that would inhibit leaf transpiration.

5. If any damage to a protected tree should occur during or as a result of work on the site, the applicant shall immediately notify the Office of Parks and Recreation of such damage. If, in the professional opinion of the Tree Reviewer, such tree cannot be preserved in a healthy state, the Tree Reviewer shall require replacement of any tree removed with another tree or trees on the same site deemed adequate by the Tree Reviewer to compensate for the loss of the tree that is removed.

6. All debris created as a result of any tree removal work shall be removed by the applicant from the property within two weeks of debris creation, and such debris shall be properly disposed of by the applicant in accordance with all applicable laws, ordinances, and regulations.

Appendix G
Standard Conditions of Approval

The City of Oakland implements standard conditions of approval to ensure protection of the environment during construction and implementation of projects. The following chart outlines Standard Conditions of Approval that are included in the design and implementation of the Lake Merritt Channel Improvements Project.

Lake Merritt Channel Wetlands and Widening Project – Applicable Standard Conditions of Approval

STANDARD CONDITION REFERENCED	CONDITION TEXT	PARTY RESPONSIBLE FOR IMPLEMENTATION	PARTY RESPONSIBLE FOR MONITORING	MONITORING ACTION	COMPLIANCE STATUS
AESTHETICS					
Standard Planning Department Exterior Lighting Requirements	Text from Measure DD Initial Study/ Addendum: Standard conditions of approval require the use of full-cutoff light fixtures and installation that does not permit light to radiate upward or horizontally across parcel boundaries. Other applicable lighting requirements including use of motion sensitive lighting circuits to provide light only when needed, recessed lighting where minimal areas require lighting, and correct installation of all lighting to ensure that light does not radiate beyond site boundaries either horizontally or upward, and to ensure that light trespass on adjacent properties does not occur. Standard conditions of approval also limit or prohibit lighting that does not strictly promote security when human activities are not present. Furthermore, given that these projects are City-sponsored, lighting plans will be required to comply with these basic requirements prior to approval of final plans and specifications.	Rajappan & Meyer, Golden Associates, AEC	Department of Public Works	The Department of Public Works shall not issue any permits for grading, demolition, or construction until the lighting plan has been approved by the Public Works Department.	The 90% design plans include a lighting design that has been reviewed and approved by the City.
AIR QUALITY					
Bay Area Air Quality Management District (BAAQMD) Dust Control Measures	The following Basic BAAQMD dust control measures shall be implemented at all construction sites: - Water all active construction areas at	Contractor/Builder	City Building Inspector	During site visits and spot inspections, the Building Inspector shall ensure that the specified dust control measures	Construction is expected to begin in 2006.

STANDARD CONDITION REFERENCED	CONDITION TEXT	PARTY RESPONSIBLE FOR IMPLEMENTATION	PARTY RESPONSIBLE FOR MONITORING	MONITORING ACTION	COMPLIANCE STATUS
Bay Area Air Quality Management District (BAAQMD) Dust Control Measures (continued)	least twice daily. - Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard. - Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites. - Sweep daily (with water sweepers) all paved access roads, parking areas and staging areas at construction sites. - Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.			are being implemented.	
	The following Enhanced BAAQMD dust control measures should be implemented at construction sites when more than four acres are under construction at any one time. - All "Basic" control measures listed above. - Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for ten days or more). - Enclose, cover, water twice daily or apply (non-toxic) soil binders to exposed stockpiles (dirt, sand, etc.). - Limit traffic speeds on unpaved roads to 15 mph. - Install sandbags or other erosion control measures to prevent silt runoff to public roadways.				

STANDARD CONDITION REFERENCED	CONDITION TEXT	PARTY RESPONSIBLE FOR IMPLEMENTATION	PARTY RESPONSIBLE FOR MONITORING	MONITORING ACTION	COMPLIANCE STATUS
Bay Area Air Quality Management District (BAAQMD) Dust Control Measures (continued)	- Replant vegetation in disturbed areas as quickly as possible. The following Optional BAAQMD control measures are strongly encouraged at construction sites that are large in area, located near sensitive receptors or which for any other reason may warrant additional emissions reductions: - Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site.				
	- Suspend excavation and grading activity when winds (instantaneous gusts) exceed 25 mph. - Limit the area subject to excavation, grading and other construction activity at any one time. - Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least six inches of freeboard. - Reduce track-out dust by sweeping paved access roads and parking areas on a routine basis. - Increase sweeping if visible sediment is carried onto adjacent public streets. - Limit traffic speeds on-site to 5 miles her hour. - Maintain adequate moisture on aggregate transported from ship (greater than five percent). - Temporary cease operation is wind-				

STANDARD CONDITION REFERENCED	CONDITION TEXT	PARTY RESPONSIBLE FOR IMPLEMENTATION	PARTY RESPONSIBLE FOR MONITORING	MONITORING ACTION	COMPLIANCE STATUS
	blown dust from the project site results in a significant adverse off-site impact, as determined by the BAAQMD.				
BIOLOGICAL RESOURCES					
Open Space Conservation and Recreation Element Policy CO-9.1 Action CO-9.1.2 page 3-40 and 3-41	The City shall protect rare, endangered, and threatened species in by conserving and enhancing their habitat and requiring mitigation of potential adverse impacts when development occurs within habitat areas. The City shall conduct site-specific analyses to determine the presence of rare or endangered plant or animal species within the project area, and shall develop a plan for minimizing negative impacts on these species.	Rajappan & Meyer, CirclePoint (Monk & Associates)	Department of Public Works	The Department of Public Works shall not issue any permits for grading, demolition, or construction until permit approval from the USACE has been received.	Monk & Associates conducted site-specific analysis to determine the presence of rare or endangered plant, animal, and/or aquatic species. An application to the USACE regarding the placement of fill in wetland and waters of the US was submitted on February 14, 2006. The project will create more wetland and waters of the US than it will disturb and is therefore considered to have a net benefit.
Draft EIR for Channel Improvements Project	The City shall conduct site-specific analyses in the Lake Merritt project area to determine the presence of rare or endangered plant or animal species within the project area, and shall develop a plan for minimizing negative impacts on these species.	Rajappan & Meyer, CirclePoint	Department of Public Works	The Department of Public Works shall not issue any permits for grading, demolition, or construction until permit approval from the USACE and NOAA has been received.	
Open Space Conservation and Recreation Element Action OS-8.2.2 Page 2-60	The City shall coordinate all creek daylighting or reconstruction projects with the County Flood Control and Water Conservation District, the Army Corps of Engineers, and other City departments and agencies with jurisdiction over surface waters.	Rajappan & Meyer, CirclePoint	Department of Public Works	The City shall obtain approval from all applicable agencies before the start of project construction.	Permit applications will be submitted to the Regional Water Quality Control Board in April 2006. The City has coordinated regularly with County Flood Control throughout the design of the project.

STANDARD CONDITION REFERENCED	CONDITION TEXT	PARTY RESPONSIBLE FOR IMPLEMENTATION	PARTY RESPONSIBLE FOR MONITORING	MONITORING ACTION	COMPLIANCE STATUS
California Fish and Game Code section 1602	A Streambed Alteration Agreement is required for any construction activity that could affect the bank or bed of any stream that has value to fish and wildlife pursuant to the California Fish and Game Code.	Rajappan & Meyer, Department of Public Works	Department of Public Works	The City shall obtain a stream bed alteration agreement before the start of project construction.	Application for a streambed alteration agreement will be submitted to the CA Department of Fish and Game in February 2006. Processing is expected to take up to 60 days.
Open Space Conservation and Recreation Element Policy CO-7.4 Page 3-37	The City should discourage the removal of large trees on already developed sites unless removal is required for biological, public safety, or public works reasons.	Rajappan & Meyer, Golden Associates	Department of Public Works	The Department of Public Works shall not issue any grading, demolition, or construction until compliance with the Tree Protection Ordinance is certified..	The current 90 percent design plans require the removal of protected trees along the Channel to prepare for the creation of the tidal marsh area and channel widening. The replanting plan includes revegetation with regionally native species to ensure that an appropriate riparian environment is created as part of the project. This design is in compliance with the tree protection ordinance.

STANDARD CONDITION REFERENCED	CONDITION TEXT	PARTY RESPONSIBLE FOR IMPLEMENTATION	PARTY RESPONSIBLE FOR MONITORING	MONITORING ACTION	COMPLIANCE STATUS
Open Space Conservation and Recreation Element Action CO-7.2 Page 3-36	The City shall ensure that the landscaping plan incorporates native species to the greatest extent feasible.	Rajappan & Meyer, Golden Associates	Department of Public Works	The Department of Public Works shall not issue any grading, demolition, or construction until the landscaping plan has been approved by the City.	As stated above, the City plans to utilize native species to the greatest extent possible, in accordance with this policy. The 90% design plans incorporate regionally native species to the greatest extent possible.
Creek Protection Ordinance Section 13.16.120	A Creek Protection Permit is required for any development or work within the boundaries of a creek side property or within the public right-of-way fronting a creek side property. The Creek Protection Permit ensures that best management practices related to storm water discharges, bank stabilization, wildlife protection, and erosion and sediment control are incorporated into the project plans.	Rajappan & Meyer, Golden Associates	Department of Public Works	The Department of Public Works shall not issue any permits for grading, demolition, or construction until the Planning Department has reviewed and approved a creek protection permit.	The City is currently reviewing the 90 percent design and grading plans to ensure compliance with the creek protection ordinance.
CULTURAL RESOURCES					
City standard conditions of approval. Archaeological Monitoring and	The City shall implement the following standard practices and requirements for protecting archaeological resources set forth below that apply to projects involving extensive grading and excavation:	CirclePoint (William Self Associates)	Department of Public Works	The Department of Public Works shall not issue any permits for grading, demolition, or construction until it has reviewed and approved the proposed archaeological monitoring plan.	William Self Associates completed a literature search for the 12th Street Reconstruction Project and also evaluated soil borings which did not indicate the presence of any significant cultural resources.

STANDARD CONDITION REFERENCED	CONDITION TEXT	PARTY RESPONSIBLE FOR IMPLEMENTATION	PARTY RESPONSIBLE FOR MONITORING	MONITORING ACTION	COMPLIANCE STATUS
Discovery Plan, prepared by William Self Associates for the 12th Street Reconstruction project	A. An archaeological monitoring plan shall be prepared as part of the final plans and specifications for grading and excavation projects along the Estuary.				William Self Associates prepared an archaeological monitoring plan to be implemented during construction of the 12th Street Reconstruction Project, and the plan has been incorporated into the project plans and specifications.
GEOLOGY					
City of Oakland Uniform Building Code City of Oakland Grading Ordinance (10312) Sedimentation and Erosion Control Ordinance (Ord. 10446)	Prior to the issuance of grading and building permits, the City shall submit a soils report, a grading plan, and an erosion and sedimentation control plan to the Department of Public Works. Soil management practices such as soil enrichment, drainage improvements, and planting of exposed soils to control erosion shall be implemented in project areas.	Rajappan & Meyer	Department of Public Works	The Department of Public Works shall ensure that the applicable erosion and sedimentation control plan is in compliance with applicable city standards prior to approval and issuance of grading and building permits.	The grading and erosion control plans are being designed and prepared in cooperation with the City.

STANDARD CONDITION REFERENCED	CONDITION TEXT	PARTY RESPONSIBLE FOR IMPLEMENTATION	PARTY RESPONSIBLE FOR MONITORING	MONITORING ACTION	COMPLIANCE STATUS
HYDROLOGY & WATER QUALITY					
Creek Protection Ordinance Section 13.16.120	A Creek Protection Permit is required for any development or work within the boundaries of a creek side property or within the public right-of-way fronting a creek side property. The Creek Protection Permit ensures that best management practices related to storm water discharges, bank stabilization, wildlife protection, and erosion and sediment control are incorporated into the project plans.	Rajappan & Meyer, Golden Associates	Department of Public Works	The Department of Public Works shall not issue any permits for grading, demolition, or construction until the Planning Department has reviewed and approved a creek protection permit.	The City is currently reviewing the 90 percent design and grading plans to ensure compliance with the creek protection ordinance.
NOISE					
City Noise Ordinance (Section 17.120.050 and Section 8.18.020 of the Municipal Code)	The noise ordinance establishes maximum noise limits for public open space areas, base don duration of sound level within a one-hour period. The noise ordinance also requires the implementation of the following measures to decrease construction period noise levels: A. All construction equipment powered by internal combustion engines shall be properly muffled and maintained. B. Unnecessary idling of internal combustion engines is prohibited.	Construction Contractor	City Building Inspector	The City Public Works Department shall ensure that the project incorporates standard construction noise control measures.	The project plans and specifications incorporate the City's standard construction noise control measures, including construction hours and muffling of equipment.

STANDARD CONDITION REFERENCED	CONDITION TEXT	PARTY RESPONSIBLE FOR IMPLEMENTATION	PARTY RESPONSIBLE FOR MONITORING	MONITORING ACTION	COMPLIANCE STATUS
City Noise Ordinance (Continued)	C. All stationery noise-generating construction equipment such as tree grinders and air compressors are to be located as far as is practical from existing residences. D. Quiet construction equipment, particularly air compressors, are to be selected whenever possible. E. Use of pile drivers and jack hammers shall be prohibited on Sundays and holidays, except for emergencies and as approved in advance by the Building Official.				