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**MEASURE DD IMPLEMENTATION PROJECT  
NOTICE OF AVAILABILITY OF FINAL ENVIRONMENTAL IMPACT REPORT (FINAL EIR)  
AND NOTICE OF A PLANNING COMMISSION MEETING TO CERTIFY THE FINAL EIR**

**TO:** All Interested Parties

**SUBJECT:** Notice of Availability of Final Environmental Impact Report for the Measure DD Implementation Project and Notice of a Planning Commission Meeting to certify the same

**CASE NO.:** ER 06-0017 (State Clearinghouse Number 2006122048)

**PROJECT SPONSOR:** City of Oakland

**PROJECT LOCATION:** The proposed components of the Measure DD Implementation Project would be located in the City of Oakland around Lake Merritt and the Lake Merritt Channel generally along Lakeshore Avenue, Lakeside Drive, and 12<sup>th</sup> Street; on the Oakland waterfront between Alice Street and 66<sup>th</sup> Avenue; at the Ira Jinkins Recreational Center on Edes Avenue in East Oakland; at the Studio One facility on 45<sup>th</sup> Street in North Oakland; and at multiple small creekside locations throughout the City.

**PROJECT DESCRIPTION:** In November 2002, Oakland voters passed a \$198,250,000 bond measure entitled Oakland Trust for Clean Water, Safe Parks (Measure DD)., This bond measure authorizes funding for physical improvements to existing parks; acquisition of land for new parks; development of new parks and recreation facilities; clean water measures; restoration and rehabilitation of recreation buildings; and implementation of creek and waterway protection and restoration activities. The proposed project would implement the activities funded by Measure DD, which include the following:

- Lake Merritt and Lake Merritt Channel Improvements
  - 12<sup>th</sup> Street Improvements
    - Replace the 12<sup>th</sup> Street culvert at Lake Merritt Channel with a bridge to increase tidal flow into and out of Lake Merritt
    - Reconfigure 12<sup>th</sup> Street, create a new 4-acre park, and connect these features to the Lake Merritt Channel
  - Lake Merritt Channel
    - Construct a bridge to replace the existing culvert at 10<sup>th</sup> Street
    - Redesign Channel at the Lake Merritt flood control station at 7<sup>th</sup> Streets
    - Improve bike, pedestrian access, restore wetlands and make other Channel and shoreline improvements
  - Lakeshore Avenue, El Embarcadero, Pergola, and E. 18th Street Pier Improvements
    - Consolidate the El Embarcadero roadway to form a "Grand Lake green link"
    - Renovate Pergola
    - Renovate E.18<sup>th</sup> Street Pier
    - Widen Lake Merritt Park paths and add bike lanes by reconfiguring Lakeshore Avenue
  - Lakeside Drive and Municipal Boathouse
    - Widen Lake Merritt Park paths and add bike lanes by reconfiguring perimeter streets (Oak Street, Harrison Street, and Lakeside Drive)
    - Renovate the Municipal Boathouse at 1520 Lakeside Drive and restore public use
  - Snow Park and Lakeside-Harrison-20th Street Intersection
    - Expand Snow Park and redesign the Lakeside Drive-Harrison Street-20<sup>th</sup> Street Intersection
    - Implement system-wide improvements including paths, irrigation, landscaping, furnishing, restrooms and signs
  - Bellevue Avenue Redesign, Children's Fairyland and the Sailboat House
    - Redesign Bellevue Avenue to improve circulation and to accommodate parking moved from the Sailboat House
    - Renovate Children's Fairyland
    - Renovate the Sailboat House and convert some of the adjacent parking lot to parkland

- Water Quality Control Measures and Other Improvements
  - Install stormwater filters, floating trash barriers, and aerating fountains, and implement other water quality improvements, including goose management elements
  - Repair or replace Lake Merritt retaining walls
- Oakland Waterfront Trail and Access Improvements
  - Acquire land for conservation and remediation purposes
  - Remediate hazardous materials from contaminated soils
  - Provide continuous public access from Jack London Square to Martin Luther King Jr. Regional Shoreline
  - Construct an access/overlook area at 66th Avenue
  - Acquire and develop Estuary Park, Meadow Park and a new park in the area of the 9th Avenue Terminal
  - Complete Union Point Park
  - East and North Oakland Recreation Facilities
  - Construct the East Oakland Sports Complex
  - Renovate and restore Studio One Art Center
- City-wide Creeks Restoration, Preservation and Acquisition
  - Restore and rehabilitate creeks by creating natural meanders, regrading and stabilizing banks, removing failing structures, and landscaping with native plants
  - Acquire creekside properties to facilitate restoration and habitat preservation

Implementation of the Project is anticipated to require actions or approvals by the City including design review, conditional use permits, tree removal permits, grading permits, and creek protection permits. These actions will be considered after certification of the Final EIR.

**ENVIRONMENTAL REVIEW:** On July 20, 2007, a Draft EIR was published for this project, and a 52-day public review and comment period occurred from July 20, 2007 to September 10, 2007. The standard 45-day minimum comment period specified by State law was extended to allow for additional public review opportunities after the Labor Day holiday in early September. In addition, because September 10 was a City of Oakland holiday and City offices were closed, public comments were accepted until September 11, 2007. All comments that were received have been compiled and responded to in a Response to Comments document, along with changes and clarifications to the Draft EIR. The Response to Comments document, together with the Draft EIR, constitutes the Final EIR for the proposed project. The City of Oakland, as the Lead Agency, is hereby releasing this Final EIR, finding it to be accurate and complete and ready for certification. The preparation of the Final EIR has been overseen by the City's Environmental Review Officer or his/her representative, and the conclusions and recommendations in the EIR document represent the independent conclusions and recommendations of the City. Copies of the Final EIR will be available for distribution to interested parties at no charge starting Friday, January 25, 2008, after 3:00 p.m. at the Community and Economic Development Agency, Planning Division, 250 Frank H. Ogawa Plaza, Suite 3315, Oakland, CA 94612, Weekdays, 8:30 a.m. to 5:00 p.m. and on the City of Oakland Website at: <http://www.oaklandnet.com/government/ceda/revised/planningzoning/MajorProjectsSection/environmentaldocuments.html>

**Public Hearing:** The Oakland Planning Commission will hold a public hearing on February 13, 2008, to consider certification of the Final EIR for the project. Project approvals will be acted upon by the appropriate agencies at later dates. For further information please contact Elois A. Thornton, Planner IV, City of Oakland, Community and Economic Development Agency, Planning Division, 250 Frank H. Ogawa Plaza, Suite 3315, Oakland, California 94612; telephone (510) 238-6284; email: [eathornton@oaklandnet.com](mailto:eathornton@oaklandnet.com).

#### **PUBLIC HEARING:**

**Wednesday, February 13th, 2008** at 6:00 p.m. City Planning Commission, Hearing Room 1, City Hall, One Frank H. Ogawa Plaza (Considering certification of the Final EIR)

Dated: January 25, 2008

Elois A. Thornton  
Planner IV

**CITY OF OAKLAND MEASURE DD  
IMPLEMENTATION PROJECT  
ENVIRONMENTAL IMPACT REPORT  
RESPONSE TO COMMENTS**



**STATE CLEARINGHOUSE #2006122048**

**LSA**

January 2008

**CITY OF OAKLAND MEASURE DD  
IMPLEMENTATION PROJECT  
ENVIRONMENTAL IMPACT REPORT  
RESPONSE TO COMMENTS**

**STATE CLEARINGHOUSE #2006122048**

Submitted to:

City of Oakland  
Office of the City Administrator  
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January 2008



**APPENDIX A**

**TRAFFIC DATA**

## **APPENDIX A-1**

### **ANALYSIS FOR 11<sup>TH</sup>-12<sup>TH</sup>/14<sup>TH</sup> STREET INTERSECTION**

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## **I. INTRODUCTION**

### **A. PURPOSE OF THE RESPONSE TO COMMENTS DOCUMENT**

This document has been prepared to respond to comments received on the Draft Environmental Impact Report (Draft EIR) prepared for the Measure DD Implementation Project (SCH# 2006122048). The Draft EIR identifies the likely environmental consequences associated with the implementation of the proposed project, and recommends mitigation measures to reduce potentially significant impacts. This Response to Comments (RTC) Document provides responses to comments on the Draft EIR and makes revisions to the Draft EIR, as necessary, in response to these comments or to amplify or clarify material in the Draft EIR.

This RTC Document, together with the Draft EIR, constitutes the Final EIR for the proposed project.

### **B. ENVIRONMENTAL REVIEW PROCESS**

According to CEQA, lead agencies are required to consult with public agencies having jurisdiction over a proposed project and to provide the general public with an opportunity to comment on the Draft EIR.

The City of Oakland circulated a Notice of Preparation (NOP) that included a list of potential environmental effects that could result from the proposed project. The NOP was published on December 8, 2006 and a public scoping meeting was conducted on January 3, 2007. Comments received by the City on the NOP were taken into account during the preparation of the EIR.

The Draft EIR was made available for public review on July 20, 2007 and distributed to applicable local and State agencies. Copies of the Notice of Availability of the Draft EIR (NOA) were mailed to all individuals previously requesting to be notified of the Draft EIR, in addition to those agencies and individuals who received a copy of the NOP. Verbal comments on the Draft EIR were accepted at the City of Oakland Planning Commission meeting held on September 5, 2007.

The CEQA-mandated public comment period for the Draft EIR ended on September 11, 2007. The comment period extended over a 53-day period, about a week longer than the 45-day comment period required by the *California Environmental Quality Act (CEQA) Guidelines*, Section 15105(a). The Copies of all written comments received during the comment period are included in Chapter III of this document.

### **C. DOCUMENT ORGANIZATION**

This RTC Document consists of the following chapters:

- *Chapter I: Introduction.* This chapter discusses the purpose and organization of this RTC Document and the Final EIR, and summarizes the environmental review process for the project.

- *Chapter II: List of Commenting Agencies, Organizations and Individuals.* This chapter contains a list of agencies, organizations, and persons who submitted written comments or spoke at the public comment session on the Draft EIR during the public review period.
- *Chapter III: Comments and Responses.* This chapter contains reproductions of all comment letters received on the Draft EIR as well as a summary of the comments provided at the public comment session. A written response for each CEQA-related comment received during the public review period is provided. Each response is keyed to the preceding comment. It should be noted that many of the comments received do not pertain to the CEQA analysis, but relate to the merits of the project or other issues. While these comments will be included in the record before the decision-makers, the purpose of this document is to respond to CEQA comments and not other issues.
- *Chapter IV: Draft EIR Revisions.* Corrections to the Draft EIR necessary in light of the comments received and responses provided, or necessary to amplify or clarify material in the Draft EIR, are contained in this chapter. Text with underline represents language that has been added to the Draft EIR; text with ~~strikeout~~ has been deleted from the Draft EIR. Revisions to figures are also provided, where appropriate.

## **II. LIST OF COMMENTING AGENCIES, ORGANIZATIONS AND INDIVIDUALS**

This chapter presents a list of letters and comments received during the public review period and it describes the organization of the letters and comments that are included in Chapter III, Comments and Responses, of this document.

### **A. ORGANIZATION OF COMMENT LETTERS AND RESPONSES**

Chapter III includes a reproduction of each letter received on the Draft EIR. The written comments are grouped by the affiliation of the commentor, as follows: State, local and regional agencies (A) and organizations and individuals (B). Verbal comments (C) provided at the Planning Commission meeting held on September 5, 2007 are provided in the order that they were given at the meeting.

The comment letters are numbered consecutively following the A and B designations. Verbal comments are numbered consecutively following the C designations. The letters are annotated in the margin according to the following code:

State, Local and Regional Agencies:	A1-#
Individuals & Organizations:	B1-#
Verbal Comments	C1-#

The letters are numbered and comments within that letter are numbered consecutively after the hyphen.

### **B. LIST OF AGENCIES, ORGANIZATIONS, AND INDIVIDUALS COMMENTING ON THE DRAFT EIR**

The following comment letters were submitted to the City during the public review period and are arranged in order by the date received at the City.

#### **State, Local and Regional Agencies**

A1	AC Transit Nancy Skowbo, Deputy General Manager for Service Department	September 10, 2007
A2	Bay Conservation and Development Commission (BCDC) Sara Polgar, Planner	August 27, 2007
A3	Alameda County Flood Control and Water Conservation District County of Alameda Public Works Agency Kwablah Attiogbe, Environmental Services Supervisor	September 10, 2007
A4	East Bay Municipal Utility District (EBMUD)	September 10, 2007



	William Kirkpatrick, Manager of Water Distribution Planning	
A5	East Bay Regional Park District Chris Barton, Senior Planner	September 5, 2007
A6	California Department of Transportation (Caltrans) Timothy Sable, District Branch Chief	September 10, 2007
A7	California Public Utilities Commission (PUC) Kevin Boles, Environmental Specialist	August 31, 2007
A8	United States Coast Guard David H. Sulouff, Chief, Bridge Section	September 7, 2007

### Organizations and Individuals

B1	Golden Gate Audubon Society John Bowers, Member, East Bay Conservation Committee	September 7, 2007
B2	California Oaks Foundation Janet Santos Cobb, President	September 10, 2007
B3	Law Offices of Brian Gaffney Matt McFarland	September 7, 2007
B4	Bishop Architecture Ron Bishop, Architect - AIA	September 11, 2007
B5	Ron Bishop	September 5, 2007
B6	Friederike E. Droegemueller	September 19, 2007
B7	John MacHenry	September 11, 2007
B8	Joe Matera Acting President, Essex Homeowners Association	September 11, 2007
B9	David Gill Past President, Lakeside Regency Plaza Homeowners Association	September 11, 2007
B10	David Mix	September 5, 2007
B11	David Mix	September 13, 2007
B12	David Mix	September 11, 2007
B13	Gloria Pieretti	September 10, 2007
B14	Ken Pratt	September 11, 2007
B15	Nancy Rieser	August 5, 2007
B16	Nancy Rieser	September 10, 2007
B17	John Wilson	September 11, 2007
B18	Elise Ackerman	September 11, 2007
B19	Barton Mayhew	September 11, 2007
B20	Catherine McBride	September 11, 2007
B21	Inlandboatmen's Union of the Pacific Marina Secchitano, Vice President	September 5, 2007

B22	Hanson Aggregates Mike Bishop, Marine Operations Manager	September 10, 2007
B23	Gallagher & Burk Materials Division Alan French, General Manager	August 22, 2007
B24	Union Pacific Railroad Company Jeff Asay, Senior Counsel – Western Region	September 10, 2007
B25	Steefel, Levitt & Weiss Shirley E. Jackson	September 14, 2007
C1	Planning Commission Public Hearing Comments	September 5, 2007



### **III. COMMENTS AND RESPONSES**

Written responses to each comment letter received on the Draft EIR are provided in this chapter. Letters received during the public review period on the Draft EIR are provided in their entirety. Each letter is immediately followed by responses keyed to the specific comments. The letters are grouped by the affiliation of the commenting entity as follows: State, local and regional agencies and commissions (A); organizations and individuals (B); and public hearing comments (C).

The reader should note that where text within individual letters is not enumerated, it does not raise environmental issues and does not relate to the information or analysis within the Draft EIR; therefore, no response is required.

## **MASTER RESPONSE M-1 – PROJECT-RELATED TREE REMOVALS**

The City has received comments on the Draft EIR's analysis of the tree removals associated with the implementation of Measure DD-funded activities and has prepared Master Response M-1 to address this issue. Master Response M-1 also provides updated information about events related to three tree removal permits that occurred after the Draft EIR was published. The Master Response includes revisions to the Draft EIR made to disclose these events and to respond to specific comments made on the Draft EIR.

### **Summary of Events Related to Permits to Remove Trees around Lake Merritt**

In June 2002, prior to the passage of Measure DD, the City analyzed the measure's potential environmental effects in an Initial Study that relied upon previous environmental documents prepared by the City. The previous environmental documents included the Oakland General Plan Open Space, Conservation and Recreation (OSCAR) Element Mitigated Negative Declaration, the General Plan Land Use and Transportation Element (LUTE) EIR, the Estuary Policy Plan EIR, and the Coliseum Redevelopment Plan Area EIR. Based on the environmental analysis, the City found that all potentially significant effects would be avoided or mitigated by mitigation measures required by previously prepared CEQA documents. As a result, because none of the circumstances calling for preparation of a subsequent or supplemental EIR were present the City prepared an Addendum to the previous environmental documents.

In December 2005, the City issued three permits for the removal of trees around Lake Merritt. The tree removals are part of the implementation process for the reconstruction of 12<sup>th</sup> Street and park and street improvements along Lakeshore Avenue, Lakeside Drive and at the Municipal Boathouse. In accordance with CEQA, prior to approving these permits, the City prepared an environmental analysis of the proposed removals, which showed that none of the circumstances calling for preparation of a subsequent or supplemental EIR were present. In August 2006, a lawsuit was filed that challenged the City's granting of the permits. The lawsuit made several arguments against the approval of the permits including that the tree removals would have an aesthetic impact and impacts on biological resources. Further, the lawsuit claimed that the City's environmental review of the permits was inadequate and that additional CEQA documentation should be prepared to address the proposed tree removals. At the time that the Draft EIR for the Measure DD Implementation Project was published in July 2007, the lawsuit was still pending. On October 10, 2007, the Superior Court of California, County of Alameda, upheld the permits, finding that "substantial evidence does not exist in the record to support a fair argument that the issuance of the tree permits may have a significant effect on the environment requiring an EIR be prepared." Thereafter, the City removed some trees around Lake Merritt, including those along Lakeshore Avenue and Lakeside Drive near the Municipal Boathouse pursuant to the permits.

The City issued the Notice of Preparation (NOP) for the Measure DD Implementation Project EIR on December 8, 2006. As some project components had already been planned, designed and funded in reliance upon the 2002 Addendum and prior to the City's decision to prepare this EIR, some components of Measure DD were already constructed or were under construction. These components are described and analyzed in the EIR at a level appropriate to their stage of development when the NOP for the project was issued in December 2006. Included in the Draft EIR is an analysis of the impacts of the project-related tree removals around Lake Merritt and elsewhere. This analysis was included in the EIR because the tree removals had not occurred at the time the NOP was published

and thus the trees were part of the environmental setting against which the impacts of the project were assessed.

Consistent with the City's previous analysis, the Measure DD Implementation Project EIR finds that the tree removals will not have any significant unmitigated environmental effects. Although the removal of some trees has already occurred in accordance with the City's tree removal permit process, the removal does not alter the analysis or findings of this EIR. Subsequent removals associated with the previously issued permits will be performed in accordance with the information and analysis presented in the Measure DD Implementation Project EIR and previous environmental documentation, as have the removals that have already occurred.

In recognition of the Court's ruling upholding the City's CEQA determination on the tree permits and affirming their validity and to reflect the fact that some trees have been removed and others will be removed in accordance with the previously issued permits, and that new trees will be planted in accordance with the previously issued tree permits, the text of the Draft EIR is revised as indicated below. Where appropriate, the revised text includes revisions made in response to specific comments that are addressed elsewhere in the Response to Comments document. Revisions have been made to the Project Description (Chapter III), Biological Resources (Section IV.F), Aesthetic Resources (Section IV.M); and Alternatives (Chapter V).

### **Project Description (Chapter III)**

The text that begins on Page 23 of the Draft EIR is revised as follows:

### **MEASURE DD BACKGROUND**

In November 2002, Oakland voters passed a \$198,250,000 bond measure entitled *Oakland Trust for Clean Water, Safe Parks* (Measure DD). This bond measure authorizes funding for physical improvements to existing parks; acquisition of land for new parks; development of new parks and recreation facilities; clean water measures; restoration and rehabilitation of recreation buildings; and implementation of creek and waterway protection and restoration activities.

In June 2002, prior to the passage of Measure DD, the City analyzed the measure's potential environmental effects in an Initial Study that relied upon previous environmental documents prepared by the City. The previous environmental documents included the Oakland General Plan Open Space, Conservation and Recreation (OSCAR) Element Mitigated Negative Declaration, the General Plan Land Use and Transportation Element (LUTE) EIR, the Estuary Policy Plan EIR, and the Coliseum Redevelopment Plan Area EIR. Based on the environmental analysis, the City found that all potentially significant effects would be avoided or mitigated by mitigation measures required by ~~in~~ previously prepared CEQA documents. As a result, because none of the circumstances calling for preparation of a subsequent or supplemental EIR were present, and thus the City prepared an Addendum to the previous environmental documents.

As more defined proposed project components have been identified since the 2002 Addendum, the City has now decided to prepare this EIR to provide a more comprehensive environmental analysis for the Measure DD Implementation Project. As some project components had already been planned, designed and funded in reliance upon the 2002 Addendum and prior to the City's decision to prepare this EIR, some components of Measure DD have already been constructed or are currently under

construction. These components are described and analyzed at a level appropriate to their stage of development when the NOP for the project was issued in December 2006.

~~As of this writing, there is a pending lawsuit that challenges the granting of three permits for tree removal around Lake Merritt, and another CEQA document, the 2006 Lake Merritt Channel Wetlands and Widening Project EIR. The City has not implemented these approvals during the pendency of the lawsuit. At the time the Draft EIR was published in July 2007, a lawsuit was pending that challenged the granting of three permits for tree removal around Lake Merritt, and another CEQA document, the 2006 Lake Merritt Channel Wetlands and Widening Project EIR. On October 10, 2007 subsequent to the close of the public review period for the Draft EIR, the Superior Court of California, County of Alameda, upheld the tree permits and the City's CEQA determination for the tree permits ruling that "substantial evidence does not exist in the record to support a fair argument that the issuance of the tree permits may have a significant effect on the environment requiring an EIR be prepared." The court also dismissed the challenge to the Channel Wetlands and Widening Project EIR and entered judgment in favor of the City. Thereafter, the City removed some trees around Lake Merritt, including those along Lakeshore Avenue and Lakeside Drive near the Municipal Boathouse pursuant to the permits. None of these removals (nor any other circumstances occurring subsequent to circulation of the Draft EIR) alter the EIR's analysis or conclusions. The EIR acknowledges that the tree removals will occur and new trees will be planted in accordance with the previously issued permits.~~

The text at the bottom of page 30 of the Draft EIR is revised as follows:

The City is proposing to renovate existing plantings and irrigation around the 12<sup>th</sup> Street component site. This includes removing approximately 157 existing trees from the median strip along 12<sup>th</sup> Street, the Kaiser Convention Center parking lot and some areas along the banks of the Lake Merritt Channel and replanting these areas with approximately 321 new trees and other landscaping. The final numbers of trees removed or planted may differ slightly from these counts. Some trees ~~will~~ ~~would~~ be removed because they are in conflict with the new construction, are diseased, have severe structural defects or are fast-growing, short-lived trees reaching the end of their life expectancy. Figure III-3 shows the area where trees are ~~proposed~~ to be removed as part of this project component. As part of the project design process the City hired a certified arborist to evaluate the trees to be removed ~~proposed for removal~~ around Lake Merritt and the Lake Merritt Channel. The arborist recommended preserving four trees in this area by redesigning the project or by relocating some of the trees. The City has incorporated these recommendations into the project. The arborist's report is provided in Appendix I.

The fourth sentence in the last paragraph at the bottom of page 35 of the Draft EIR is revised as follows:

The City ~~will~~ ~~is proposing to~~ remove some existing trees (approximately 58) along the channel as shown in Figure III-5.

The text at the top of page 41 of the Draft EIR is revised as follows:

**(2) Lakeshore Avenue Variant B.** Lakeshore Avenue Variant B proposes to re-stripe the street to create one travel lane in each direction, a Class 2 bike lane in each direction, a continuous

left-turn lane down Lakeshore Avenue, and parking lanes along both curbs. A planting strip, including street trees, would be included along the park border. A multi-use path would be installed between the planting strip and the park landscaped area. As with Variant A, park landscaping would be renovated ~~and the removal of with some trees removed is proposed~~. The surface of the lakeside path would be resurfaced with stabilized decomposed granite and would be widened at the narrow spots. The pedestrian crossing at Cleveland Cascade would be improved and mid-street pedestrian islands would be included at intersections as appropriate. Typical construction activities would include paving, grading, path resurfacing and replanting of landscaping.

The text at the bottom of page 41 of the Draft EIR is revised as follows:

**(7) Landscaping Improvements.** Approximately 9 acres of existing planting and irrigation are proposed to be renovated along Lakeshore Avenue. This renovation ~~would include~~ removing approximately 24 existing trees and planting approximately 135 new trees. The final numbers of trees removed or planted may differ slightly from these counts. As part of the project design process the City hired a certified arborist to evaluate the trees ~~to be removed proposed for removal~~ around Lakeshore Avenue. The arborist recommended preserving one tree in this area by relocating it. The City has incorporated this recommendation into the project. The arborist's report is provided in Appendix I. The trees ~~were identified for removal would be removed~~ because they are diseased, have severe structural defects, are crowding buildings, conflict with the new construction or are fast-growing, short-lived trees reaching the end of their life expectancy. Landscaped areas with shrubs and ground cover would replace the existing lawn in narrower parts of the park corridor. This substitution would reduce maintenance and water use and reduce the attractiveness of the area to Canada geese. Hardscape development, including benches and patios, would be added at creek nodes and areas where small peninsulas jut out into the Lake. Figure III-7 shows a proposed landscaping plan, which indicates where trees would be removed and new trees would be planted.

The text at the top of page 47 of the Draft EIR is revised as follows:

Approximately 4 acres of existing planting and irrigation are proposed to be renovated along Lakeside Drive and around the Boathouse. This renovation ~~would include~~ removing approximately 20 existing trees and planting approximately 65 new trees. The final numbers of trees removed or planted may differ slightly from these counts. The trees ~~were identified for removal would be removed~~ because they are in conflict with the new construction, are diseased, have severe structural defects or are fast-growing, short-lived trees that have reached the end of their life expectancy. Figure III-9 shows the proposed landscape plan, which indicates ~~the locations of where tree removals would be removed and new tree plantings would be planted~~.

#### **Biological Resources (Section IV.F)**

The text that begins at the bottom of page 211 of the Draft EIR is revised as follows:

**(1) Candidate, Sensitive, or Special-status Species.** The only special-status species potentially occurring within all component groups is Cooper's hawk, a California Species of Special Concern. The numerous tall trees throughout the Measure DD Implementation Project area provide nesting habitat for a variety of native bird species, potentially including Cooper's hawk. In addition, some of the creek restoration sites in the upper Oakland watershed may contain suitable nest trees for



sharp-shinned hawk. Both these species are California Species of Special Concern. ~~Proposed tree~~ removal within the Lake Merritt and the Lake Merritt Channel group area and potential tree removal within other group sites could directly impact nesting Cooper's and sharp-shinned hawks by removing trees that support active nests. Prolonged loud construction noise could also disturb nesting birds, resulting in nesting failure and/or nest abandonment.

Implementation of the City's Standard Conditions of Approval (Condition 32) will reduce potential impacts to nesting Cooper's and sharp-shinned hawks to a less-than-significant level. The pre-construction survey shall be conducted within 15 days prior to the start of work from March 15 through May (since there is higher potential for birds to initiate nesting during this period), and within 30 days prior to the start of work from June through August 15.

The discussion of protected trees in the middle of page 213 of the Draft EIR is revised as follows:

**(6) Protected Trees.** Based on current plans, the Lake Merritt and Lake Merritt Channel group ~~includes removal of~~ ~~proposes to remove~~ a number of ~~protected trees~~ protected under the City's Tree Ordinance. Protected trees might also be removed as part of the Waterfront Trail, Recreational Facilities, and City-wide Creeks groups. This impact is discussed in Section IV.F2c.

The discussion of protected trees beginning on page 218 of the Draft EIR is revised as follows:

**(6) Protected Trees.** In order to create additional parkland along the south shore of Lake Merritt and make other improvements around the Lake, approximately 259 trees, including 129 protected trees, ~~are to would be~~ removed and 521 new trees and other landscaping ~~are to would be~~ installed to replace them. Approximately 510 existing trees ~~will would be~~ retained. Overall, the trees ~~will would be~~ replaced at about a 2:1 ratio, that is, two trees ~~will would be~~ planted for each tree removed. Table IV.F-3 summarizes ~~the proposed~~ tree removals and new plantings by project component within the Lake Merritt and Lake Merritt Channel project group. As part of the project design process the City engaged a certified arborist to evaluate the trees ~~to be removed~~ proposed for removal in this group. The arborist recommended preserving five trees by redesigning the project or by relocating some of the trees. The City has incorporated these recommendations into the project and the numbers in Table IV.F-3 reflect the preservation of these trees. The arborist's report is provided in Appendix I.

**Table IV.F-3: ~~Proposed~~ Tree Removals for the Lake Merritt and Lake Merritt Channel Project Group**

Project Component	Trees to be Retained <sup>a</sup>	Trees to be <u>Removed</u> <u>Proposed for Removal</u>	Protected Trees <u>to be Removed</u> <u>Proposed for Removal</u>	New Trees to be Planted	Ratio of Trees Planted to Trees Removed
Lakeside Drive/Municipal Boathouse	30	20	17	65	3.25
Lakeshore Avenue/El Embarcadero	90	24	6	135	5.4
12 <sup>th</sup> Street Reconstruction	50	157	90	321	2.0
Lake Merritt Channel	340	58	16	0 <sup>b</sup>	0
<b>TOTAL</b>	<b>510</b>	<b>259</b>	<b>129<sup>c</sup></b>	<b>521</b>	<b>2.0</b>

<sup>a</sup> Numbers of trees are approximate. Totals include trees recommended for preservation or relocation by the certified arborist.

<sup>b</sup> No new trees ~~will~~ ~~would~~ be planted along the Channel because the habitat type would be converted from landscaped urban parkland to wetlands and open water.

<sup>c</sup> Includes eight protected oak trees.

Source: HortScience, 2007.

The City of Oakland's Tree Preservation and Removal Ordinance (OMC Chapter 12.36) requires a permit for removal of protected trees. A permit is also required if work might damage or destroy protected trees. The project ~~will~~ ~~would~~ comply with the Tree Preservation and Removal Ordinance and ~~would~~ obtain permits for the removal of any protected trees. In addition, the City considers other factors in determining significance for purposes of CEQA including: the number, type, size, location and condition of the protected trees to be removed and/or impacted by construction and the protected trees to remain, with special consideration given to native trees, as discussed below.

The majority of protected trees to be removed are located in the 12<sup>th</sup> Street reconstruction area. Although protected trees are present in this area many of the trees are in poor or fair condition (see Appendix I); are in the landscaped median strip for 12<sup>th</sup> Street that is accessible only via rarely used pedestrian underpasses; or are in small planting strips within the parking lot for the Kaiser Convention Center (see Figure III-3). Most of the trees are non-native ornamental species. When the project components around Lake Merritt are looked at as a whole, about twice as many trees are retained in the project area as ~~are to~~ ~~would~~ be removed and approximately two trees ~~will~~ ~~would~~ be planted for each tree removed. The new trees in the 12<sup>th</sup> Street reconstruction area ~~will~~ ~~would~~ be part of proposed landscaped areas that would have direct pedestrian access to Lake Merritt and surrounding civic buildings. The four components of Group 1 (Lakeside Drive/Municipal Boathouse, Lakeshore Avenue/El Embarcadero, and Lake Merritt Channel) either retain more trees than they ~~would~~ remove and/or plant at least twice as many new trees as ~~are~~ ~~would~~ be removed (Lakeside Drive/Municipal Boathouse, Lakeshore Avenue/El Embarcadero, and 12<sup>th</sup> Street Reconstruction). Eight trees to be removed are protected native oak trees.

The project would not fundamentally conflict with the City of Oakland's Tree Preservation and Removal Ordinance and would therefore be a less-than-significant impact for the following reasons: approximately twice as many trees ~~will~~ ~~would~~ be retained as ~~will~~ ~~would~~ be removed; removed trees ~~will~~ ~~would~~ be replaced at approximately a 2:1 ratio; the majority of trees to be removed are in poor or fair condition; and many are located in a parking lot or an inaccessible median strip. In addition, because trees are being replaced at approximately a 2:1 ratio many benefits lost by the removal of trees, such as aesthetics, energy conservation, reductions in stormwater runoff, improvements in air quality, and capture of carbon dioxide (a greenhouse gas) ~~will~~ ~~would~~ be compensated for in a few years because of the large number of new trees being planted. The impacts of removing trees and the benefits of planting new trees in the Lake Merritt and Lake Merritt Channel group were estimated quantitatively using a computer application developed by scientists at the United States Department of Agriculture (USDA) Forest Service's Pacific Southwest Research Station to assess populations of street trees.<sup>1</sup> The results of this study are provided in Appendix I. Because the City would comply with the Tree Preservation and Removal Ordinance, the Lake Merritt and Lake Merritt Channel project components would have a less-than-significant impact. To reach this conclusion, the City considered the number, type, size, location and condition of the protected trees to be removed and/or impacted by construction and the protected trees to remain, including native trees.

<sup>1</sup> USDA Forest Service. [http://www.itreetools.org/street\\_trees/introduction\\_step1.shtm](http://www.itreetools.org/street_trees/introduction_step1.shtm).

A small number of protected trees may require removal as part of the Waterfront Trail, Recreational Facilities, City-wide Creeks groups or other components of the Lake Merritt group (e.g., the Cleveland Cascade). The trees would be replaced in accordance with the City's Tree Protection Ordinance and Standard Conditions of Approval (Condition 32), which would reduce the impact to a less-than-significant level.

#### **Aesthetic Resources (Section IV.M)**

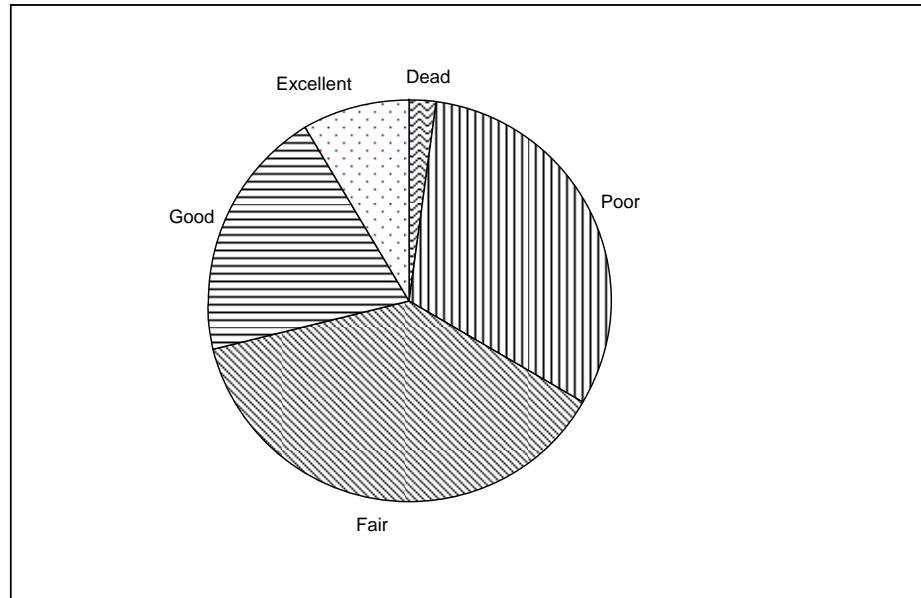
Page 336 of the Draft EIR is revised as follows:

**Lake Merritt and Lake Merritt Channel (Group 1).** Lake Merritt and the Lake Merritt Channel are resources that are part of scenic vistas seen from numerous locations in Oakland, including the City's Downtown and hillside areas. The proposed project would result in beneficial impacts to the visual quality of the Lake through water quality control measures, the restoration of historic buildings and monuments around the perimeter of the Lake, and enhanced landscaping. These changes to the Lake and the Channel would result in small but beneficial improvements to scenic vistas encompassing these waterways. ~~The project would result in the removal of certain diseased trees from the vicinity of the Lake is consistent with and in furtherance of the project.~~ The removal of these trees will enhance the visual character of the Lake and, however, the removal of these trees will not substantially adversely change scenic vistas. New trees ~~will~~ would be planted to replace the trees that are removed, ~~and these trees will not substantially block scenic vistas.~~ No structures would be built that would block surroundings and would not block scenic views of the Estuary. Therefore, this group of project components would have a less-than-significant impact on scenic vistas.

Page 341 of the Draft EIR is revised as follows:

**Lake Merritt and Lake Merritt Channel (Group 1).** A key component of this group is the various proposed water quality control measures, including the installation of devices and features to clean and circulate water, and the creation of an open channel to allow for increased tidal flow into and out of the Lake. These measures, by improving water quality in the Lake, would enhance the scenic qualities of the waterway (including portions of the Lake visible from I-580), which suffers from algal blooms and stagnation associated with a surplus of nutrient-rich pollution. In addition, this group would involve the renovation of existing landscaping, which would improve the landscape context of the Lake. ~~As part of the project, certain trees would be removed (and replaced with healthy individuals).~~ Based on the Tree Assessment prepared by HortScience, Inc. (Appendix I), of the 269 trees that will be removed as part of the project, 6 are dead, 84 are in poor condition, 101 are in fair condition, 55 trees are in good condition, and 23 trees are in excellent condition (see Chart IV.M-1). As shown in Chart IV.M-1, many of the trees considered for removal that would be removed are diseased, short-lived, or are not stable (i.e., they are dead, or in poor to fair condition). Although some of the trees ~~subject to removal may that would be removed contribute or may have contributed to the scenic quality or overall visual character of the Lake, this contribution is not significant either individually or cumulatively.~~ In context, approximately 500 trees will be retained in the project area and 521 trees will be planted as part of the project (a replacement ratio of almost two trees for every removed tree). These replacement trees will fill in any visual "gaps" created by the removed trees. As shown in Figures IV.M-1 through IV.M-4, the removal of trees from the site will not adversely affect scenic resources or visual character as seen from key viewpoints around Lake Merritt.

**Chart IV.M-1: Tree Condition and Frequency of Occurrence**



Source: HortScience, Inc., 2007.

This conclusion is also supported by a cost/benefits analysis of tree removal/replacement conducted by HortScience as part of the Tree Assessment. Using a model that takes into account the environmental and economic benefits of trees (including improvement of visual quality, reductions in storm water runoff, improvements in air quality, and sequestration of carbon dioxide), HortScience determined that the trees subject to removal from the site provide an estimated \$29,438 in annual benefits, approximately 77 percent of which (\$22,866) is associated with aesthetic value. At planting, the 521 replacement trees will provide an estimated \$22,986 in annual benefits, “almost entirely due to aesthetic and other benefits.” As the trees mature, the value of their annual benefits will increase to \$33,193 at 5 years and \$40,700 at 20 years. Therefore, based on the model, within only 5 years of planting, the replacement trees will be more valuable in terms of aesthetics and other environmental/economic benefits than the existing trees that will be removed as part of the project. Although there are limitations with assigning monetary values to resources like trees (i.e., resource valuation generally lacks a reliable way to estimate the value of ecological damage), the data produced by HortScience suggest that the aesthetic costs of tree removal do not outweigh the benefits of tree replacement. Based on the HortScience analysis, and an understanding of tree removal in the context of trees that will be preserved and trees that will be replaced as part of the project, Therefore, the removal of select trees and the replacement with new individuals would not be considered a significant impact to scenic resources or the visual character of the project site.

Page 342 of the Draft EIR is revised as follows:

**Lake Merritt and Lake Merritt Channel (Group 1).** Lake Merritt and its surroundings are characterized by a semi-formal landscape of rolling lawns and walkways, all oriented around the water body itself. While the area has high visual quality, the aesthetics of the area are diminished

primarily by low water quality in the Lake, landscaping and trees that are in poor condition, and roadways surrounding the Lake that are disproportionately wide and emphasize automobile traffic at the expense of the pedestrian environment. The proposed project would substantially improve these adverse conditions. First, the removal of the 12<sup>th</sup> Street culvert and the implementation of the various water quality control measures would improve the water quality of the Lake, and enhance the potential for the growth of native vegetation and use of the water body by native wildlife (besides Canada geese). Second, landscaping and trees in poor condition ~~will~~ would be removed and replaced with new plants that would enhance the visual environment. Third, several roadways (including 12<sup>th</sup> Street, Lakeshore Avenue, and Lakeside Drive) would be reconfigured and/or narrowed to include bike lanes and pedestrian paths. These changes would reduce the visual intrusion of motor vehicles and would improve the visual environment for the bikers and walkers that comprise the key users of Lake Merritt. Lastly, historic buildings around the Lake, some of which are in poor condition, would be rehabilitated. At the Municipal Boathouse, two parking lots next to the Lake and Boathouse would be removed and replaced with landscaping, terraces, and pathways. A smaller parking lot would be constructed closer to the road and the remaining parking would be relocated along Lakeside Drive itself. The improvement and preservation of historic structures, and the modification of parking areas would benefit the visual quality of the area, including the lakeshore itself. Therefore, the project group would have a less-than-significant impact on the existing visual character of the area surrounding the Lake and Lake Merritt Channel.

### Alternatives (Chapter V)

The third paragraph of Section V.D on page 352 of the Draft EIR, is revised as follows:

For Group 1, the No Project alternative would include completion of the Pergola, Children's Fairyland, ~~the E. 18<sup>th</sup> Street Pier,~~ and Municipal Boathouse renovations. However, paths, landscape improvements and additional patron parking (for the Boathouse) that would provide improved access to the facilities would generally not be constructed. The land around Lake Merritt would continue to be used as park land. Landscape maintenance, including the removal and replacement old or diseased trees, would continue as needed. Trees will be removed along Lakeshore Avenue, Lakeside Drive and the 12<sup>th</sup> Street reconstruction area in accordance with the permits for the removal of trees previously issued by the City. ~~The tree replacement process would generally maintain the current appearance of the park, but no substantial increase in landscaped area or number of trees is likely to occur because there would be no net increase in parkland as would occur if the project were constructed as proposed.~~ The creation of bike lanes by restriping Lakeside Drive and Lakeshore Avenue might occur as part of other projects, but associated landscaping and pedestrian path improvements would not be constructed.

Table V-1 on page 353 of the Draft EIR, is revised as follows:

**Table V-1: No Project Alternative (Groups 1 and 2): Components Completed or In Progress and Components Unbuilt**

<p><b>Lake Merritt and Lake Merritt Channel (Group 1)</b></p> <p><b>Components Completed or In-Progress</b></p> <ul style="list-style-type: none"> <li>• Pergola Renovation (complete)</li> <li>• Installation of a Fire Protection Main (complete)</li> <li>• Water Quality Improvements, including storm drain filters at Bellevue/Staten, 27<sup>th</sup>/Valdez, and 22<sup>nd</sup>/Valley; pilot air diffuser project; new aeration fountain; Pergola fountain (complete)</li> <li>• Children's Fairyland Renovations (in-progress)</li> <li>• Municipal Boathouse Renovation (in-progress)</li> <li>• <u>E. 18<sup>th</sup> Street Pier Improvements (in-progress)</u></li> <li>• <u>Tree removals along Lakeshore Avenue and Lakeside Drive</u></li> </ul> <p><b>Unbuilt Components</b></p> <ul style="list-style-type: none"> <li>• 12<sup>th</sup> Street Improvements</li> <li>• Lake Merritt Channel</li> <li>• Lakeshore Avenue, <u>and El Embarcadero, and E. 18<sup>th</sup> Street Pier Improvements</u></li> <li>• Lakeside Drive</li> <li>• Snow Park and Lakeside-Harrison-20<sup>th</sup> Street Intersection</li> <li>• Bellevue Avenue Redesign</li> <li>• Sailboat House</li> <li>• All water quality improvements except those noted above</li> </ul>	<p><b>Oakland Waterfront Trail (Group 2)</b></p> <p><b>Components Completed or In-Progress</b></p> <ul style="list-style-type: none"> <li>• Union Point Park</li> <li>• Park Street Triangle traffic study</li> <li>• <u>Alameda Avenue south of Fruitvale Avenue</u></li> <li>• <u>66<sup>th</sup> Avenue Gateway</u></li> </ul> <p><b>Unbuilt Components</b></p> <ul style="list-style-type: none"> <li>• Estuary Park</li> <li>• 10<sup>th</sup> Avenue Marina</li> <li>• Brooklyn Basin</li> <li>• Brooklyn Basin to Embarcadero Cove</li> <li>• Livingston Pier</li> <li>• Cryer Site</li> <li>• ConAgra to Park Street Bridge</li> <li>• Bridge boardwalks at Park Street, Fruitvale Avenue and High Street</li> <li>• Derby Avenue to Lancaster Street (Oakland Museum Women's Board warehouse)</li> <li>• <del>Alameda Avenue south of Fruitvale Avenue</del></li> <li>• US Audio/Capture Technologies and friendly Transportation Trail Connection</li> <li>• Gallagher &amp; Burk/Hanson Aggregate Trail Connection</li> <li>• <del>66<sup>th</sup> Avenue Gateway</del></li> </ul>
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The third paragraph of Section V.E.2 on page 356 of the Draft EIR, is revised as follows:

Although the City has a permit for tree removals in the 12<sup>th</sup> Street reconstruction area, as of this writing, none has been removed. The alternative would reduce the number of trees that will need to  
~~would be removed~~ to allow the reconstruction and realignment of 12<sup>th</sup> Street. In this scenario, the Kaiser Convention Center parking lot would not be reconfigured and therefore the trees located in this area would be preserved. Approximately 59 trees would be preserved, including 12 protected trees (all flowering cherries), in and around the parking area. Trees along the median of the existing 12<sup>th</sup>

Street alignment would still be removed ~~require removal~~ in order to accommodate the new roadway and modified grade of the park land.

## **A. STATE, LOCAL AND REGIONAL AGENCIES AND COMMISSIONS**





1600 Franklin Street, Oakland, CA 94612 - Ph. 510/891-4716 - Fax. 510/891-715

Nancy Skowbo  
Deputy General Manager - Service Development

September 10, 2007

City of Oakland  
Public Works Department, Transportation Services Agency  
250 Frank Ogawa Plaza, Suite 3315  
Oakland, Ca. 94612

Subject: Draft Environmental Impact Report (EIR) for the Measure DD Implementation Project

To Whom It May Concern:

Thank you for the opportunity to comment on the Draft EIR on the Measure DD Implementation Project. We applaud the City's efforts to use this voter-approved funding source to rebuild and renew Lake Merritt and Oakland's park and recreation infrastructure. AC Transit supports the development of multi-use paths around Lake Merritt. AC Transit also supports improvements to the pedestrian realm, within which our passengers walk to and wait for buses.

1

However, we are seriously concerned about some projected impacts of Measure DD projects. In particular, we are concerned about the potential for Measure DD implementation to significantly degrade bus service to East Oakland via the 12<sup>th</sup> Street Dam. 12<sup>th</sup> Street Dam is one of the most critical links in the entire AC Transit system. It would be deeply unfortunate if the environmental benefits of Measure DD projects were undermined by environmental losses from transit.

11<sup>th</sup> and 12<sup>th</sup> Street from Martin Luther King Junior Way to 1<sup>st</sup> Avenue are specifically noted as streets of particular interest to AC Transit in the Transit Streets Cooperative Agreement recently signed by the City and AC Transit. The affected section of Harrison Street is served by line NL, one of the frequent service lines that the

2

Agreement prioritizes. The Transit Streets Agreement lays out notification and consultation procedures for the City and AC Transit to use on projects affecting major transit corridors. The Agreement embodies and anticipates a spirit of collaboration and cooperation between the City and AC Transit. The 12<sup>th</sup> Street corridor is also discussed in the Draft Environmental Impact Statement/Environmental Impact Report (EIS/EIR) for the East Bay Bus Rapid Transit Project.

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AC Transit has had ongoing and constructive discussions with the Public Works Department about impacts of and mitigations for the 12<sup>th</sup> Street roadway reconstruction project. We believe that the plans developed for the long construction period of the project have substantially responded to AC Transit concerns.

2  
cont.

### **The Measure DD Project and AC Transit's Concerns**

Measure DD is a \$198 million bond passed by the voters of Oakland in 2002. Measure DD provided funds for park, recreation and open space projects throughout Oakland, with an emphasis on the Lake Merritt and Oakland waterfront areas. It also provides funds to develop a park in the former 9<sup>th</sup> Avenue Terminal area, the area where the Oak to 9<sup>th</sup> Project has been approved (pending legal actions).

3

The project that is most significant to AC Transit involves the substantial narrowing of the roadway across Lake Merritt on the 12<sup>th</sup> St. Dam. A roadway that now provides six lanes in each direction would be reduced to three lanes in each direction. The existing roadway would be eliminated and a new roadway constructed somewhat farther from the Lake. We understand the City's desire to reduce the large amount of roadway in that area, but this must be balanced with the need to maintain viable transit operations.

4

We are also concerned about projects that would take place in the area of 20<sup>th</sup> & Harrison Street which would cause delays to bus service in that important service area.

5

### **12<sup>th</sup> Street Dam Roadway**

#### **Projected Travel Time Impact of Measure DD Project on 12<sup>th</sup> St.**

In our letter concerning the Notice of Preparation (NOP) for this EIR, AC Transit stated "The EIR should analyze the likely impact of roadway changes on bus speeds during both the construction period and with the final configuration." The EIR includes information about existing travel time and projected change in vehicle travel time across the 12<sup>th</sup> St. dam in Tables IV.C-4, Tables IV.C-6, and Table IV.C-8. We appreciate the City of Oakland's responsiveness to our request. We have summarized the data in the table on Page 6 of this letter.

6

However, the stated increases in travel time may underestimate the actual delay for buses. To the extent that buses need to pull into and out of traffic flow for stops, their travel time could be greater. However, the projected increases in travel time are for travel from Madison St. to Foothill Boulevard. Since some buses would leave this route at International Boulevard, increases in travel time could be smaller.

The travel time projections are presented as summary estimates for a roadway segment. It would be helpful if the methodology to develop these projections was discussed further and if the projections were also presented in more disaggregated form. It would also be helpful if midday delay estimates were provided. That would

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allow us to more precisely estimate the potential impact of traffic delays on AC Transit operations and costs.

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cont.

#### **Transit Service across 12<sup>th</sup> St. Dam—Current and Planned**

The importance of the 12<sup>th</sup> Street roadway to the AC Transit system is hard to overstate. The 12<sup>th</sup> St. Dam has the second highest volume of AC Transit buses of any roadway in Oakland (after Broadway downtown). Six bus lines use this route; they are the 1 International, the 1R International Rapid, 13 Lakeshore, 14 San Antonio, 18 Park, and 40 Foothill. The 1, 1R, 18 and 40 are among the busiest and most important routes in the AC Transit system. The six lines using 12<sup>th</sup> St. form the majority of the nine bus lines that connect East Oakland to Downtown Oakland. A seventh line to East Oakland, the NL, would be affected by the proposed Harrison Street project. In the peak hour, there are 54 buses traveling across 12<sup>th</sup> Street dam, nearly one bus per minute.

8

If the proposed Bus Rapid Transit (BRT) line on International Boulevard is developed, it will use 12<sup>th</sup> Street and bus service on the route will increase further. BRT is planned to have very high frequency operations, perhaps as high as one bus in each direction every five minutes.

#### **Significance of Delay on 12<sup>th</sup> St. Dam**

Increased delay on 12<sup>th</sup> Street has an impact to AC Transit operations. It becomes more difficult and costly to provide the same bus service. If AC Transit's operating budget is constrained, delay can make it necessary to reduce service. However, delay also has an impact on the passengers using AC Transit, the automobile drivers who benefit from AC Transit passengers not driving, and to the City of Oakland's efforts to increase transit mode share and support transit.

We wish to stress that the projected 2-3 minute delays across 12<sup>th</sup> St. Dam are highly significant. Operationally, AC Transit often makes substantial efforts to reduce delay at a given location by as little as 15-30 seconds, so 194 seconds is a major impact. From the passenger's perspective, the average travel time on an AC Transit bus is 15-20 minutes, so a 2-3 minute delay creates a 10-20% increase in travel time. We doubt that most automobile drivers would regard analogous increases in travel times as unimportant.

9

#### **Increased Cost of Operations**

AC Transit's full operating cost is \$131 per hour of operation, so each minute of delay contributes to that cost. If it becomes necessary to operate additional buses to maintain the schedule, this would cost \$250,000-\$300,000 per year with no improvement in service (this might be described as running harder and harder to stay in the same place). Many AC Transit routes are tightly scheduled, with the minimum feasible running time and layover time at the end, so 2-3 minutes could force the addition of another bus. If delay on just two of the routes required the addition of one

10



bus apiece, the increased operating cost would be some \$600,000 per year, in addition to increased operating costs incurred on the other four lines.

The information in the EIR is not sufficient to develop a precise estimate of the cost of the delay projected on the 12<sup>th</sup> St. roadway. The EIR does not include estimates of the delay at midday, on weekends, or at other times besides the peak.

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cont.

**Aggregate Travel Time Impact with Other Projects Affecting the Same Bus Routes**

The EIR also does not address the potential for aggregate impacts on the same bus routes as Measure DD projects. We asked for this information in our letter about the Notice of Preparation. Road narrowing or other projects elsewhere could delay the same bus routes as Measure DD, causing aggregate delays. We are concerned about this potential for all routes, but particularly for the 40 Foothill route. AC Transit service on Foothill Boulevard has already been delayed due to reduction in travel lanes on that street. We understand that the City is considering further narrowing of Foothill Boulevard, which could cause aggregate delays with this project. Potential aggregate impacts should be identified and addressed.

11

**Degradation of Service to Passengers**

The impact on bus passengers is just as important as the impact on AC Transit. Bus passengers' trips would take longer. Some trips could become impossible, for example, buses might miss transfer connections that they would have otherwise have made.

12

Degradation of the primary bus corridor to East Oakland also raises environmental justice issues. Passengers on these routes are overwhelmingly non-White and many are low income. It appears that they would absorb a disproportionate impact from improvements around Lake Merritt designed to benefit the city population as a whole. While auto drivers who now use 12<sup>th</sup> Street could seek routes that did not use the Dam, most transit passengers would not have this option.

13

Degradation of bus service would also be inconsistent with Oakland's planning policies. Oakland has declared itself a "Transit First" city, pledging to prioritize improvements to transit. The Land Use and Transportation Element of Oakland's General Plan declares that the City should encourage transit and expedite the movement of transit vehicles.

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The City's policies would be especially undermined if passengers shifted from using the bus to driving alone. Close to 40% of AC Transit passengers had a vehicle available for trips they took on transit. Thus there is the potential for mode shifts in a negative direction.

15

**Travel time impacts as CEQA Impacts**

Although the language is somewhat ambiguous, the EIR seems to argue that the substantial delays in travel time it envisions should not be viewed as an impact under the California Environmental Quality Act (CEQA).

"The City studied the 12<sup>th</sup> Street and Harrison Street corridors to understand how the project would affect traffic travel times in these areas, although the City does not have CEQA significance criteria for roadway delays because it believes that intersection analyses more accurately predict traffic impacts. Because traffic patterns change in response to traffic delays, the City believes that traffic impacts are better modeled by an intersection analysis for determining significance under CEQA. The travel time analysis was nevertheless performed to help understand how automobile, bus, and other traffic along these streets would be affected by the Lake Merritt and Lake Merritt Channel project components" (p.129).

16

AC Transit does not accept that view, at least with regard to bus travel. Instead, we believe that the delay in travel time is the primary impact on transit operations and passengers of this and other projects. Operational efficiency and passenger experience is affected by the overall ride more than the individual intersection. Travel time determines the cost of operation and the bus' competitiveness with other modes.

The EIR also argues that traffic patterns change in response to traffic delays. While this may be true for automobile drivers, buses generally cannot change routes in response to delays (we discuss this difficulty in Designing With Transit, p.5-6). Passengers expect the bus to operate on its designated route, even if that route has been made slower.

17

The City also considers a project which negatively impacts "alternative transportation" (such as bus transit) to have a CEQA impact. By imposing delays on large numbers of buses, this project would negatively impact alternative transportation.

18

Travel time delays, especially delays as large as those projected in this EIR, should be acknowledged as potentially significant negative impacts under CEQA and should be properly mitigated.

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**Projected Changes in Travel Times, 12<sup>th</sup> St. Dam and Harrison St., Grand to 20<sup>th</sup> St (from Measure DD Draft EIR). Note: All travel time is in seconds.**

Roadway Segment	Direction of travel	Hour	A: Existing travel time	B: Travel time—Existing plus Project (approx. 2010)	C: Travel time change from Existing to Existing plus Project  Column B minus Column A	D: Travel time as of 2025 with cumulative development	E: Travel time change Existing plus Project to 2025  Column D minus Column B	F: Travel time change from Existing to 2025  Column D minus Column C
12 <sup>th</sup> St., Madison St. to Foothill Boulevard	Eastbound toward Foothill	AM pk. hour	84.9	157.5	72.6	161.2	3.7	76.3
		PM pk. hour	114.9	199.0	84.1	270.0	71.0	155.1
	Westbound toward Madison	AM	170.8	291.7	120.9	364.4	72.7	193.6
		PM	164.0	265.4	101.4	273.1	7.7	109.1
Harrison St., 20 <sup>th</sup> St. to Grand Avenue	Northbound toward Grand	AM	99.5	144.7	45.2	157.5	12.8	58.0
		PM	132.6	164.4	31.8	218.6	54.2	86.0
	Southbound toward 20 <sup>th</sup> St.	AM	133.6	130.2	-2.6	164.7	34.5	31.0
		PM	136.1	134.0	-2.1	140.1	6.1	4.0

**Potential Mitigations to Travel Time Impacts**

**The Value and Limitations of Transit Signal Priority**

The EIR proposes (pp. 133 and 139) that transit signal priority be used along 12th Street to reduce AC Transit travel times. The EIR notes that "This action would reduce delays for AC Transit but would not completely eliminate increases in travel time along 12<sup>th</sup> Street and Harrison St.

AC Transit requested the use of transit signal priority in our NOP letter. We support signal priority on both corridors and believe it would be useful in reducing travel time. However, the improvements in travel time caused by transit signal priority would be insufficient to mitigate the level of delay indicated by the EIR for 12<sup>th</sup> St (Harrison St. is discussed in the last section of the letter).

As noted above, the volume of buses on the 12<sup>th</sup> Street Dam is very high, approaching one per minute (54 per hour) in the peak period. If the traffic signals tried to give

priority to each bus, or even a large fraction of the buses on the roadway, the signals would be perpetually off-cycle and would never be able to reset to their normal cycle. Even with an aggressive signal priority protocol, most buses in the peak, when the roadway would presumably be most congested, would not be able to take advantage of it.

In addition, signal priority only reduces delay caused by signals. Signal priority by itself could not reduce delay caused by high traffic volumes and roadway congestion. We have clearly seen this limitation of signal priority in our operation of the San Pablo Avenue Rapid line (line 72R).

#### **Additional Mitigations**

Additional mitigations will be required to substantially reduce projected delay to an acceptable level and to mitigate the significant negative environmental impact that the delay in the current plan represents. AC Transit's proposed mitigations represent our best assessment, at this time, of effective mitigation measures. We have also considered how to minimize the effect of needed mitigations on other aspects of the Measure DD project.

AC Transit would be pleased to discuss these and/or other mitigations with the City of Oakland. Our goal is not necessarily to implement these specific mitigations, but rather to ensure that mitigations which would effectively reduce delay are implemented. In our letter on the Notice of Preparation for this EIR, AC Transit proposed these and similar mitigations. The City rejected all of our potential mitigations without providing adequate substitutes. Therefore, we now propose the following measures:

1. "Passive" transit signal priority - This would be in addition to the active signal priority of holding green lights and truncating red lights. In passive signal priority, signals are timed in the appropriate progression for buses rather than private cars. This system is used effectively on Market Street in San Francisco.
2. An Eastbound Bus lane in the 11<sup>th</sup> St. tunnel access to the roadway, with a dedicated bus signal at end of tunnel. This bus lane would be one of the existing three lanes, presumably the right lane. This approach would allow a bus to go around congestion in the 11<sup>th</sup> St. tunnel and move out of the tunnel quickly. Our preliminary evaluation is that this lane in the tunnel would obviate the need for a bus lane the full length of the roadway eastbound.
3. Westbound—A bus lane the length of the roadway. In the westbound direction, it does not appear possible to use queue jumps to circumvent congestion. Therefore we propose a dedicated bus lane for the approximately 1/3 mile length of the roadway. The lane should be approximately twelve feet wide. We do not believe that this would be an

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undue intrusion on park and recreational space adjacent to the planned six lane roadway.

4. Elimination of eastern crosswalk at the 11<sup>th</sup>-12<sup>th</sup>/14<sup>th</sup> Street intersection  
The design for the new intersection of 11<sup>th</sup> Street, 12<sup>th</sup> Street, and 14<sup>th</sup> St. incorporates two crosswalks across the east-west roadways. However, the eastern crosswalk has the potential to cause substantial traffic delay, since use of the crosswalk would force all three roadways to stop. The crosswalk provides little pedestrian benefit, since it reaches an inactive, inaccessible area behind the Oakland Museum. The western crosswalk is very close to the eastern crosswalk. Eliminating this crosswalk and redesigning pedestrian paths to connect to the western crosswalk would also reduce the amount of paved surface in the area, which the City has raised as a concern.

As part of the process of developing a plan for effective operation across 12<sup>th</sup> Street, AC Transit is willing to consider relocation of stops and rerouting of bus lines in the area where useful and feasible.

#### **Harrison Street, 20<sup>th</sup> Street-Grand Avenue**

The impacts of the DD projects on Harrison Street between 20<sup>th</sup> Street and Grand Avenue present similar issues to those on 12<sup>th</sup> Street, albeit on a smaller scale. In this area, the City proposes to reconfigure the triangular intersections of Harrison Street, 20<sup>th</sup> Street, and Lakeside Drive into a single, perpendicular T intersection of Lakeside and Harrison. The number of lanes on Harrison Street would be reduced. We applaud the City's goal of improving access to the Lake in an area where it is currently difficult.

Four all day AC Transit lines operate through this segment; the 11 Oakland Ave., the 12 Grand, the 59 Piedmont, and the NL Macarthur. The NL is a limited stop Transbay trunk line operating every 15 minutes on weekdays, a line which AC Transit is working with the City to convert to Rapid service.

Additional delay would result from this project and the cumulative effect of other projects, particularly in the northbound direction. By 2025, northbound buses in the afternoon peak are projected to be delayed almost 1.5 minutes (86 seconds), and one minute in the morning peak (58 seconds).

We are seriously concerned about these delays. In addition, we are concerned about planning for this side of Lake Merritt proceeding in isolation from planning for the Grand-Macarthur Rapid. As noted above, this project would convert the existing NL to faster, more frequent Rapid service. AC Transit and the Alameda Congestion Management Agency developed a preliminary report on this proposal, and AC Transit now has adequate planning funds to develop a detailed plan for this Rapid. There are several outstanding issues in planning this area, such as the configuration of the roadway and the location of bus stops.

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cont.**

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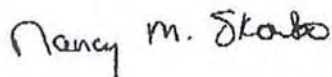
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Planning for the Measure DD project and the Grand-MacArthur Rapid in this area should proceed together. Otherwise, the City runs a very real risk of making costly changes and improvements which would need to be modified or eliminated later. We propose that no plan for Measure DD improvements in this area be finalized until the Grand-MacArthur Rapid plan is finalized.

**22**  
**cont.**

AC Transit looks forward to continuing to work with the City of Oakland to structure projects which support both recreational and transit needs. If you have any questions about this letter, please contact Nathan Landau at 510-891-4792 or [nlandau@actransit.org](mailto:nlandau@actransit.org).

Yours Truly,



Nancy Skowbo  
Deputy General Manager for Service Development

Cc: Jim Gleich  
Mary King  
Zia Dairkee  
Kate Miller  
Anthony Bruzzzone  
Tina Spencer  
Jim Cunradi  
Cesar Pujol  
Sean DiestLorgion  
Nathan Landau

## **LETTER A1**

### **AC Transit**

**Nancy Skowbo, Deputy General Manager for Service Development**

**September 10, 2007**

Response A1-1: The introductory statement expresses an opinion on the merits of the project and states that AC Transit supports several elements of the project, including the development of multi-use paths around Lake Merritt and improvements to the pedestrian environment. The transit agency's support for these elements will be considered by City of Oakland decision-makers during review of the merits of the project.

Response A1-2: AC Transit states that it is "concerned about the potential for Measure DD implementation to significantly degrade bus service to East Oakland via the 12<sup>th</sup> Street Dam." This potential impact of the project is identified in the Draft EIR but is determined to be less than significant for the reasons provided on page 130 of the document. Although the City did not find the impact to be significant, the City nevertheless shares AC Transit's concern. As noted on page 133 of the Draft EIR, the City will continue to work with the agency to find mutually agreeable solutions in the spirit of the Transit Street Cooperative Agreement, which the comment cites as an example of collaboration and cooperation between the City and AC Transit.

The comment concludes by stating that AC Transit has had ongoing and constructive discussions with the City's Public Works Department about impacts and mitigations for the 12<sup>th</sup> Street roadway reconstruction and believes that the City has largely responded to the agency's concerns about impacts that would occur during the construction phase of the project. The comment does not pertain to the Draft EIR's environmental analysis so no further response is provided.

Response A1-3: The comment incorrectly states that Measure DD would provide funds to develop a park in the former 9<sup>th</sup> Avenue Terminal area. The park and waterfront trail at the 9<sup>th</sup> Avenue Terminal would be developed as part of the Oak to 9<sup>th</sup> Project as indicated in the project description (Figure III-10a, for example) and would be funded by development fees paid by that project. The Measure DD Implementation Project proposes to fund improvements at Estuary Park, which is located on the opposing bank of the Lake Merritt Channel from the Oak to 9<sup>th</sup> development site.

Response A1-4: Elements of the 12<sup>th</sup> Street reconstruction that are presented in the Project Description of the Draft EIR are identified, including narrowing of the 12<sup>th</sup> Street roadway. The comment states that the transit agency understands the City's desire to reduce the large amount of roadway in that area, but that the narrower roadway must be balanced with the need to maintain viable transit operations. The Draft EIR describes and analyzes the potential impacts of the project on transit operations on page 133. The City of Oakland decision-makers will consider these impacts and the opinions of AC Transit on the need to balance the project's impacts and benefits during review of the merits of the project.

- Response A1-5: The comment states that AC Transit is concerned about projects that would take place in the area of 20<sup>th</sup> and Harrison Streets and the impacts that they would cause to bus service in this area. The transportation analysis of the Draft EIR considered the impacts of the project in combination with past, other current and probable near-term projects scheduled to complete by Year 2025, including AC Transit's Bus Rapid Transit improvements. The results of the impact analysis for bus service, including travel times and speeds, in the area around 20<sup>th</sup> and Harrison Streets are presented on page 139 of the Draft EIR. As the comment does not identify specific impacts that are of concern to the agency, no further response is necessary. Refer to Response to Comment A1-22 for additional information about bus service in the vicinity of 20<sup>th</sup> and Harrison Streets.
- Response A1-6: The comment indicates that the increases in travel time identified in the Draft EIR may underestimate the actual delay for buses to the extent that buses need to pull into and out of traffic flow for stops. The analysis that evaluated travel times along the 12<sup>th</sup> Street and Harrison Street corridors was performed to help understand how automobile, bus and other traffic along these streets would be affected by the Lake Merritt and Lake Merritt Channel project components. No specific consideration was given to how bus travel time would be affected by the need to pull into and out of traffic flow for stops. The design of bus stops along both corridors would be such that buses would at least partially block the right lane. Re-entry into the flow of traffic should not be a significant problem for AC Transit operations. Variations in the actual travel time for AC Transit vehicles (compared to the results reported in the Draft EIR) would result from bus stop access and from routes that use only part of the routes that were analyzed.
- Response A1-7: The methodology for analyzing travel times is described on page 108 of the Draft EIR as the Highway Capacity Manual arterial analysis method. This method is described in detail in the *Highway Capacity Manual* (Transportation Research Board 2000). The projections were presented in more disaggregated form in Appendix E. No analysis was performed for midday traffic conditions because the peak hours coincide with the commuter peaks and the determination of likely effects would be greatest during those peaks. The midday analysis would not inform the determination of significance in the impact analysis and thus was not performed.
- Response A1-8: The comment identifies bus lines that currently operate along 12<sup>th</sup> Street and states that if AC Transit's proposed Bus Rapid Transit system is developed it would also use the 12<sup>th</sup> Street corridor. The information provided by the comment is included on page 116 of the Draft EIR and was considered in the Draft EIR's analysis. No revisions to the Draft EIR are necessary.
- Response A1-9: The Draft EIR discloses that converting 12<sup>th</sup> Street from a limited access high-speed facility to a mixed mode transportation system that accommodates pedestrian activity around Lake Merritt would result in increased travel times along 12<sup>th</sup> Street for both autos and transit vehicles. The CEQA impacts of increased delay and decreased LOS at intersections are addressed in the Draft EIR. Although the City

does not have CEQA significance criteria for roadway delays because it finds that LOS intersection analyses more accurately predict traffic impacts, the City studied the corridor to understand how the project would affect traffic travel times in the area.

The estimated delays along 12<sup>th</sup> Street are recognized as important to AC Transit operations and passengers using the service. As stated in the Draft EIR travel times for all modes of travel within the corridor would increase by a similar amount and travelers would not be discouraged from using transit as a result of the project. Increases in travel times from the passengers' perspective would be noticeable as would travel times for automobile users. The City acknowledges that this is a potential concern for drivers and transit passengers alike but not a CEQA impact. Refer also to Response to Comment A1-12.

Response A1-10: Regarding the costs to operate transit service, costs will increase with or without the Measure DD Implementation Project. The decision to increase service along a route could be affected by the demand along the route, the attractiveness of other modes of travel, and other factors. AC Transit could decide to adapt to the increase in travel time by changing the schedule rather than by adding buses.

The purpose of the travel time analysis was to determine how automobile, bus and other traffic along these streets would be affected by the Lake Merritt and Lake Merritt Channel project components. The purpose of the analysis was not to provide information sufficient for AC Transit to develop a precise estimate of the cost of adding service to the corridor.

Response A1-11: In response to the statement that the Draft EIR does not address the potential for aggregated impacts on the same bus routes as the Measure DD project elements, the Draft EIR included an assessment of projects that were considered to be reasonably foreseeable. The existing lanes were assumed to be in place for Foothill Boulevard. Further narrowing of the travel lanes on Foothill Boulevard is not considered to be reasonably foreseeable.

Response A1-12: The comment states that increased travel time would impact passengers that use AC Transit lines because their trips would take longer and they might miss transfer connections. The City acknowledges that this is a potential operational concern for AC Transit but not a CEQA impact. The CEQA impacts of increased delay and decreased LOS at some intersections are addressed in the Draft EIR.

Although the City did not find the impact on travel time through the 12<sup>th</sup> Street corridor to be significant, it nevertheless shares AC Transit's concern with regards to impacts to bus passengers. As stated on pages 133 and 139, the City considered several potential options that might reduce bus travel times, including the addition of bus-only lanes or queue jump lanes, and the elimination of crosswalks. These measures were not recommended because they would have substantial impacts on traffic operations or pedestrian mobility. The Draft EIR recommends implementing a transit signal priority system along some transit routes, which would reduce but

not completely eliminate increases in travel time. Refer to Response to Comment A1-21 for a discussion of additional measures recommended by AC Transit. These measures will be considered by City of Oakland decision-makers during review of the merits of the project.

Response A1-13: Environmental justice does not fall under the definition of environmental impacts in CEQA and therefore is not within the purview of the Draft EIR. *CEQA Guidelines* Section 15064 states: “Economic or social changes resulting from the Project shall not be treated as significant effects on the environment.” In addition, *CEQA Guidelines* Section 15131 indicates that the socioeconomic effects of a project should not be considered significant environmental impacts in and of themselves: “Economic effects of a project shall not be treated as significant effects on the environment. An EIR may trace a chain of cause and effect from a proposed decision on a project through anticipated economic or social changes resulting from the Project to physical changes caused in turn by the economic or social changes. The intermediate economic or social changes need not be analyzed in any detail greater than necessary to trace the chain of cause and effect. The focus of the analysis shall be on the physical changes.”

As required by CEQA, the Draft EIR focuses on the physical effects of the project, which include the increase in travel time. These effects were found to be less than significant for the reasons stated on pages 130 and 139 of the Draft EIR. Nevertheless, the City shares AC Transit’s concern with regards to impacts to bus passengers. Refer to Response to Comment A1-21 for a discussion of additional measures recommended by AC Transit to reduce travel time. These measures will be considered by City of Oakland decision-makers during review of the merits of the project.

Response A1-14: The comment states that policies in the City’s Land Use and Transportation Element (LUTE) encourage transit and the movement of transit vehicles and that degradation of bus service, as described in the Draft EIR, would be inconsistent with the City’s transit policies. While the project would increase bus travel time in the 12<sup>th</sup> Street corridor, as described on pages 129-133 and 138-140 of the Draft EIR, a potential conflict with a single policy in a General Plan element does not inherently result in a *significant* effect on the environment within the context of CEQA. In addition, the City’s General Plan has numerous policies addressing transportation issues (presented on page 121 of the Draft EIR). Policy T3.3, for example, states that the City should accept lower levels of service and a higher level of traffic congestion at Downtown intersections and intersections that provide direct access to Downtown locations. Downtown is defined in the Land Use and Transportation Element of the General Plan (page 67) as the area generally bounded by West Grand Avenue to the north, Lake Merritt and Channel Park to the east, the Oakland Estuary to the south and I-980/Brush Street to the west. This area includes much of the 12<sup>th</sup> Street corridor. The project is consistent with this policy.

Because the General Plan contains many policies, which may in some cases address different goals, some policies may compete with each other. The overall consistency of the project with the City of Oakland's policies is evaluated in Section IV.B, Planning Policy and in Appendix D of the Draft EIR. The comment is noted and the City of Oakland decision-makers, in deciding whether to approve the proposed project, will consider this information when determining whether on balance the project is consistent with the General Plan.

Response A1-15: Refer to Response to Comment A1-9.

Response A1-16: The Draft EIR applies the City's criterion of significance for transit, which the City developed in cooperation with AC Transit, that states that the project would have a significant impact on transportation if it would "generate added transit ridership that would increase the average ridership on AC Transit lines by 3 percent at bus stops where the average load factor with the project in place would exceed 125% over a peak thirty minute period." There has been no dispute that the project would not satisfy that criterion. Delays that would affect motor vehicle operations in general would have a similar effect on AC Transit operations and no special operational measures for AC Transit were considered necessary under CEQA. The Draft EIR went a step further than the normal process in Oakland for assessing impacts under CEQA and addressed corridor travel time in the spirit of disclosing additional information. However, the travel time analysis does not address a specific criterion of significance and thus does not lead directly to impact determinations. Refer also to Responses to Comment A1-12 and A1-21.

Response A1-17: The comment states that passengers expect the bus to operate on its designated route, even if that route has been made slower. Although this is likely true, route designations are changed routinely by AC Transit to accommodate changes in demand and other factors including travel time. AC Transit could change the designation of one or more routes along 12<sup>th</sup> Street if it would result in improved service for a majority of riders.

Response A1-18: The City's adopted criterion to which the comment refers reads, "Fundamentally conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle routes)." The Draft EIR finds that the project would not fundamentally conflict with transit policies because among other reasons it encourages many forms of alternative transportation, including the use of buses, by improving pedestrian linkages through the creation of a more pedestrian friendly and accessible environment in the Lake Merritt project area, including the 12<sup>th</sup> Street transit corridor.

The Draft EIR acknowledges that the project would increase travel time along 12<sup>th</sup> Street for the bus routes that travel this corridor but the traffic analysis also shows that the delays at existing intersections along these routes would not be affected or delays would be reduced (i.e., at International Boulevard and 1<sup>st</sup> Avenue, see Table IV.C-5 on page 125 of the Draft EIR). Although no mitigation is required, the City will continue to collaborate and cooperate with AC Transit to identify ways to

reduce transit delays and improve service in the project area. Refer to Response to Comment A1-21.

Response A1-19: The comment states that AC Transit is “concerned about the potential for Measure DD implementation to significantly degrade bus service to East Oakland via the 12<sup>th</sup> Street Dam,” an impact of the project that is identified in the Draft EIR but is not considered significant for the reasons provided on page 130 of the document. Although the City did not find the impact to be significant, the City nevertheless shares AC Transit’s operational concern. As noted on page 133 of the Draft EIR, the City will continue to work with the agency to find mutually agreeable solutions in the spirit of the Transit Street Cooperative Agreement, which the comment cites as an example of collaboration and cooperation between the City and AC Transit.

The comment correctly notes that transit bus travel times are impacted by poor intersection operations and that the impact compounds by traveling through congested corridors. While there is no significance criterion for bus transit travel times, the roadway changes identified as mitigation measures in the Draft EIR would reduce vehicle delay, which also then would reduce transit delay from unmitigated conditions. The intersection improvements identified in the Measure DD environmental studies would improve travel through the 12<sup>th</sup> Street area for all vehicles including buses, which make up 3 to 4 percent of the person trips and automobiles which make up the remaining person trips.

Response A1-20: It is acknowledged that providing transit signal priority along 12<sup>th</sup> Street and Harrison Street would be insufficient to fully mitigate the level of delay indicated by the EIR for 12<sup>th</sup> Street or Harrison Street. The Draft EIR states on page 133, “This action would reduce delays for AC Transit but not completely eliminate increases in travel time along 12<sup>th</sup> Street and Harrison Street.” The Draft EIR states on page 139, “. . . the implementation of transit signal priority is not expected to completely eliminate increases in travel time along the 12<sup>th</sup> Street and Harrison Street.” Refer to Response to Comment A1-21 for additional recommendations the City is considering to reduce travel time.

Response A1-21: The City has evaluated the feasibility of implementing AC Transit’s requested design modifications for reducing travel time along the 12<sup>th</sup> Street corridor and agrees to consider passive transit signal priority and changes to eastbound bus lanes. These design details do not substantially change the project and would not create new impacts.

The City declines to modify the bus lane in the westbound direction because the westbound bus lane would have significant implications for the project design, would be counter to project objectives (e.g., it would reduce the area of park land created), and would likely provide the least benefit for travel time of the measures proposed by AC Transit. Right-of-way constraints prevent widening the street east of the Lake Merritt Channel Bridge. Widening the bridge itself would reduce open water below, reduce open sky for pedestrians below and be very expensive. Without widening the Lake Merritt Channel Bridge a westbound bus lane could be

extended only from just west of the bridge to the 11<sup>th</sup>-12<sup>th</sup>/14<sup>th</sup> Street intersection. Parking would have to be eliminated on the north side of 12<sup>th</sup> Street between the bridge and the 11<sup>th</sup>-12<sup>th</sup>/14<sup>th</sup> Street intersection and the roadway would need to be widened into the park. The incremental reduction in travel time, which was not a significant impact of the project, does not justify the impacts (e.g., loss of parking, reduced size of park, etc.) that the requested change would make.

An analysis was performed to determine the extent to which the measures proposed by AC Transit could be implemented without causing significant intersection impacts. The following scenarios were evaluated:

1. Recommendations proposed in the DEIR (with refinements in signal phasing to better accommodate pedestrian movements)<sup>1</sup>
2. Bus lane on the 11<sup>th</sup> Street (with crosswalks proposed in the DEIR)
3. Bus lane on the 11<sup>th</sup> Street and elimination of southeast crosswalk

Scenarios 2 and 3 would provide continuation of the bus lane through the signal at the 11<sup>th</sup>-12<sup>th</sup>/14<sup>th</sup> Street intersection, after which buses would share lanes with other motor vehicles.

The analysis of traffic operations showed that a relatively long cycle length<sup>2</sup> would be required during the AM peak hour for all the scenarios above. The scenarios intended to at least partially accommodate AC Transit's request (No. 2 and 3, above) would require relatively long cycle lengths during the PM peak hour. The DEIR recommendation (No. 1, above) would allow a signal cycle half the long cycle during the PM peak hour.

A short cycle length is desirable for two reasons. First, short cycle lengths provide shorter wait times for pedestrians and result in better pedestrian compliance with traffic regulatory devices. Second, short cycle lengths generally result in shorter vehicle queue lengths than long cycle lengths.

To compare the DEIR recommendation with the other scenarios, a long cycle length was analyzed and would provide lower delay for motor vehicles than the shorter cycle length suggested to better accommodate pedestrians. The analysis showed that all scenarios could be implemented without causing significant level of service impacts at the 11<sup>th</sup>-12<sup>th</sup>/14<sup>th</sup> Street intersection. The results of the analysis

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<sup>1</sup> The DEIR analysis assumed pedestrians would cross the southeast leg of the 11<sup>th</sup>-12<sup>th</sup>/14<sup>th</sup> Street intersection during the signal phase that would serve eastbound right turning traffic from 11<sup>th</sup> Street to 12<sup>th</sup> Street. The signal phasing concept was revised to provide a separate pedestrian phase that would provide a protected phase for pedestrians. Details of the revised signal phasing concept are provided in the Appendix.

<sup>2</sup> The DEIR analysis evaluated 50 and 100 second cycle lengths for the intersections along the 12<sup>th</sup> Street – 14<sup>th</sup> Street corridor. The analysis conducted for the updated analysis showed that a 100-second cycle length would be required during the a.m. peak hour but that a 50-second cycle length would be possible during the p.m. peak hour.



are summarized in the table, below. Detailed analysis worksheets are provided as Appendix A.

**Intersection Levels of Service – Cumulative (2025) Conditions  
for 11<sup>th</sup>-12<sup>th</sup> St/14<sup>th</sup> Street Intersection**

Scenario	AM Peak Hour		PM Peak Hour	
	LOS <sup>a</sup>	Delay <sup>b</sup>	LOS <sup>a</sup>	Delay <sup>b</sup>
DEIR Recommendation (50 second PM signal cycle)	B	14.6	D	37.8
DEIR Recommendation (100 second PM signal cycle)	B	14.6	C	28.2
Bus lane on the 11th Street	B	14.9	C	32.4
Bus lane on the 11th Street and elimination of southeast crosswalk	B	16.7	C	34.3

Notes:

<sup>a</sup> LOS = Level of Service

<sup>b</sup> Average control delay in seconds per vehicle

<sup>c</sup> Defined as a downtown intersection

Source: Dowling and Associates, 2007.

The City will work with AC Transit to determine the feasibility of implementing the measures included in the analysis. The bulleted list of recommendations on page 133 of the Draft EIR is revised as follows:

*Transit Recommendations*

- The City should provide active and/or passive transit signal priority to reduce travel times along 12<sup>th</sup> Street and Harrison Street. This action would reduce delays for AC Transit but not completely eliminate increases in travel time along 12<sup>th</sup> Street and Harrison Street.
- The City should provide an eastbound bus lane along the right side of 11<sup>th</sup> Street with the bus lane continuing through the signal at the 11<sup>th</sup>-12<sup>th</sup>/14<sup>th</sup> Street intersection.

The bulleted list of recommendations on pages 139-140 of the Draft EIR is revised as follows:

*Transit Recommendations*

- Implementation of active and/or passive transit signal priority as described in the previous recommendations for transit service would reduce delays for AC Transit. Nevertheless, the implementation of transit signal priority is not expected to completely eliminate increases in travel time along the 12<sup>th</sup> Street and Harrison Street. ~~While adding bus-only lanes or queue jump lanes, or eliminating pedestrian crosswalks are feasible, they are not recommended because they would have substantial impacts on traffic operations or pedestrian mobility, and in most cases have additional costs.~~

- The City should provide an eastbound bus lane along the right side of 11<sup>th</sup> Street with the bus lane continuing through the signal at the 11<sup>th</sup>-12<sup>th</sup>/14<sup>th</sup> Street intersection.

Response A1-22: The comment states that the increases in transit travel time in the vicinity Harrison Street between 20<sup>th</sup> and Grand Avenue are of concern to AC Transit. It also recommends that planning should be coordinated for the Measure DD Implementation Project and the Grand-Macarthur Rapid Project. The City and AC Transit are engaged in ongoing discussions to resolve transit issues associated with their respective proposed projects, including the Measure DD Implementation and Grand-Macarthur Rapid Projects.



Making San Francisco Bay Better

August 27, 2007

Elois A. Thornton  
City of Oakland  
Community and Economic Development Agency  
Planning Division  
250 Frank H. Ogawa Plaza, Suite 3315  
Oakland, CA 94612

**Subject:** BCDC Inquiry File No. AL.MC.7517.2. Juris. Det. File No. AL.AL.6000.3.  
Measure DD Implementation Project Draft Environmental Impact Report.  
(State Clearinghouse #2006122048.)

Dear Ms. Thornton:

Thank you for the opportunity to comment on the Measure DD Implementation Project Draft Environmental Impact Report (DEIR) for the City of Oakland. The DEIR is dated July 2007, and was received in our office on July 24, 2007. The Commission has not reviewed the DEIR, so the following staff comments are based on the *San Francisco Bay Plan* (Bay Plan) and the McAteer-Petris Act and staff review of the DEIR.

**Jurisdiction.** Chapter IV, page 95 of the DEIR defines the BCDC jurisdiction as, "all areas of the San Francisco Bay, a shoreline band of 100 feet from the water, and salt ponds, managed wetlands and certain waterways." It states that "Measure DD includes waterfront improvements within 100 feet of the shoreline," that will require BCDC permit approval. In addition to the above description of the BCDC jurisdiction, the EIR should state that the southern portion of the Lake Merritt Channel (to the 7<sup>th</sup> Street Pump Station) falls within The Commission's bay jurisdiction, and that Measure DD improvements involving placement or removal of fill in the Bay will require BCDC permit approval.

1

It is not clear from the DEIR if the Measure DD improvements include an operational 7<sup>th</sup> Street tide or flood gate. If a tide or flood gate is not included, the EIR should recognize that changes may result to the Commission's jurisdiction in the Channel and Lake.

2

**Public Access.** To be consistent with the discussion of other applicable regulatory documents in the Planning Policy section (Chapter IV, Section B), the EIR should reference the Bay Plan policies on Public Access that will apply in BCDC permits issued for Measure DD projects.

3

**Fish, Other Aquatic Organisms and Wildlife.** BCDC's Bay Plan findings and policies on Fish, Other Aquatic Organisms and Wildlife address protection of these resources. The summary of the McAteer Petris Act in the Biological Resources section (page 204) of the EIR should also state that, in reviewing permit applications for projects within its jurisdiction, BCDC relies on these Bay Plan policies to ensure protection of biological resources.

4

**Tidal Marshes and Tidal Flats.** BCDC's Bay Plan findings and policies also address Tidal Marshes and Tidal Flats. These policies state, in part, "Projects should be sited and designed to avoid, or...minimize adverse impacts on any transition zone present between tidal and upland habitats." Additionally, the policies require that "Any tidal restoration project... include clear

5



Elois A. Thornton  
August 27, 2007  
Page 2 of 2

and specific long-term and short-term biological and physical goals, and success criteria and a monitoring program to assess the sustainability of the project."

The DEIR states on page 35 that, "Measure DD Implementation Project Components along the channel are intended to... restore wetlands," and Figure III-4 appears to indicate that restoration of tidal marsh is proposed for the Channel south of 7<sup>th</sup> Street. Proposed improvements at the 66<sup>th</sup> Avenue Gateway (page 57) also appear to potentially affect tidal marsh and transition zone habitat. The EIR should recognize Bay Plan policies on Tidal Marshes and Tidal Flats that will apply to these Measure DD project components.

**Sea Level Rise and Safety of Fills.** Bay Plan findings and policies anticipate the need for planning associated with safety of fills and sea level rise. The Safety of Fills findings recognize that "Bay water levels are likely to increase in the future because of a relative rise in sea level... Relative rise in sea level is the sum of: (1) a rise in global sea level and (2) land elevation change (lifting and subsidence) around the Bay." Policy 5 states, in part, "...structures on fill or near the shoreline should be above the highest estimated tide level for the expected life of the project water level during the expected life of the project or be sufficiently protected by levees..." Additionally, Policy 6 states, "local governments and special districts with responsibilities for flood protection should assure that their requirements and criteria reflect future relative sea level rise and should assure that new structures and uses attracting people are not approved in flood prone areas or in areas that will become flood prone in the future, and that structures and uses that are approvable will be built at stable elevations to assure long-term protection from flood hazards."

Projects in BCDC jurisdiction that involve bay fill must be consistent with the Bay Plan policies on the safety of fill and sea level rise. The EIR should include these Bay Plan policies in the Regulatory Framework discussion in Chapter IV, Section H (beginning on page 249).

**Increased Tidal Action in Lake Merritt Channel.** In the discussion of hydrology and water quality impacts (pages 261 and 263), the DEIR states that the replacement of culverts under 12<sup>th</sup> and 10<sup>th</sup> streets with clear-span bridges, and reconfiguration of the 7<sup>th</sup> Street channel would double (approximately) the flow rate through Lake Merritt Channel. Based on studies of the flow changes, the DEIR concludes that this "ability of the channel to convey more water out of the Lake...could alleviate flooding conditions." The EIR should specify what factors these studies analyzed to project future flow rates and flooding conditions. If the studies are based solely on past tidal ranges, they may not sufficiently describe potential flooding impacts. For example, combined conditions of increased tidal action on the Channel and Lake, storm surge and climate change-related sea level rise could affect flooding risk for the project area. The EIR should consider these additional factors in assessing the hydrology and water quality impacts of the Measure DD improvements.

Additionally, the description of impacts to biological resources (beginning page 210), should address whether tidal flow changes to the Lake and Channel will significantly affect habitats in any of the project areas.

If you have any questions regarding this letter, or any other matter, please contact Joe LaClair by phone at 415 352-3656 or email joel@bcdca.gov.

Sincerely,



SARA POLGAR  
Planner

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cont.

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## LETTER A2

### Bay Conservation and Development Commission (BCDC)

Sara Polgar, Planner

August 27, 2007

Response A2-1: The comment cites text on page 95 of the Draft EIR that defines the Bay Conservation and Development Commission's (BCDC) jurisdiction and recommends that the Draft EIR clarify the boundary of BCDC's authority in the southern portion of the Lake Merritt Channel. It also recommends that the Draft EIR state that project actions that involve placement or removal of fill in the Bay will require BCDC permit approval. The City agrees to make the recommended changes, which clarify the permit process for the project but do not alter the analysis or conclusions of the EIR. The third paragraph on page 95 of the Draft EIR is revised to include this information. Because this paragraph is revised in response to more than one comment refer to Response to Comment A2-3 below for the revised text.

Response A2-2: The comment requests that the Draft EIR clarify whether a tide or flood gate is included at 7<sup>th</sup> Street Pump Station. The second paragraph on page 36 of the Draft EIR is revised as follows:

This reconfiguration would include the continuation of pathways established as part of the 12<sup>th</sup> Street and 10<sup>th</sup> Street project components, the improvement of pedestrian tunnels under 7<sup>th</sup> Street, and the installation of a new traffic signal and crosswalk across 7<sup>th</sup> Street. The 7<sup>th</sup> Street project component proposes the creation of a bypass channel to improve recreational access, as well as to allow large fish to once again enter the upper Lake Merritt Channel and Lake Merritt. The bypass channel would be designed and managed to retain the tidal and flood control functions of the pump station. To ensure that the flood control function of the 7<sup>th</sup> Street Pump Station is not compromised, the new bypass channel would include a hydraulic gate that would be closed when operation of the pumps is required to lower the water level in the lake.

Response A2-3: The comment requests that the Draft EIR reference the Bay Plan policies on public access that will apply in BCDC permits. Accordingly, the Draft EIR on page 95 is revised as follows:

**e. San Francisco Bay Plan.** The San Francisco Bay Plan<sup>9</sup> (Bay Plan) is a policy tool that, under the provisions of the McAteer-Petris Act, allows the San Francisco Bay Conservation and Development Commission (BCDC) to "exercise its authority to issue or deny permit applications for placing fill, extracting materials, or changing the use of any land, water, or structure within the area of its jurisdiction," an area that includes all of the San Francisco Bay, a shoreline band of 100 feet from the water, and salt ponds, managed wetlands and certain waterways associated with the Bay. The Bay Plan stipulates: "Any public agency or private owner holding shoreline land is required to obtain a permit from the Commission before proceeding with (shoreline) development." The Bay Plan contains findings and policies that will apply in BCDC permits for Measure DD project components

within the commission's jurisdiction. Examples of applicable policies include those related to public access, the placement and removal of fill in the Bay, sea level rise and the safety of fills, the protection of fish, other aquatic organisms and wildlife, and tidal marshes and tidal flats, among others. Implementation of the proposed project would require BCDC permit approval for development within the 100-foot shoreline band. Measure DD includes waterfront improvements within 100 feet of the shoreline, including areas along the Oakland Estuary and the southern portion of the Lake Merritt Channel, downstream of the 7<sup>th</sup> Street Pump Station.

Response A2-4: The comment requests that the EIR state that, in reviewing permit applications for projects within its jurisdiction, BCDC relies on findings and policies on Fish, Other Aquatic Organisms and Wildlife in the Bay Plan to ensure protection of biological resources. The City agrees to include the findings and policy information and revise the Draft EIR on page 204 as follows:

(4) **McAteer-Petris Act.** The McAteer-Petris Act and Suisun Marsh Preservation Act were adopted to protect San Francisco Bay and Suisun Marsh as natural resources for the benefit of the public and to encourage development compatible with this protection. The San Francisco Bay Conservation and Development Commission (BCDC) was established to enforce this Act. The two primary goals of the BCDC are: (1) to prevent the unnecessary filling of San Francisco Bay; and (2) to increase public access to and along the Bay shoreline. BCDC approval is required for all projects within 100 feet of the Bay shoreline, as well as projects that propose any filling or dredging within Bay waters. In reviewing permit applications, BCDC relies on findings and policies on fish, other aquatic organisms and wildlife in the Bay Plan to ensure protection of biological resources.

Response A2-5: The comment requests that the EIR recognize that policies on tidal marshes and tidal flats will apply to Measure DD project components. The City agrees to include the additional policy information that BCDC will consider during the permitting process. Refer to Response to Comment A2-3 for revisions to the text.

Response A2-6: The comment requests that the EIR recognize that policies on sea level rise and the safety of fills will apply to Measure DD project components. The City agrees to include the additional policy information that BCDC will consider during the permitting process. Refer to Response to Comment A2-3 for revisions to the text. Refer to Response to Comment A2-7 for additional discussion of sea level rise.

Response A2-7: The 7<sup>th</sup> Street Pump Station provides flood protection for areas upstream of 7<sup>th</sup> Street by allowing water levels in Lake Merritt to be lowered during storm events that coincide with high tides. This function and the operation of the 7<sup>th</sup> Street Pump Station are described on pages 35 (Project Description) and 246 (Hydrology and Water Quality) of the Draft EIR. A hydraulic gate in the new bypass channel at the 7<sup>th</sup> Street facility would be closed when operation of the pumps is required to lower the water level in the lake, which currently occurs about 1 percent of the time (i.e., a few days per year). Rising average tidal levels downstream of the flood station may increase the frequency with which the pumps would need to operate but increased operation would not compromise their function. The text is revised as indicated in Response to Comment A2-2 to clarify the operation of the 7<sup>th</sup> Street Pump Station.

Under certain conditions the pumps currently lower the water level in the Channel faster than it can be replenished by flows through the culverts beneath 10<sup>th</sup> and 12<sup>th</sup> Street. Removal of the culverts at 10<sup>th</sup> and 12<sup>th</sup> Streets, lowering of the channel at 12<sup>th</sup> Street, and creation of an open channel in these areas as part of the project (page 35 of the Draft EIR) would improve the flow of water between the lake and the pump station. These actions would help alleviate upstream flooding by allowing the pumping system to operate more efficiently.

Coastal flooding is acknowledged as a potential impact on pages 246 and 261 of the Draft EIR. As with many facilities built near the shore of San Francisco Bay, rising sea levels associated with global climate change could ultimately affect the pump station if they rise to extreme levels. The pump station's function would be compromised if, for example, extreme high tides overtopped the facility. However, the flood control components and operation of the 7<sup>th</sup> Street Pump Station itself would not be altered by the project. In addition, the project is not constructing housing, high occupancy, or sensitive facilities within the zone that could be affected by rising sea levels. Thus, the impact of the project would be less than significant. The text at the bottom of page 261 of the Draft EIR is revised as follows:

- As with many facilities built near the shore of San Francisco Bay, rising sea levels associated with global climate change could, in the long-term, affect project facilities and existing infrastructure such as the 7<sup>th</sup> Street Pump Station that are designed to protect them from flooding. The pump station's function would be compromised if, for example, tidal levels overtopped the facility. However, the flood control components and operation of the 7<sup>th</sup> Street Pump Station itself would not be altered by the project. New trails are being located above the current reach of tidal action, with additional freeboard which will accommodate some future sea level rise. In addition, the project is not constructing housing, high occupancy, or sensitive facilities within the zone that could be affected by flooding or rising sea levels.

Response A2-8: Increased tidal flows would not cause adverse changes to the open water or upland habitats (described on pp. 188-189 of the Draft EIR) that occur in the vicinity of Lake Merritt or the Lake Merritt Channel. The increased tidal flows would have no effect on the upland habitat, which is landscaped parkland. The new flow regime would not *adversely* affect the relevant water quality characteristics of the open water habitat such as salinity, temperature and dissolved oxygen. Water quality would be improved by the greater exchange rate between Lake Merritt and the estuary and by newly created tidal wetlands. As the channel is not a corridor for the movement of migratory fish, the increased flow rate would have no effect on migratory fish species. The following text is inserted on page 216 of the Draft EIR at the end of subsection IV.F.2.c(3):

The increased tidal flows that would occur as a result of the proposed modifications to the Lake Merritt Channel are not expected to cause adverse changes to the open water habitat in Lake Merritt or the Lake Merritt Channel. Increased tidal flows would not adversely affect the relevant water quality characteristics of the open water habitat such as salinity, temperature, and dissolved oxygen. Water quality, especially dissolved oxygen, would be improved by the greater exchange rate between

Lake Merritt and the estuary and by newly created tidal wetlands in the channel, which would benefit wildlife.

The text at the beginning of subsection IV.F.2.c(4) on page 216 of the Draft EIR is revised as follows:

**(4) Native Resident or Migratory Wildlife Movement, Wildlife Corridors, or Nursery Sites.** As the channel is not a corridor for the movement of migratory fish, the proposed changes to Lake Merritt and Lake Merritt Channel would not have an adverse effect on migratory fish species. Several species of migratory waterbirds have been observed using the Lake Merritt Channel during the winter (approximately October through March), often in flocks of 40 to 70 birds (e.g., scaup, common goldeneye). A 2004 study of waterbird use and disturbance response within Berkeley's Aquatic Park found that disturbance sensitivity was positively related to flock size, with large flocks flushing more readily than smaller ones.<sup>37</sup> Although no such studies have been conducted at the Lake Merritt Channel, LSA observed a flock of approximately 50 common goldeneyes swimming away from a group of schoolchildren crossing the pedestrian bridge during the January 19 site visit, indicating sensitivity to disturbance. Human-caused disturbance negatively affects wintering ducks by causing the expenditure of energy (i.e., flying or moving away from the source of disturbance) that would otherwise be used for behaviors necessary for survival, such as resting or feeding.<sup>38</sup> Repeated or periodic disturbance would cause a greater expenditure of energy and thus have a greater effect on wintering birds than singular events.





COUNTY OF ALAMEDA  
PUBLIC WORKS AGENCY

399 Elmhurst Street • Hayward, CA 94544-1307  
(510) 670-5480

September 10, 2007

Ms. Elois A Thornton, Planner IV  
City of Oakland,  
Community and Economic Development Agency  
Planning Division  
250 Frank Ogawa Plaza, Suite 3315,  
Oakland California 94612  
Email: [eathornton@oaklandnet.com](mailto:eathornton@oaklandnet.com)  
(510) 238-6284

RE: City of Oakland Measure DD Implementation Project  
Environmental Impact Report (SCH # 2006122048)

Dear Ms Elois:

The Alameda County Flood Control and Water Conservation District (District) has reviewed the City's Environmental Impact Report entitled: *City of Oakland Measure DD Implementation Project Environmental Impact Report* and has the following comments:

The District owns and maintains several flood control facilities within the proposed project limits. These facilities include, but not limited to, District designated Zone 12 Lines B, C, and Line D. These creeks for the most part, flow in underground culverts that outfall at Lake Merritt. In addition the District owns and operates a pump station located on the outfall channel at 7<sup>th</sup> Street crossing.

The proposed project *Group 1 Lake Merritt and Lake Merritt Channel Improvements* described in the EIR pages 27-29 Table III-1 of the EIR could potentially result in significant impacts to District facilities. The proposed reconstruction and construction of the retaining walls along the banks of Lake Merritt could potentially undermine the integrity of existing culvert outfalls. This is a significant construction related impact requiring mitigation. Please provide adequate explanation of how the City proposes to mitigate this impact.

The District owned pump station at 7th Street crossing currently provides effective flood protection to a large area within and outside the proposed project limits. Modifications and changes proposed (described on page 39 and shown on Figure III-4 and in section g page 365 of the EIR) could significantly affect the pump station structure and operations; and on page 263 the EIR describes "doubling of the flow rate through the Lake Merritt channel". There are several potential ramifications to the changes proposed:

- 1) The new bypass channels would potentially change the hydrology at the pump station requiring redesign and significant operational changes of the facility;
- 2) There is no clarification of how water levels in the bypass channel will be maintained to support boat traffic. The channel is under tidal ebb and flow.

Comments—City of Oakland Measure DD EIR  
Sept 10, 2007

- 3) The new bypass channels adjacent to the 7<sup>th</sup> Street Pump Station will require continuous maintenance. The EIR is unclear on how the City proposes to maintain the facility without compromising the flood protection functions of the pump station.
- 4) The District is concerned about the potential safety and liability associated with the changes described in the EIR.

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cont.

None of these significant issues requiring mitigation was adequately addressed in the EIR. In fact, it was concluded on page 258 in the checklist item that “it is less than significant”. The District disagrees and requests that these issues be adequately addressed before approval of the EIR.

Under (Group 4) *City-Wide Creek Restoration, Preservation and Acquisition (described on pages 58 and on several other sections of the EIR)*. The District is responsible for nearly all the major creeks and channel in the City of Oakland. Many of these creeks are located in high density population centers that may become prone to flooding with significant changes as described in the documents (i.e.; daylighting underground creeks). Potential impacts associated with this activity have not been addressed in the EIR. Please provide adequate mitigation. The District also requests that improvements and/or, restoration on any of these creeks that affect District facilities should be coordinated with the District hydrologist.

3

On pages 287-308: The EIR describes occurrences of high levels of various hazardous compounds, including lead at locations within the project limits. Yet no remediation other than citations of various local and state regulations governing these materials was provided. There is potential risk of these “localized” occurrences especially in the Lake Merritt Channel being transported (with tidal flows) into the lake with excavation and widening of the channel. This will potentially affect the wildlife resources occurring in the lake. Remediation is required.

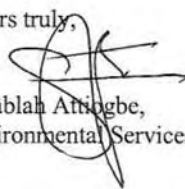
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The District requests copies of the technical studies for the 7<sup>th</sup> St. bypass channel concept including those prepared by Rajappan & Meyer Consulting Engineers 2007 *Lake Merritt conveyance capacity 1826-1827 Hydraulic modeling prepared for the City of Oakland 17 January*.

5

The District appreciates the opportunity to provide comments on the EIR and supports the overall goal of improving Lake Merritt and its environs. This comment letter is being sent electronically and by US Postal Services.

Yours truly,



Kwablah Attigbe,  
Environmental Services Supervisor

KA

## LETTER A3

**Alameda County Flood Control and Water Conservation District  
County of Alameda Public Works Agency  
Kwablah Attiogbe, Environmental Services Supervisor  
September 10, 2007**

Response A3-1: The comment states that the reconstruction and construction of retaining walls along the shore of Lake Merritt could potentially impact the integrity of the Alameda County Flood Control and Water Conservation District's underground culverts that outfall at Lake Merritt. The comment seeks assurance that these facilities will not be damaged during project construction activities. Implementation of the City's Uniformly Applied Development Standard Conditions of Approval for the project will ensure that District facilities are not be damaged.

The City's Conditions of Approval are incorporated as part of the project as explained on page 64 and 65 of the Draft EIR. Condition 75, provided on page 257 of the Draft EIR, requires that the City obtain all necessary regulatory permits and authorization from the District prior to construction and comply with all conditions issued by the District. Issuance of permits and compliance with the District's conditions will ensure that the District's facilities are not damaged. The last paragraph on page 261 of the Draft EIR is revised as follows to clarify this point:

Substantial quantities of new impervious surfaces, which could increase runoff rates and velocities (and potentially flooding), would not be created by Measure DD project components. The integrity and function of existing flood control and stormwater conveyance facilities operated by the Alameda County Flood Control and Water Conservation District, such as stormwater outfalls at Lake Merritt, would be ensured by obtaining permits and authorizations from the District prior to construction as required by Condition of Approval 75. ~~Construction of housing is not a proposed element of the project, and no new residential development would be subject to flooding.~~ Therefore, no substantial impact related flood hazard or redirection of flood water would occur with the proposed Measure DD components.

Response A3-2: The comment states that for the 7<sup>th</sup> Street Pump Station significant issues requiring mitigation were not adequately addressed in the Draft EIR. The comment identifies concerns that the new bypass channel at the 7<sup>th</sup> Street Pump Station could potentially change the hydrology of the pump station thereby affecting the safety and flood control functions of the pump station. The comment also requests clarification of how water levels would be maintained to support boat traffic.

The proposed modifications to the 7<sup>th</sup> Street Pump Station and Lake Merritt Channel are described on pages 35 and 36 of the Draft EIR. As noted therein, the 7<sup>th</sup> Street project components have been designed to the conceptual stage. The environmental analysis of the Draft EIR relied on studies prepared for this early stage of project development, including the hydraulic analyses cited on pages 261

and 263 of the Draft EIR. The studies, the hydraulic model of the Channel, and the conceptual designs were developed in close cooperation with Alameda County Public Works staff, including their hydrologist, design engineers, and operations staff. The studies conclude that the proposed modifications to the Lake Merritt Channel would improve flood control and safety. Therefore, no mitigation is recommended for these issues. Also refer to Response to Comment A2-2 for revised text that explains how the flood gate in the bypass channel would function.

Additional designs for the bypass of the 7<sup>th</sup> Street Pump Station are required and will be prepared before the project can be permitted and constructed. As required by Condition of Approval 75, structures within the floodplain or floodway, such as the 7<sup>th</sup> Street Pump Station, are subject to the regulatory permits and authorizations from the District. Compliance with the District's requirements would ensure that the flood control functions of the pump station are not adversely affected by the project. These studies would also be used to determine how water levels would be maintained for recreational boaters so as not to interfere with the flood control function of the pump station. To clarify that this process is required as part of the project, the text of the EIR is revised on pages 263 and 264 as follows:

These three components are designed to improve tidal exchange between Lake Merritt and San Francisco Bay by clearing and broadening the channel to approximately 100 feet at the outlet from Lake Merritt and at 10<sup>th</sup> Street. New clear-span bridges would be constructed after removal of existing culverts under 12<sup>th</sup> and 10<sup>th</sup> streets, ~~and by reconfiguring the channel at 7<sup>th</sup> Street~~. The proposed changes would result in approximately doubling the flow rate through the Lake Merritt Channel in this area.<sup>50, 51</sup> These components are also intended to improve pedestrian and bicycle circulation in the area of the Channel, and along with other components, enhance and improve the environment of Lake Merritt and surrounding parks. Redesign of the Channel at the Lake Merritt Flood Control Station at 7<sup>th</sup> Street is at the conceptual design stage. As noted previously, hydraulic studies conducted at this stage of project development indicate that the proposed changes to the Lake Merritt Channel would help alleviate flooding conditions. Nevertheless, as required by Condition of Approval 75 this project component would be required to obtain all necessary permits and authorizations from the Alameda County Flood Control and Water Conservation District prior to construction to ensure that the operation of the flood control facilities at 7<sup>th</sup> Street would not be adversely affected by the proposed action. Topics of wildlife, aquatic life, vegetation, landscaping, creek restoration, U.S. Army Corps of Engineers Section 404 (filling and grading in wetlands) permitting, California Department of Fish and Game Section 1604 – Streambed Alteration Agreements, and San Francisco Bay Conservation and Development Commission (BCDC) requirements are addressed in the Biological Resources section of this DEIR.

Response A3-3: The comment incorrectly states that potential flooding impacts associated with the City-Wide Creek Restoration, Preservation and Acquisition Group have not been addressed in the Draft EIR. Flooding issues associated with all project components, including creek restoration, preservation and acquisition activities, are analyzed on page 261 of the Draft EIR. As noted therein, activities associated with the City-wide Creeks group of projects are intended, in part, to reduce flooding. In addition, the project incorporates numerous Conditions of Approval, as described on pages 253 to 257 of the Draft EIR, to ensure that project activities, including creek

restorations, will not create significant flooding impacts. Thus, the Draft EIR concludes that potential flooding impacts are less than significant.

The comment also requests that the City coordinate with the District's staff if creek restoration or improvement activities would affect District facilities. The studies, the hydraulic model of the Channel, and the conceptual designs upon which the analysis in the Draft EIR is based were developed in close cooperation with Alameda County Public Works staff, including their hydrologist, design engineers, and operations staff. The City will continue to coordinate with District staff during the permitting and authorization process as required by Condition of Approval 75, which is included as part of the project.

Response A3-4: The comment incorrectly states that the Draft EIR relies on local and State regulations to address the presence of hazardous compounds that may be encountered during construction. It also expresses concern that disturbance of contamination in Lake Merritt Channel could adversely affect wildlife in Lake Merritt and states that mitigation is required.

Several Conditions of Approval, which go beyond regulatory requirements, are identified on pages 298 and 299 of the Draft EIR. Conditions of Approval 50 and 52, for example, require the preparation of Phase I and Phase II studies and remedial actions, as necessary, conducted in consultation with local, State and federal environmental regulatory agencies. These Conditions of Approval are included as part of the project, as noted on pages 64 and 65 of the Draft EIR, and would reduce potential impacts associated with hazardous compounds in soil or other environmental media. Implementation of these measures would ensure that project activities do not adversely affect water quality and wildlife resources at Lake Merritt.

Response A3-5: The comment requests copies of the technical studies for the 7<sup>th</sup> Street bypass channel concept. The studies are part of the administrative record for the project, which is available at the City of Oakland, Community and Economic Development Agency, Planning and Zoning Division, 250 Frank H. Ogawa Plaza, Suite 3315. The City has provided copies of the documents to the District as part of the earlier cooperative design process.





August 28, 2007

Elois A. Thornton, Planner IV  
City of Oakland  
Community and Economic Planning Agency  
250 Frank H. Ogawa Plaza, Suite 3315  
Oakland, CA 94612

Re: Draft Environmental Impact Report for the City of Oakland Measure DD  
Implementation Project

Dear Ms. Thornton:

East Bay Municipal Utility District (EBMUD) appreciates the opportunity to comment on the Draft Environmental Impact Report (EIR) for the City of Oakland Measure DD Implementation Project. EBMUD has the following comments.

#### **WATER SERVICE**

EBMUD's Central and Pressure Zone, with a service elevation range of 0 to 100 feet, and Aqueduct Pressure Zone, with a service elevation range of 100 to 200 feet, serve the area incorporated in the Measure DD Project. When the development plans are finalized, the project sponsor should contact EBMUD's New Business Office and request a water service estimate to determine the costs and conditions of providing water service to the project. Engineering and installation of water mains and services requires substantial lead time, which should be provided for in the project sponsor's development schedule.

1

Since several of the proposed project areas have a potential to contain contaminated soil and/or groundwater, the project sponsor should be aware that EBMUD will not install piping or services in contaminated soil or groundwater (if groundwater is present at any time during the year at the depth piping is to be installed) that must be handled as a hazardous waste, or that may be hazardous to the health and safety of construction and maintenance personnel wearing Level D personal protective equipment. EBMUD will not install piping or services in areas where groundwater contaminant concentrations exceed specified limits for discharge to the sanitary sewer system and sewage treatment plants.

2

The project sponsor must submit copies to EBMUD of all known information regarding soil and groundwater quality within or adjacent to the project boundary and a legally sufficient, complete and specific written remediation plan establishing the methodology, planning and design of all necessary systems for the removal, treatment, and disposal of contaminated soil and groundwater. EBMUD will not design piping or services until

Elois A. Thornton, Planner IV  
August 28, 2007  
Page 2

soil and groundwater quality data and remediation plans have been received and reviewed, and will not start underground work until remediation has been carried out and documentation of the effectiveness of the remediation has been received and reviewed. If no soil or groundwater quality data exists, or the information supplied by the project sponsor is insufficient, EBMUD may require the project sponsor to perform sampling and analysis to characterize the soil and groundwater that may be encountered during excavation or EBMUD may perform such sampling and analysis at the project sponsor's expense. If evidence of contamination is discovered during EBMUD work on the project site, work may be suspended until such contamination is adequately characterized and remediated to EBMUD standards.

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cont.

## WASTEWATER

On page 325, second paragraph, please delete the sentences stating, "This wastewater would be accommodated by the MWWTP, which is currently operating at 48 percent of its secondary treatment capacity. The increase in wastewater generated by these projects is not substantial in the context of the entire volume of wastewater process by EBMUD's Main Wastewater Treatment Plant." While there is available capacity during dry weather, this volume is meant to ensure adequate capacity during wet weather events. The phrasing in the Draft EIR incorrectly implies that EBMUD does not fully utilize the available capacity.

3

EBMUD's Main Wastewater Treatment Plant is anticipated to have adequate dry weather capacity to treat the proposed wastewater flow from this project, provided this wastewater meets the standards of EBMUD's Environmental Services Division. However, the City of Oakland's Infiltration/Inflow (I/I) Correction Program set a maximum allowable peak wastewater flow from each subbasin within the City and EBMUD agreed to design and construct wet weather conveyance and treatment facilities to accommodate these flows. EBMUD prohibits discharge of wastewater flows above the allocated peak flow for a subbasin because conveyance and treatment capacity for wet weather flows may be adversely impacted by flows above this agreed limit.

## WATER CONSERVATION

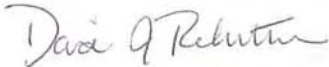
The proposed project presents an opportunity to incorporate water conservation measures. EBMUD would request that the City of Oakland include in its conditions of approval a requirement that the project sponsor comply with the Landscape Water Conservation Section, Article 10 of Chapter 7 of the Oakland Municipal Code. EBMUD staff would appreciate the opportunity to meet with the project sponsor to discuss water conservation programs and best management practices applicable to the integrated projects. A key objective of this discussion will be to explore timely opportunities to expand water conservation via early consideration of EBMUD's conservation programs and best management practices applicable to the project.

4

Elois A. Thornton, Planner IV  
August 28, 2007  
Page 3

If you have any questions concerning this response, please contact David J. Rehnstrom,  
Senior Civil Engineer, Water Service Planning at (510) 287-1365.

Sincerely,



*For* William R. Kirkpatrick  
Manager of Water Distribution Planning

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sb07\_217.doc



## **LETTER A4**

### **East Bay Municipal Utility District (EBMUD)**

**William Kirkpatrick, Manager of Water Distribution Planning**

**August 28, 2007**

Response A4-1: The comment states that the City should coordinate with EBMUD as the project plans are finalized to determine the costs and conditions of providing water service to the project. The comment is noted.

Response A4-2: The comment states that evidence of remediation of known contamination or information to confirm the absence of contamination must be provided to EBMUD before the district will design or install pipelines for the project in potentially contaminated areas. The City's Standard Condition of Approval 50: Phase I and/or Phase II Reports and Standard Condition of Approval 52: Environmental Site Assessment Reports Remediation are included as part of the project as noted on page 303 of the Draft EIR. These Conditions of Approval require the completion of an environmental investigation and remedial action prior to the initiation of ground-disturbing activities within the project site. Implementation of the Conditions of Approval would ensure that EBMUD workers or other construction personnel would not face health risks from soil or groundwater contamination during the installation of water or sewer lines. Data on soil and groundwater contamination with the Project site will be submitted to EBMUD prior to the installation of utility lines.

Response A4-3: The comment states that the Draft EIR mischaracterizes EBMUD's utilization of its available treatment capacity and recommends deletion of text to correct the error. The comment also notes that the City and EMBUD have agreed to design and construct wet weather conveyance and treatment facilities to accommodate the wastewater flows set forth in the City's Infiltration/Inflow (I/I) Correction Program. The comments are noted and the City agrees to make the recommended change. The comments and the recommended change to the text do not alter the analysis or conclusions of the Draft EIR. The second paragraph on page 325 of the Draft EIR is revised as follows:

Wastewater generated by the Measure DD Implementation Project components represents less than 0.1 percent of the MWWTP's secondary treatment capacity. ~~This wastewater would be accommodated by the MWWTP, which is currently operating at 48 percent of its secondary treatment capacity. The increase in wastewater generated by these projects is not substantial in the context of the entire volume of wastewater processed by EBMUD's Main Wastewater Treatment Plant.~~ EBMUD has sufficient capacity to treat wastewater flows from the projects during dry weather<sup>19</sup> and would not require or result in construction of new wastewater treatment facilities or expansion of existing facilities, construction of which could cause significant environmental effects.

Response A4-4: EBMUD requests that the City include water conservation measures in its Conditions of Approval for the project in accordance with the Landscape Water Conservation Section of the City's Municipal Code and that the City meet with EBMUD to discuss water conservation programs and best management practices. The comment is noted and will be considered by the City of Oakland decision-makers during review of the merits of the project.



September 5, 2007

City of Oakland  
CEDA Planning Division  
Attn: Elois A. Thornton  
250 Frank H. Ogawa Plaza, Suite 3315  
Oakland, CA 94612

**RE: EAST BAY REGIONAL PARK DISTRICT COMMENTS ON THE DEIR  
PREPARED FOR THE MEASURE DD IMPLEMENTATION PROJECT**

Dear Ms. Thornton:

Thank you for providing East Bay Regional Park District with a copy of the Draft Environmental Impact Report for the Measure DD Implementation Project. The District currently maintains and operates Martin Luther King Jr. Regional Shoreline where a segment of the San Francisco (SF) Bay Trail spans from just south of the Hanson Aggregate property to 66<sup>th</sup> Avenue. Currently under construction at the northern portion of the Shoreline, between East Creek Point and the Hanson Aggregate property, is an improved segment of the Bay Trail, landscaping, picnic areas, a wildlife observation/fishing pier, a service yard, paved entry road, parking lot and other appurtenant facilities necessary to serve these improvements. A portion of this area will be leased by the Oakland Strokes rowing club for the construction and operation of new boating and security facilities for the club.

The District has identified as a priority in its adopted Master Plan the completion of missing sections of the SF Bay Trail and is pleased that the "Waterfront Trail and Access Improvements" (Group 2) component of the Measure DD implementation project is intended to connect Martin Luther King Jr. Regional Shoreline to Estuary Park and Jack London square via the SF Bay Trail. With more than 1,000 miles of trail within Alameda and Contra Costa County, the District has extensive knowledge and expertise in trail design, maintenance and operation. Recognizing the District's interest in the successful completion of Oakland's waterfront trail and the project's compatibility with the District's existing facilities at Martin Luther King Jr. Regional Shoreline and plans for expansion of the SF Bay Trail, the District believes a coordinated effort between the City and the District is essential for the success of the project. From reviewing the project description in the DEIR, it appears that details are yet to be worked out for the final trail design, alignment, and trail maintenance/

1

Board of Directors

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operation. The District requests that the City coordinate these details with the District as the project proceeds to design stages of development. The District's comments on the DEIR are related to these concerns and are as follows:

1  
cont.

#### Trail Design Specifications:

The DEIR does not provide sufficient detail for the design of the proposed trails to determine compatibility with existing segments of the Bay Trail (DEIR, P-52). In the absence of detailed design specifications for each new segment of trail, there could be a potential design conflict between the proposed future trails and their connections with existing trails. Acknowledging that these details cannot necessarily be worked out in the DEIR, to avoid this potential conflict, the District recommends that the City set forth design standards in the DEIR that will ensure trail design compatibility with existing trail specifications of the District and Bay Trail. The DEIR acknowledges that intergovernmental coordination for open space planning with East Bay Regional Park District is an adopted policy under the City's Open Space, Conservation and Recreation (OSCAR) General Plan Element (OSCAR, Policy OS-6.1). The District's trail details and Bay Trail Design Guidelines would be appropriate design standards to reference to ensure the compatibility of the future trail with existing trails. Coordination with the District on the final design of these trail segments will also ensure compatibility of the new segments of trail with existing trails. To facilitate this coordination, the City should engage the District early in the trail development and design process and submit plans for review by the District prior to commencing construction.

2

#### Continuous Bay Trail:

Acquisition of land and construction of trail segments to complete the SF Bay Trail along the Oakland Estuary and establishment of a continuous waterfront parkway are identified as project objectives (DEIR page 25). Figures III-10a and III-10b which are meant to show the project area for waterfront trail and access improvements (Group 2 projects), do not show a continuous path resulting from completion of the project. Specifically, there appears to be gaps between:

- 1) Livingston Pier to the Cryer Site;
- 2) Park Street Bridge to Derby Avenue;
- 3) US Audio/Capture Technologies to High Street Bridge;
- 4) Gallagher & Burk/Hanson Aggregate to East Creek point.

3

In order to demonstrate that the project is consistent with the project objectives, the EIR should include a graphical exhibit / map that shows how the project will result in a continuous waterfront parkway. The graphic should provide sufficient detail to inform the public of the type of trail (Class I, II or III) and note whether it is existing or part of the proposed project. Known gaps in the trail should be identified so as to not confuse the public as to where future segments of the Bay Trail are still missing.



Hanson Aggregate Interim Connection:

The District currently operates and maintains the segment of the SF Bay Trail located south of the Hanson Aggregate property to 66<sup>th</sup> Avenue / Martin Luther King Jr. Regional Shoreline and previously commented on the Notice of Preparation for the project that it was exploring the possibility of a non-motorized bicycle and pedestrian route connecting the Bay Trail to High Street via Tidewater Avenue. The District is still exploring this as an option for the interim alignment of the SF Bay Trail.

The District supports Oakland's efforts in continuing the Bay Trail along the shoreline at the Gallagher & Burk/Hanson Aggregate trail segment. Recognizing this alignment may not be feasible in the short term, the District would like to see the Tidewater Avenue alignment considered as an interim route for the continuation of the SF Bay Trail northward as briefly mentioned in the project description (DEIR p. 57) and alternatives analysis (DEIR p. 359) of the DEIR. The final alignment for this trail segment will require a trail configuration which does not adversely affect operations of the Gallagher & Burk/Hanson Aggregate facility.

4

Trail Maintenance:

Expansion of trails and enhancement of facilities will result in more intense use by the public versus pre-project conditions even though the project will not directly cause an increase in population. Trail user safety issues arising from poorly maintained trails are foreseeable indirect impacts of the park/trail expansion and should be a factor in evaluating applicable policies adopted by the City for ensuring that parks are adequately maintained for the safety of its users. Foreseeable hazards may include the presence of loose gravel & fallen debris; cracks; potholes; rough surfaces; flooding/drainage issues; lifting/sinking of trail surfaces; overgrown vegetation constraining the width of the trail & obstructing site visibility; and vandalized/broken bollards & security gates/fencing allowing for vehicular access to the trail.

The City's Open Space Conservation and Recreation (OSCAR) element of the General Plan identifies policies and action items that, if implemented, would ensure that parklands/trails are properly maintained. Implementation of these policies and action items would ensure that the new park/trail improvements will not deteriorate over the life of the project and pose a safety hazard to users. The City has adopted the following policies for the purpose of ensuring public safety for users of the Parks/Trail facilities, and for this reason, the District believes are relevant in the DEIR's analysis of applicable policies:

5

1. Action REC-1.5.1: Adoption of a citywide park plan (OSCAR p. 4-32) - *A Parks and Recreation Master Plan is needed to guide decisions regarding the delivery of services and programs, and the expenditure of funds for operations, maintenance, and capital improvements.*
2. Policy REC – 4.1: Systematic Maintenance Provisions (OSCAR p. 4-46) - *Provide for ongoing, systematic maintenance of all parks and recreational facilities to prevent*

*deterioration, ensure public safety, and permit continued public use and enjoyment. Routine maintenance needs should be evaluated on a regular basis. Parks which receive very heavy use should receive more frequent maintenance than those with lesser use.*

3. Action REC-4.1.1: Priority on maintenance - *Establish an annual budgeting process within the Office of Parks and Recreation which assigns a very high priority to park maintenance.*
4. Action REC-4.1.2: Improvements which reduce maintenance costs - *Undertake improvements and upgrades at Oakland parks which reduce annual maintenance costs. Physical hazards arising on trails and park facilities are typically a result of deferred maintenance which is directly tied to City funding/resource allocation.*

5  
cont.

The above policies, if properly implemented, would address any indirect physical change in the environment that may occur from the project with respect to trail hazards resulting from deferred maintenance of the proposed improvements. The DEIR should give the status of the implementation of these policies/actions and using these policies, provide for long-term funding for maintenance of the trails to avoid potential hazards to trail users. This will help the DEIR provide information to the public to enable it to understand and evaluate potential indirect environmental impacts associated with insufficient levels of service for maintenance of the new facilities.

The District is pleased that the City of Oakland shares in its vision to close the gaps in the SF Bay Trail along the Oakland shoreline and looks forward to working cooperatively with the City on making this project a success. Thank you for the opportunity to review and comment on the DEIR and the City's consideration of the District's comments. If you have any questions or comments, please contact me at (510) 544-2627.

6

Sincerely,



Chris Barton  
Senior Planner  
Environmental Review/GIS Department

cc: Brad Olson, Environmental Programs Manager  
Jim Townsend, Trails Program Development Manager



**Letter A5**  
**East Bay Regional Park District**  
**Chris Barton, Senior Planner**  
**September 5, 2007**

Response A5-1: This introductory statement to the Park District's comment letter identifies the District's interest in the proposed Waterfront Trail component of the Measure DD Implementation Project. The Park District requests that the City coordinate these details with the District as the project proceeds to design stages of development. The comment is noted.

Response A5-2: The comment requests that the District's trail details and Bay Trail Design Guidelines be used as design standards to ensure compatibility of the future trail with existing trails. The comment also notes that the City has an adopted policy in its Open Space, Conservation and Recreation (OSCAR) General Plan Element that encourages intergovernmental coordination for open space planning with the Park District. The comments regarding design criteria and intergovernmental coordination do not address the Draft EIR's environmental analysis or identify a new impact of the project. These comments will be considered by City of Oakland decision-makers during review of the merits of the project.

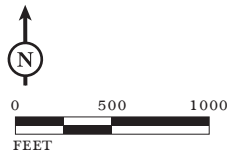
Response A5-3: As the comment notes, the purpose of the figures is to show the project area for the Waterfront Trail Group of the Measure DD Implementation Project. The "gaps" between the project areas are either complete or will be completed by others. The segment of trail between the Lake Merritt Channel and the 10<sup>th</sup> Avenue Marina is the only incomplete portion of the trail outside of the project area. It will be completed as part of the Oak to 9<sup>th</sup> Project, as shown on Figure III-10a. The trail is already complete at the other locations cited by the comment, that is, from the Livingston Pier to the Cryer Site, from the Park Street Bridge to Derby Avenue, from U.S. Audio Technologies to High Street and from the Gallagher & Burk/Hanson Aggregate property to 66<sup>th</sup> Avenue. The text of the Draft EIR is revised to clarify the status of the various segments of the Waterfront Trail outside of the limits for the Measure DD Implementation Project. Figures III-10a and III-10b are revised as shown on the following pages. The text on page 52 of the Draft EIR is revised as follows:

**a. General Trail Characteristics.** Most of the 6.6 miles of trail would be paved with asphalt or concrete, with minimal grading so as to minimize disturbance of the ground surface. At some locations, invasive exotic plants, such as *Spartina*, would be removed if present along the shoreline. Control measures for *Spartina* would include those approved by the San Francisco Estuary Invasive Spartina Project. Some portions of the existing Bay Trail between Jack London Square and 66<sup>th</sup> Avenue may be repaired to fix broken pavement, lighting, or signage. The trail would vary from a minimum 12-foot-wide combined use trail where space is constrained to a pair of bike and pedestrian signage would be installed along the trail.





LSA



LEGEND

- PROJECT AREA FOR WATERFRONT TRAIL GROUP
- PORTION OF WATERFRONT TRAIL TO BE COMPLETED BY OTHERS
- SEGMENT OF WATERFRONT TRAIL THAT IS COMPLETE

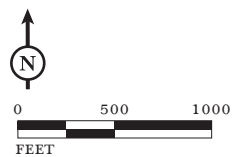
FIGURE III-10a

*Oakland Measure DD*  
Waterfront Trail North





LSA



LEGEND

- - - PROJECT AREA FOR WATERFRONT TRAIL GROUP
- \_ \_ \_ PORTION OF WATERFRONT TRAIL TO BE COMPLETED BY OTHERS
- \_ \_ \_ SEGMENT OF WATERFRONT TRAIL THAT IS COMPLETE

SOURCE: GOOGLE EARTH; LSA ASSOCIATES, INC., 2006  
 I:\RAJ0606 measure dd\RTC\RTC Figures\Fig\_III10b.ai (11/5/07)

FIGURE III-10b

*Oakland Measure DD*  
 Waterfront Trail South



Some segments of the trail are already complete or will be completed as part of other projects. These segments include:

- Lake Merritt Channel to 10<sup>th</sup> Avenue Marina – segment will be completed as part of the Oak to 9<sup>th</sup> Project.
- Livingston Pier to Cryer Site – trail segment is complete
- Park Street Bridge to Derby Avenue – trail segment is complete
- U.S. Audio Technologies to High Street – trail segment is complete
- Gallagher & Burk/Hanson Aggregate to 66<sup>th</sup> Avenue Gateway – trail segment is complete, except for the northern-most portion

Response A5-4: The comment expresses support for completion of a portion of the Waterfront Trail in the vicinity of the Gallagher & Burk/Hanson Aggregate facility, either as described in the project description or, as an interim measure along Tidewater Avenue as described in the alternatives analysis. The comment is noted and will be considered by City of Oakland decision-makers during review of the merits of the project.

Response A5-5: Section B, Planning Policy, of the Draft EIR discusses how goals and policies from the City's General Plan are considered during the environmental review of the project. Goals related to recreation are presented in this section of the Draft EIR on page 93; relevant policies are presented in Appendix D.

The comment is correct in that the project would result in more intense use of trails by the public than the pre-project condition and that implementation of the City's policy for maintaining parks and recreational facilities would address any indirect physical change in the environment that may occur from the project with respect to trail hazards resulting from deferred maintenance. The project is not in conflict with this policy. Although the Measure DD funds would not be used for ongoing repair and maintenance, some funds would be used for renovating existing trails and other recreational facilities, which would reduce the need for maintenance in these areas over the short and mid-term. Future maintenance funds would be derived from the City's general fund and the Landscape Lighting and Assessment District.

As recommended by the comment, the text of the EIR is revised as follows to include the policy from the City's Open Space Conservation and Recreation (OSCAR) General Plan Element with regards to maintenance:

<u>Policy Rec-4.1</u>	<b><u>Systematic Maintenance Provisions.</u></b> Provide for ongoing, systematic maintenance of all parks and recreational facilities to prevent deterioration, ensure public safety, and permit continued public use and enjoyment. Routine maintenance needs should be evaluate on a regular basis. Parks which receive very heavy use should receive more frequent maintenance than those with less use.	<u>Lake Merritt and Lake Merritt Channel:</u> The project provides funding to renovate the Boathouse, Pergola, 18 <sup>th</sup> Street Pie, which are consistent with the long-term upkeep of parks and recreational facilities. <u>Waterfront Trail:</u> The project provides funding to renovate existing trails as well as to construct new trails. <u>Recreational Facilities:</u> The project provides funding to renovate Studio One. <u>City-wide Creeks:</u> N.A.
-----------------------	---	--

Consistency with the many goals and policies in the City’s General Plan will be considered by the City of Oakland decision-makers during review of the merits of the project.

Response A5-6: The comment states that the Park District supports the City’s vision to close gaps in the Waterfront Trail. The District’s support for this element of the project is appreciated and will be considered by City of Oakland decision-makers during review of the merits of the project.

**DEPARTMENT OF TRANSPORTATION**

111 GRAND AVENUE  
P. O. BOX 23660  
OAKLAND, CA 94623-0660  
PHONE (510) 286-5505  
FAX (510) 286-5559  
TTY 711



*Flex your power!  
Be energy efficient!*

September 10, 2007

Ms. Elois A. Thornton  
City of Oakland  
Community and Economic Development Agency  
250 Frank H. Ogawa Plaza, Suite 3315  
Oakland, CA 94612

ALA000223  
SCH#2006122048

Dear Ms. Thornton:

**Case No. ER 06-0017: Measure DD Implementation Project – Draft Environmental Impact Report**

Thank you for continuing to include the California Department of Transportation (Department) in the environmental review for the proposed project. The comments presented below are based on the Draft Environmental Impact Report (DEIR) for the project referenced above.

1

The Department on behalf of Union Pacific Railroad is proposing to relocate one of the existing railroad bridges over the Lake Merritt Channel. This relocation is proposed to replace the rail capacity that will be impacted by a proposed nearby freeway project.

***Traffic Impact Analysis***

The document did not include a Traffic Impact Analysis or supporting technical documentation for project trips; thus we are unable to verify traffic conditions discussed in the DEIR. It is unclear how much traffic would be generated or distributed, and to which streets, and how much this traffic would contribute to the cumulative impact. The reconfiguration of local streets has significant impacts to ramp intersections regardless of trip generation.

2

We are concerned about the designation as "significant and unavoidable" for the impacts of Group 1 (Pages 137, 138, Impacts TRANS-5 through TRANS-9). The intersections named are either ramp intersections or adjacent intersections. The cost to widen these intersections and/or acquire right-of-way (ROW) should be considered since there are other significant projects included in the "cumulative plus project conditions" that should also be able to contribute fair share funds to mitigate these impacts.

3

Given the significant impact at the 7th Street and Oak Street intersection, we are also concerned about the ramp intersections at 6th Street and 5th Street. The impact to these intersections should be analyzed.

4



Ms. Elois A. Thornton  
September 10, 2007  
Page 2

The proposed sports complex will be located adjacent to Interstate 880 and the 98th Avenue interchange; what is the impact to the ramps and intersections?

5

***Cultural Resources***

The Cultural Resources section in the DEIR is well done and satisfies environmental compliance for cultural resources within state ROW. However, if construction activities take place within State ROW during this project and there is an inadvertent archaeological discovery, the Department's Office of Cultural Resource Studies shall be immediately contacted at (510) 286-5618. A staff archaeologist will evaluate the finds within one business day after contact.

6

***Encroachment Permit***

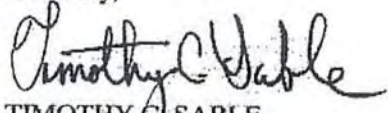
Any work or traffic control within the State ROW requires an encroachment permit that is issued by the Department. Traffic-related mitigation measures will be incorporated into the construction plans during the encroachment permit process. See the following website link for more information: <http://www.dot.ca.gov/hq/traffops/developserv/permits/>

To apply for an encroachment permit, submit a completed encroachment permit application, environmental documentation, and five (5) sets of plans which clearly indicate State ROW to the address at the top of this letterhead, marked ATTN: Michael Condie, Mail Stop #5E.

7

Should you have any questions regarding this letter, please call Lisa Carboni at (510) 622-5491.

Sincerely,



TIMOTHY C SABLE  
District Branch Chief  
IGR/CEQA

c: State Clearinghouse

**Letter A6**  
**California Department of Transportation (Caltrans)**  
**Timothy Sable, District Branch Chief**  
**September 10, 2007**

Response A6-1: The comment regarding the California Department of Transportation's (Caltrans) proposed replacement of the Union Pacific Railroad (UPRR) bridges over the Lake Merritt Channel as part of a proposed nearby freeway project does not raise a specific issue regarding the environmental analysis in the Draft EIR so no further response is provided.

Response A6-2: The comment states that the document did not include a Traffic Impact Analysis or supporting technical documentation for project trips. Only the Recreational Facilities (Group 3) element of the project would generate automobile travel in the traditional sense. Trip generation for Group 3 is shown in Table IV.C-9 on page 143 of the DEIR. The number of auto trips for Group 3 was calculated for AM and PM peak weekday conditions and for Saturday peak conditions. Because of the characteristics of Group 1 and Group 2 elements of the project, no analysis of trip generation was required to provide a traffic impact analysis.

The Lake Merritt and Lake Merritt Channel (Group 1) element of the proposed project would affect transportation systems as a result of the changes proposed in travel lanes and roadway geometry around Lake Merritt. Group 1 was evaluated by comparing the results produced by the Alameda Countywide Travel Demand Model for the existing roadway configuration against the proposed changes in the roadway configuration. No-project traffic volumes were modified to account for the changes in traffic patterns predicted by the travel demand model. A quantitative traffic impact analysis resulting from the changes in traffic patterns associated with Group 1 components is documented in the Draft EIR on pages 122 through 140.

The Oakland Waterfront Trail and Access (Group 2) would close gaps along the San Francisco Bay Trail between Jack London Square and 66th Avenue in East Oakland and would not affect traffic operations on other transportation systems. Group 2 is not expected to change automobile travel demand but required the assessment of potential impacts on transportation systems where the trail may cross existing streets. A qualitative evaluation of Group 2 impacts was documented on pages 140 to 141.

In response to the comment that it is unclear how much traffic would contribute to the cumulative impact, all traffic volumes for cumulative conditions with and without the Group 1 element of the project are documented in Appendix E and the contribution to the cumulative impact is provided on pages 133 through 140.

In response to the comment that the reconfiguration of local streets has significant impacts to ramp intersections regardless of trip generation, the impacts of the Group 1 element of the project on ramp intersections was disclosed by the analysis of the following intersections, which are all connected to I-580 ramps:

- Santa Clara Avenue / Grand Avenue
- Macarthur Boulevard / Grand Avenue
- Lake Park Avenue / Lakeshore Avenue
- Macarthur Boulevard / Lakeshore Avenue

The traffic analysis in the Draft EIR concluded that traffic shifts caused by the proposed project would not significantly affect other freeway ramps.

Response A6-3: The comment incorrectly states that Impacts TRANS-5 through TRANS-9 were found to be significant and unavoidable. Impacts TRANS-5 through TRANS-7 were found to be significant and unavoidable; Impacts TRANS-8 and TRANS-9 were found to be significant but can be reduced to less-than-significant levels with the recommended mitigation measures. The comment states that the City should consider obtaining fair share funds from other projects that contribute to the impacts. The City is aware that other projects contribute to the impacts at the intersections and will pursue all appropriate methods of funding. The source(s) of project funding does not fall under the purview of CEQA and is not within the purview of this response document.

Response A6-4: Although the comment expresses concern that ramp intersections at 6<sup>th</sup> and 5<sup>th</sup> Streets (at I-880) might be significantly impacted, the analysis showed that traffic volumes on 7<sup>th</sup> Street south of Oak Street would not be affected (as shown by comparing the traffic volumes shown in Appendix E – Figures A.3 and A.4).

Response A6-5: In response to the question about the impact of the proposed sports complex to the ramps and intersections near I-880, the analysis was performed at a program level using the methods appropriate for a CMP analysis, as stated on page 143 of the Draft EIR. Roadway links on I-880 and local streets were evaluated and impacts were found to be less than significant. No intersection or ramp analysis was performed. The Draft EIR disclosed that I-880 would operate at LOS F during the peak hour but that the addition of sports complex traffic would not be significant. Similarly, the link level of analysis found that the sports complex would not have significant impacts on local streets.

Response A6-6: The comment provides contact information for Caltrans' Office of Cultural Resources in the event there is an archaeological discovery within State right of way during Measure DD Implementation Project construction activities. The City appreciates the contact information and will notify Caltrans as required when working within State right of way.

Response A6-7: The City will obtain necessary encroachment permits from Caltrans and appreciates the information describing Caltrans resources that are available to assist with the permit process.

STATE OF CALIFORNIA

Arnold Schwarzenegger, Governor

PUBLIC UTILITIES COMMISSION

505 VAN NESS AVENUE  
SAN FRANCISCO, CA 94102-3298



August 31, 2007

Elois Thornton  
City of Oakland  
250 Frank Ogawa Plaza, Suite 3315  
Oakland, CA 94612

RE: Measure DD Implementation Project, SCH# 2006122048

Dear Ms. Thornton:

There are some very serious problems that do need to be addressed regarding bicycle and pedestrian circulation in the vicinity of Lake Merritt channel near the UP tracks. The DEIR suggests that an at-grade crossing may be one alternative, however, UP and CPUC staff would adamantly oppose an at-grade crossing. Without a grade separated crossing near the channel, pedestrians and cyclists will most likely use the 5th Avenue at-grade railroad crossing, which is not designed to accommodate non-motorists, and even with significant upgrades would still be a hazardous location for pedestrian and bicycle traffic.

The above-mentioned safety improvements should be considered when approval is sought for the new development. Working with Commission staff early in the conceptual design phase will help improve the safety to motorists and pedestrians in the County.

If you have any questions in this matter, please call me at (415) 703-2795.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'Kevin Boles'.

Kevin Boles  
Environmental Specialist  
Rail Crossings Engineering Section  
Consumer Protection and Safety Division

cc: Terrel Anderson, Union Pacific Railroad

**Letter A7**

**California Public Utilities Commission (PUC)**

**Kevin Boles, Environmental Specialist**

**August 31, 2007**

Response A7-1: The comment states that the California Public Utilities Commission and the Union Pacific Railroad (UPRR) oppose an at-grade crossing of the UPRR tracks in the vicinity of the Lake Merritt Channel and that without a grade separated crossing at this location, pedestrians and cyclists would likely use the 5<sup>th</sup> Avenue crossing. The comment claims that the 5<sup>th</sup> Avenue crossing is hazardous and suggests a grade separated crossing near the channel or safety improvements at the 5<sup>th</sup> Avenue crossing. The proposed bicycle and pedestrian connections between I-880 and the Oakland Estuary are not part of the proposed project and no at-grade crossing in the vicinity of the Lake Merritt Channel is proposed. Streetscape improvements to 5<sup>th</sup> Avenue, not part of the Measure DD project, are in the initial planning stage, and could potentially include safety improvements at the existing at-grade crossing.

The trail along the Lake Merritt Channel currently ends south of the 7<sup>th</sup> Street Bridge and this would not change as part of the project. On the east side of the Channel the trail merges into the parking lot south of the Peralta College District offices; on the west side of the Channel, the trail passes under I-880 and connects to the dead end of 4<sup>th</sup> Street. Bicycle and pedestrian access to the estuary from the Downtown and Lake Merritt areas of Oakland would continue to be served by 5<sup>th</sup> Avenue, Oak Street (currently a bike route, Class 3), or other connections in the vicinity of Jack London Square. Both 5<sup>th</sup> Avenue and Oak Street are identified as proposed bike lanes (Class 2) in the City's proposed 2007 Bicycle Master Plan. The rail line crossings at these locations currently include safety features (i.e., automatic gates and flashing signals) and further improvements to the crossings (e.g., striped lanes and signage) would be included as part of other projects to upgrade these bicycle connections.

The Draft EIR acknowledges that several issues would need to be resolved before a crossing of the railroad tracks along the Lake Merritt Channel is implemented, including agreements with UPRR and the Public Utilities Commission. The resolution of improving trail connectivity in this area is not part of the Measure DD Implementation Project, as noted on page 129 of the Draft EIR. Completion of the trail connection along the channel would likely require subsequent environmental review once a project is defined. The City will work with UPRR and the Public Utilities Commission to ensure the safety of pedestrians and bicyclists should a new crossing of the UPRR tracks be proposed.

To clarify where the trail would end south of 7<sup>th</sup> Street, the text on pp. 35-36 of the Draft EIR is revised as follows:



As part of the Measure DD Implementation Project, the City proposes to widen the Channel, streambed, stream banks and upland areas between Lake Merritt and the Estuary by removing the 10<sup>th</sup> Street culvert and 12<sup>th</sup> Street culvert (discussed above) and grading the Channel's banks, thus creating additional areas of open water and tidal marsh as shown in Figure III-4. The bottom of the channel at 12<sup>th</sup> Street would be lowered. Shoreline improvements (e.g., pedestrian pathways and tidal marsh) along the channel between 12<sup>th</sup> Street and I-880 would be similar in design to those to the designs proposed for the 12<sup>th</sup> Street project component. The existing pedestrian bridge below 10<sup>th</sup> Street would be refurbished or replaced. At 7<sup>th</sup> Street, the pedestrian tunnel on the east side of the trail would be refurbished and the pedestrian tunnel on the west side would be relocated to allow construction of the new bypass channel. A new traffic signal and crosswalk across 7<sup>th</sup> Street is proposed. The 7<sup>th</sup> Street project component proposes the creation of a bypass channel to improve recreational access, as well as to allow large fish to once again enter the upper Lake Merritt Channel and Lake Merritt. The trail south of 7<sup>th</sup> Street would be refurbished but would otherwise remain unchanged. On the east side of the Channel the trail merges into the parking lot south of Peralta College District offices; on the west, the trail passes under I-880 and connects to the dead end of 4<sup>th</sup> Street.

The City ~~will is proposing to~~ remove some existing trees (approximately 58) along the channel as shown in Figure III-5. Invasive exotic plants, such as *Spartina*, would be removed if present along the shoreline and new intertidal and upland plantings consisting of native plants such as pickleweed (lower marsh areas), marsh gumplant, and salt grass (upper marsh areas and transitional zones characterized by native grasses), and shrubs and trees would be planted to restore the natural ecosystem of the Channel. Control measures for *Spartina* would include those approved by the San Francisco Estuary Invasive Spartina Project. The City also is proposing to install biofiltration basins to improve water quality. Typical construction activities would include clearing, grading, excavating, pile driving, and replanting of landscaping using various pieces of construction equipment and by hand labor. ~~This reconfiguration would include the continuation of pathways established as part of the 12<sup>th</sup> Street and 10<sup>th</sup> Street project components, the improvement of pedestrian tunnels under 7<sup>th</sup> Street, and the installation of a new traffic signal and crosswalk across 7<sup>th</sup> Street. The 7<sup>th</sup> Street project component proposes the creation of a bypass channel to improve recreational access, as well as to allow large fish to once again enter the upper Lake Merritt Channel and Lake Merritt.~~

From: Sulouff, David [David.H.Sulouff@uscg.mil]  
Sent: Friday, September 07, 2007 1:38 PM  
To: Thornton, Elois  
Subject: MEASURE DD, LAKE MERRITT & PROPOSED BAY TRAIL

Ms. Thornton:

We completed our preliminary review of the DEIR for the subject project. Proposed navigational impacts were not adequately addressed. When the applicant begins working with the Coast Guard for Bridge Permitting issues, the environmental document, as drafted, will be inadequate for our use.

1

Attached is a .pdf of our previous correspondence on the topic.

Thank you,  
David H. Sulouff  
Chief, Bridge Admin  
Eleventh Coast Guard District  
Bldg 50-2 Coast Guard Island  
Alameda, CA 94501  
(510) 437-3516

U.S. Department of  
Homeland Security

United States  
Coast Guard



Commander  
District Eleven

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Staff Symbol: (dpw)  
Phone: (510) 437-3516  
Fax: (510) 437-5836

16590  
Oak Inner Tidal Canal (5.6)  
January 16, 2007

City of Oakland  
Attn: Elois A. Thornton  
250 Frank Ogawa Plaza, Suite 3315  
Oakland, CA 94612

Dear Madam:

Please include the Coast Guard Bridge Office concerning the Measure DD Environmental Impact Report (EIR) Project, for all bridge related issues over existing or proposed navigable waters of the United States.

2

The General Bridge Act of 1946 requires that the location and plans for bridges over navigable waters of the United States be approved by the Commandant, U. S. Coast Guard prior to commencing construction. The Oakland Inner Tidal Canal and the Oakland-Alameda Estuary are considered to be navigable waterways of the United States for bridge administration purposes. Coast Guard Bridge permitting is subject to the National Environmental Policy Act.

3

Lake Merritt and the portion of Lake Merritt Channel upstream from the impoundment are presently not considered navigable for bridge permitting purposes. However, alteration of the waterway to allow vessels to navigate between the lake and the estuary would result in a change to the determination and existing or proposed bridges would become subject to Coast Guard Jurisdiction.

4

Applications for bridge permits should be addressed to Commander, Eleventh Coast Guard District, Bridge Section, Bldg 50-2, Coast Guard Island, Alameda, CA 94501. Applications are available on-line at: <http://www.uscg.mil/hq/g-o/g-opt/g-opt.htm>. The application must be supported by sufficient information to permit a thorough assessment of the impact of the bridges and their immediate approaches on navigation and the environment. We recommend discussing the proposed impacts of procedures for constructing, altering or demolishing bridges. The Environmental Impact Statement should also contain data on the number, size and types of vessels using or projected to use the waterway.

5

We appreciate the opportunity to comment on the project in this early stage. I can be contacted by telephone at (510) 437-3516 if additional information is needed.

Sincerely,

A handwritten signature in dark ink, appearing to read "D. Sulouff".

David H. Sulouff  
Chief, Bridge Section  
Eleventh Coast Guard District  
By direction of the District Commander

Copy: San Francisco Corps of Engineers  
CG Sector, San Francisco

**Letter A8**  
**United States Coast Guard**  
**David H. Sulouff, Chief, Bridge Section**  
**September 7, 2007**

Response A8-1: The City considered the project's design features and the operation of the bridges when determining whether the project would create a safety hazard or impede marine transportation. As noted on page 56 of the Draft EIR, to the extent feasible, the undercrossings of bridges along the Waterfront Trail would not extend beyond the existing pierhead line. The trail would remain as close to the existing bridge abutments as possible to ensure public safety and not impede navigation. Further, the bridge undercrossings would not impede marine transportation or create a significant safety hazard because to allow passage of marine vessels at High and Park streets, both the north and south ends of the bridges are raised, with marine vessels passing through the opening near the midpoint of the Tidal Canal. At Fruitvale Avenue, the south end (Alameda side) of the bridge is raised, with marine vessels passing through the opening south of the midpoint of the Tidal Canal. The proposed trail undercrossing would be beneath the fixed northern section (Oakland side) of the Fruitvale Bridge, which remains lowered during vessel passages. Thus, the City concludes that the proposed design of the bridge undercrossings would allow adequate room for the passage of marine vessels and would not create a safety hazard for pedestrians and bicyclists or impede marine shipping. See Photoplate 1 on the following page, which show the bridges in the open position during the passage of marine vessels.

However, the City recognizes that the U.S. Coast Guard and the shipping community have concerns about the potential safety and feasibility of the proposed under-bridge segments of the Waterfront Trail, particularly at the High Street and Park Street bridges, and that the U.S. Coast Guard has permitting authority in this area. For this reason, and others, the City proposes to pull the proposed boardwalk closer to the shore at the High Street and Park Street bridges, so that the channel is not narrowed any further. Also the City proposes an alternative to the project that does not include the passage of the Waterfront Trail beneath the bridges. That alternative is described and analyzed in Section V.F of the Draft EIR (pp. 356-359).

To clarify the City's conclusions regarding safety and shipping in the Oakland Channel the text on page 142 of the Draft EIR is revised as follows:

**Traffic and Maritime Hazards.** Implementation of the proposed project would result in the Bay Trail passing under the bridges. Therefore, the project would not result in any significant impacts related to traffic hazards as the trail would not conflict with vehicular circulation. To the extent feasible the proposed trail segments that would pass beneath the Park Street and High Street bridges would not extend further into the channel than the existing bridge fenders. At all bridges, trail segments would be kept as close to the shoreline as necessary to ensure public safety and not impede

**Photoplate 1: Barge Passage along the Oakland Inner Harbor Tidal Canal**



Alameda side

**Park Street Bridge**

Oakland side



Oakland side

**Fruitvale Bridge**

Alameda side



Alameda side

**High Street Bridge**

Oakland side

navigation. However, the U.S. Coast Guard and others have raised concerns about the potential safety and feasibility of a trail being constructed under the bridges, particularly the High Street and Park Street bridges. Recognizing that the U.S. Coast Guard has permitting authority in these areas, the City includes street-level crossings in these areas as part of the alternative for the Waterfront Trail Group, described in Section V.F, Waterfront Trail Surface Street Connection Alternative.

The comment also resubmits comments made when the Notice of Preparation was issued. While these comments are not specific to the Draft EIR, as they were submitted in advance of its publication, they are nevertheless addressed by Responses to Comments A8-2 through A8-5.

Response A8-2: Copies of the Draft EIR and the Notice of Availability were sent to Mr. Sulouff as part of the noticing process for the EIR. Refer also to Response to Comment B4-1.

Response A8-3: The comment regarding the permitting authority of the U.S. Coast Guard is noted. The City understands that the U.S. Coast Guard must comply with the requirements of the National Environmental Policy Act (NEPA) and will work with the U.S. Coast Guard to prepare the required documentation, as needed.

Response A8-4: The comment regarding the effect of the proposed action on the U.S. Coast Guard's jurisdiction over areas upstream of 7<sup>th</sup> Street is noted. As the comment does not relate to the environmental analysis within the Draft EIR so no further response is provided.

Response A8-5: The City appreciates the information provided in the comment for obtaining and completing U.S. Coast Guard bridge permit applications and the contents of the permit application and supporting NEPA documentation. The City will prepare the required applications and work with the U.S. Coast Guard to prepare NEPA documentation, as needed.



## **B. ORGANIZATIONS AND INDIVIDUALS**



## Golden Gate Audubon Society

2530 San Pablo Avenue, Suite G • Berkeley, California 94702  
Phone: (510) 843-2222 • Fax: (510) 843-5351 • Email: ggass@compuserve.com

Americans Committed to Conservation • A Chapter of the National Audubon Society

September 7, 2007

Elois Thornton, Planner IV  
Community and Economic Development Agency  
250 Frank Ogawa Pl., Ste. 3315  
Oakland, CA 94612

Re: Measure DD Project DEIR (Case No. ER 06-0017)

Dear Ms. Thornton:

This letter sets forth the comments of the Golden Gate Audubon Society (GGAS) on the above-referenced Draft Environmental Impact Report (DEIR). The GGAS is an environmental advocacy organization with members both in Oakland as well as throughout the larger Bay Area. One of the GGAS's principal purposes is the protection and enhancement of wildlife habitat for avian species, particularly migratory waterfowl.

The Lake Merritt/Lake Merritt Channel complex supports migratory waterfowl habitat of regional significance. The project that the City proposes to carry out with the support of Measure DD funding will in general enhance the natural resource and habitat values of the Lake Merritt aquatic system. Accordingly, as we stated in our letter dated January 4, 2007 (a copy of which is reproduced in Appendix C of the DEIR), which we submitted in response to the NOP for this environmental review, the GGAS is in general strongly supportive of the projects described in the DEIR.

In the GGAS's letter in response to the NOP, we identified two respects in which the projects described in the DEIR have the potential to degrade or otherwise have an adverse impact on the regionally significant waterfowl habitat that the Lake Merritt Channel (LMC) supports: 1) noise, movement of heavy construction equipment, and other construction-related disturbances associated with the implementation of proposed improvements at the 7<sup>th</sup>, 10<sup>th</sup> and 12<sup>th</sup> street crossings of the LMC, and 2) disturbance associated with the opening of the LMC to small boat traffic. We called upon the City to carefully evaluate these potential impacts and develop appropriate mitigation measures to minimize them.

We are pleased to see that in § IV.F.2.c(4) (p. 217) the DEIR proposes a mitigation measure (Impact BIO-4 (Group 1)) in the form a seasonal closure of the LMC to small boat traffic in order to minimize the adverse effects on the LMC's wildlife habitat that such traffic might otherwise cause. We recommend that the measure be clarified by specifying that the "small boat use" of the LMC that would be allowed

1

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during the non-migratory season is limited to nonmotorized use. With this clarification, we fully concur in this measure.

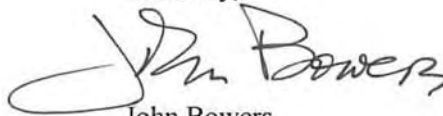
2  
cont.

However, we disagree with the reasons that the DEIR gives for its conclusion that construction-related impacts on the LMC's wildlife habitat are "less than significant." The DEIR correctly acknowledges that "construction activities at the LMC (e.g., grading, demolition of existing culverts, tree removal) during [the period when waterbirds are most abundant (approximately October through March)] would disturb waterbirds by causing them to fly away...." The DEIR further acknowledges that such disturbance "negatively affects wintering ducks by causing the expenditure of energy...that would otherwise be used for behaviors necessary for survival, such as resting or feeding." The DEIR's conclusion that such effects are "less-than-significant" because the affected wildlife can simply "relocate to nearby areas," is inconsistent not only with the DEIR's own analysis of the effects of human disturbance on waterfowl, but also with the "work window" for pile driving (Impact BIO-2 (Group 2)) that the DEIR recommends to avoid the adverse impacts that such activity would otherwise have on fish habitat in the Oakland Estuary. At least in the absence of evidence that adoption of one or more similar "work windows" for the Measure DD-funded projects in or adjacent to the LMC is infeasible, the GGAS believes that adoption of such measures is called for.

3

Thank you for your consideration of these comments. Please send future notices to the GGAS in care of me at my home address: 1433 Hampel St., Oakland, 94602.

Sincerely,



John Bowers

Member, East Bay Conservation Committee

**LETTER B1**

**Golden Gate Audubon Society**

**John Bowers, Member, East Bay Conservation Committee**

**September 7, 2007**

- Response B1-1: This introductory statement expresses an opinion on the merits of the project and notes that the project will in general enhance the natural resource and habitat values of the Lake Merritt aquatic system. The Society's support for these elements will be considered by City of Oakland decision-makers during review of the merits of the project. The comment also identifies issues raised in the Society's comments on the Notice of Preparation. Refer to Responses to Comments B1-2 and B1-3.
- Response B1-2: The comment recommends restricting small boat use of the Lake Merritt Channel to non-motorized vessels during the non-migratory season. As this restriction is not required to mitigate a significant effect of the project the measure is not included as mitigation. However, the Society's recommendation will be considered by City decision-makers during review of the merits of the project.
- Response B1-3: The Draft EIR's analysis of impacts is consistent. When determining whether the project would have an adverse effect on wildlife species, the City considered both the intensity and duration of the project activity. In the case of migratory fish that may be present in the Oakland Estuary, potential exposure to the percussive sound waves produced by pile driving, although brief, could injure or kill protected fish species. Thus, the risk of injury or death is high and mitigation is recommended. On the other hand, pile driving in the Lake Merritt Channel may temporarily displace migratory waterbirds to other nearby areas of suitable habitat but the birds are not at risk of being injured or killed by the activity. Thus, the Draft EIR did not find this to be a significant adverse effect.





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September 10, 2007

City of Oakland Planning Commission  
Oakland City Hall  
250 Frank Ogawa Plaza  
Oakland, Ca 94612

Ladies and Gentlemen:

At a time when every tree matters in the fight against Global Warming, please consider carefully before you approve the Final EIR which will remove more than 250 trees from our City's Lake Merritt and the Lake Merritt Channel.

1

Attached is a paper which fully describes the implications of existing trees for wildlife habitat. Also enclosed is a recent settlement in California Attorney General's challenge to urbanizing area to include Global Warming considerations in their planning.

2

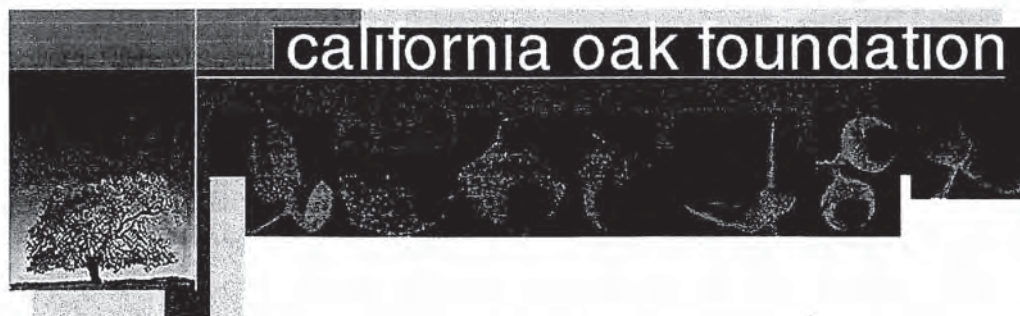
Thank you for your attention to this important matter.

Sincerely,

Janet Santos Cobb, President

Enclosures





September 2007

## California Oak Report

### Oaks & Climate Change

California Attorney General Edmund G. Brown, Jr. (AG) has reached a landmark lawsuit settlement with San Bernardino County involving the extent to which the County's environmental impact report for its General Plan update should address impacts on climate change. This is the first time any California jurisdiction has entered into a legally binding agreement to look at the overall impact of its planning on global warming.

The agreement solidifies climate change as an impact to be addressed in California Environmental Quality Act (CEQA) environmental review documents. Significant impacts to oak woodlands must be addressed in CEQA green house gas reviews because oak impacts uniquely combine carbon capture and carbon emission issues.

According to the AG, discretionary approvals must provide: (1) An examination of a project's impact on climate change and the adoption of all feasible mitigation measures to reduce such impacts, and (2) such analysis can – and must – be done today even absent established thresholds of significance or impending regulations under Assembly Bill 32. The state's California Climate Action Registry, which will guide AB 32 regulations, recognizes that converting oak woodlands to development is a carbon emission due to lost forest photosynthesis. Moreover, many municipal and county codes have general or specific tree-related provisions that reference air quality, air pollution or climatic conditions.

Consistent with the CEQA opinions of the AG, where significant oak resource impacts occur, project air quality analyses must consider three oak resource factors: (1) How much carbon is sequestered in the impacted oak trees?; (2) How much potential carbon sequestration will be lost due to oak seedling, sapling and tree impacts?; (3) How much sequestered carbon will be released if the impacted oaks are burned?

### The CEQA Oak Woodlands Dilemma

The oak woodlands circumstances are unique for each CEQA project. Unfortunately, project oak woodland mitigation measures consistently fail to provide proportional habitat mitigation. The basic problem is a failure to see the forest for the trees, exemplified by the fact that invariably mitigated negative declarations and environmental impact reports biologically analyze oak woodlands but mitigate for individual oak trees.

#### On-Site Conservation Easement Mitigation

Impact avoidance through on-site oak woodlands conservation easement serves only to limit the degree of significant oak woodland impacts and the project applicant's oak woodlands mitigation responsibilities. An on-site oak preserve amounts to nothing more than a promise not to further remove or fragment the remnant oak resource; these preserves do nothing to proportionally mitigate for the actual impacts from removing project site oak habitat.

Placement of an oak woodlands easement within a development is of marginal habitat value and also creates a potentially hazardous fire condition. Residual or planted oaks are at great risk of future loss through new Cal Fire fuel reduction regulations and increasingly stringent fire insurance policy standards.

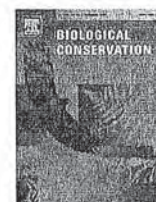




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## Scattered trees are keystone structures – Implications for conservation

Adrian D. Manning\*, Joern Fischer, David B. Lindenmayer

Centre for Resource and Environmental Studies, The Australian National University, Building 43, Biology Place ANU, Canberra, ACT 0200, Australia

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Regime shifts

Scattered trees

Wood-pasture

### ABSTRACT

Scattered trees are prominent features in many landscapes worldwide, including natural landscapes, cultural landscapes, and recently modified landscapes. The ecological importance of scattered trees is widely acknowledged in natural landscapes, but has not been sufficiently appreciated in human-modified landscapes. This paper shows that scattered trees are keystone structures in a wide range of landscapes. At the local scale, ecological functions of scattered trees include: provision of a distinct microclimate; increased soil nutrients; increased plant species richness; increased structural complexity; and habitat for animals. At the landscape scale, ecological roles include: increased landscape-scale tree cover; increased connectivity for animals; increased genetic connectivity for tree populations; and provision of genetic material and focal points for future large-scale ecosystem restoration. Furthermore, in disturbed landscapes, scattered trees often are biological legacies that provide ecological continuity through time. In combination, these ecological functions support the argument that scattered trees are keystone structures. That is, their contribution to ecosystem functioning is disproportionately large given the small area occupied and low biomass of any given tree, and the low density of scattered trees collectively. Because scattered trees fulfill unique functional roles in a wide range of scattered tree ecosystems, their loss may result in undesirable ecological regime shifts. A key management challenge in all landscapes with scattered trees is to maintain a balance between recruitment and mortality of trees in an appropriate spatial pattern. Meeting this challenge may represent an important step towards the genuine integration of conservation and production in human-modified landscapes.

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*"The way things look is not always the way things are. This fact should be cause for consternation among those who are interested in the management of ecological systems. A highly functional landscape structure may go unnoticed - even by people who depend upon its function" (Nassauer, 1992, p. 239).*

### 1. Introduction

Ecosystems with scattered trees occur throughout the world. The origins and ecological roles of scattered trees in natural ecosystems have been intensively studied in many parts of the world, including in the Brazilian Cerrados (Furley, 1999),

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E-mail address: [adrianm@cres.anu.edu.au](mailto:adrianm@cres.anu.edu.au) (A.D. Manning).

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Venezuelan *Trachypogon* savanna (San José et al., 1991), African savannas (Belsky, 1994), arid rangelands in South Australia (Facelli and Brock, 2000), oak savannas in North America (Nuzzo, 1986) and the forest-tundra transition zone of the boreal forest (Sirois, 1992). Scattered trees are also prominent features of many human-dominated landscapes, including recently cleared landscapes in Central America (Guevara et al., 1992), Africa (Duncan and Chapman, 1999) and temperate Australia (Ozolins et al., 2001), well-established cultural landscapes such as the *dehesas* in Spain and Portugal (Díaz et al., 1997) or British wood-pastures (Peterken, 1996), and severely disturbed forest landscapes (Gibbons and Lindenmayer, 2002). In this paper, these systems are collectively referred to as "scattered tree ecosystems". This definition is intended to be broader than that of "savanna" (*sensu* Bray, 1960), and includes natural, cultural and recently modified, as well as disturbed and undisturbed ecosystems (Fig. 1). The key defining feature of scattered tree ecosystems is the dispersed pattern of the trees. Scattered trees are referred to by various synonyms in different areas, including isolated trees (Dunn, 2000), pasture trees (Otero-Arnaiz et al., 1999), paddock trees (Law et al., 2000), and remnant trees (Guevara et al., 1986).

In this paper, scattered tree ecosystems are categorized into three groups for the purposes of discussion: (1) natural (such as savannas), (2) cultural (such as wood-pastures), and (3) recently modified (such as remnant paddock trees in south-eastern Australia) (Fig. 1). The distinction between cultural and recently modified scattered tree ecosystems is that the former have a long-term history of manipulation by humans and have been sustained by cultural systems over a long period of time. In contrast, the latter are recently modified, and often highly modified, and levels of tree cover are often declining. In reality, the distinction between the three categories will be blurred, and both natural and cultural scattered tree ecosystems can be highly modified. Similarly, levels of human modification and natural disturbance often interact, and scattered tree ecosystems therefore occur on a continuum from natural through to recently modified.

Despite large differences in climate and origin, scattered trees in natural, cultural and recently modified landscapes share many key ecological roles as well as several threats to their continued existence. However, especially in modified landscapes, the ecological value of scattered trees has rarely been recognized. The aims of this paper are to:

- (1) demonstrate the keystone role of scattered trees;
- (2) synthesize key ecological functions of scattered trees and highlight parallels between natural, cultural and recently modified ecosystems;
- (3) establish common threats to scattered trees, especially in human-dominated landscapes; and
- (4) outline ways in which scattered trees might serve as a landscape management tool to integrate conservation and production in human-modified landscapes.

By outlining the similarities between scattered trees in natural, cultural and recently modified ecosystems, this paper aims to facilitate increased recognition of the importance of scattered trees in modified landscapes. It is argued that na-

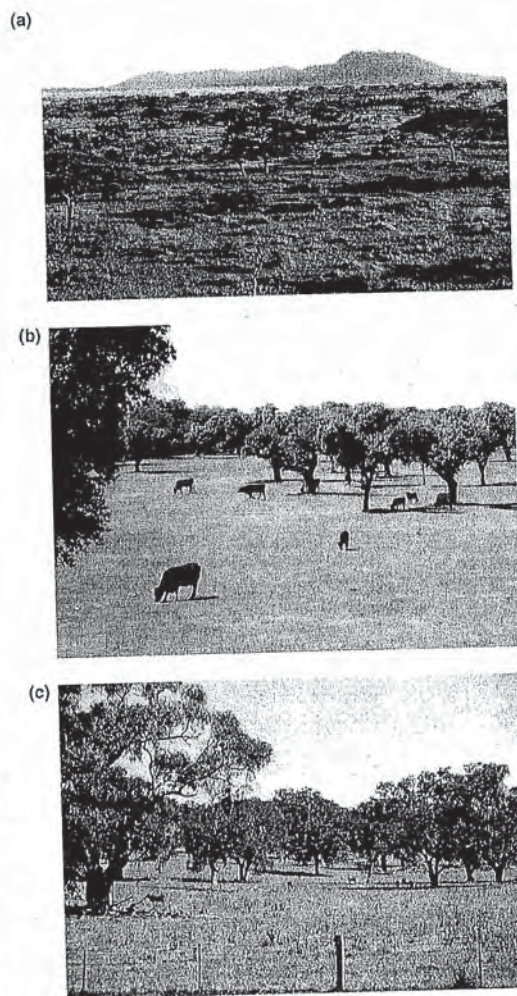


Fig. 1 – Three landscapes with scattered trees, representing a continuum of alteration states: (a) a natural landscape in southern Africa (top; photo by R. Heinsohn), (b) a cultural landscape in southern Spain (middle; photo by D. Gilmour, copyright IUCN), and (c) a recently modified landscape in south-eastern Australia (bottom; photo by A. Manning).

tive scattered trees exert a disproportionate effect on ecosystem function in a wide range of ecosystems, and that their loss therefore may lead to the deterioration of important ecosystem functions.

## 2. Scattered trees are keystone structures

A large amount of evidence demonstrates a wide range of important ecological functions of scattered trees in many natural, cultural, and recently modified landscapes (reviewed in detail below). In various different ecosystems, several authors



have independently noted the “keystone” role of scattered trees, for example, in the Negev desert in Israel (Munzbergova and Ward, 2002), and in dehesas in Spain (Plieninger et al., 2003). Tews et al. (2004a,b) considered scattered trees in African savannas as “keystone structures” because:

*“[A] wide array of species groups (e.g. arthropods, birds or mammals) depend on [scattered] trees as a food resource, shelter or nesting site. Consequently, overall species diversity is strongly linked to the quality of this structure” (Tews et al., 2004a, p. 87).*

Given many parallel functions of scattered trees across a broad spectrum of vastly different ecosystems, native scattered trees should be recognized as keystone structures in a wide range of landscapes, including natural, cultural and recently modified landscapes. Furthermore, some traditional agroforestry systems using non-native and domesticated tree species can also have important ecological and socio-cultural values (see Herzog, 1998, regarding the European “Streuobst” agroforestry system where fruit trees are undersown with crops or managed grassland). Analogous to the keystone species concept (reviewed by Power et al., 1996), scattered trees are keystone structures because they have a disproportionate effect on the ecosystem relative to the small area occupied and low biomass of any given tree and the low density of scattered trees collectively. It is precisely because scattered trees are not part of a large consolidated patch, that their local and landscape effects are pronounced. In an ecosystem otherwise dominated by ground cover vegetation, a single scattered tree will add a raft of additional or enhanced

functions (Fig. 2). In contrast, when part of an existing large patch of trees, the addition of a single tree is less likely to add new functions not already fulfilled by other existing trees.

To maintain functioning ecosystems, it is widely recognized that priority should be given to species that fulfill unique functional roles rather than functionally redundant species (Walker, 1992; Elmqvist et al., 2003). The raft of roles fulfilled by scattered trees suggests that the notion of functional uniqueness should be extended beyond species to include structural features, such as scattered trees. Given the lack of alternative features that could fulfill similar ecological functions to scattered trees, the ability of scattered tree ecosystems to maintain their essential characteristics directly depends on the ongoing existence of scattered trees. Scattered trees are threatened in many modified landscapes (see below). These threats, in combination with the functional uniqueness of scattered trees, suggest that many scattered tree ecosystems are in a precarious state (for example, British wood-pasture, Kirby et al., 1995). That is, their resilience to further disturbance is low, and they are at risk of undesirable regime shifts (for discussions of precariousness, resilience and regime shifts see Folke et al., 2004; Walker et al., 2004). In the following section, various ecological functions of scattered trees are outlined which support the argument that scattered trees are keystone structures.

### 3. Functions of scattered trees

In natural, cultural and recently-modified landscapes, scattered trees fulfill many functions. The following sections

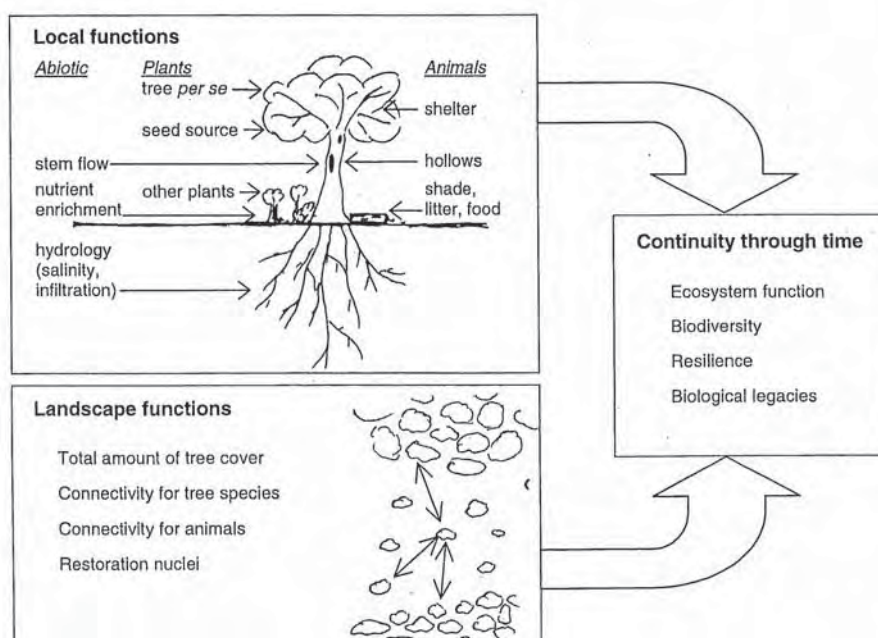


Fig. 2 – Schematic summary of some key ecological functions of scattered trees.



**Table 1 – Examples of direct benefits from scattered trees to humans in modified landscapes**

Benefit	References
Provision of ecosystem services (sensu Daily, 1997) which are essential for farming	This paper
Provision of fruit in many tropical landscapes	Aguilar and Condit (2001)
Wood products like firewood, fence posts and charcoal	Joffre et al. (1999), Pulido et al. (2001)
Shade and sheltered grazing for livestock	Kirby et al. (1995), Harvey and Haber (1999), Reid and Landsberg (1999), Quelch (2002)
Fodder for livestock in Britain	Peterken (1996)
Preservation of family traditions and real estate values in dehesas	Pleninger et al. (2004)
Recreational value for walkers and hunters in Scotland	Kirby et al. (1995), Quelch (2002)

consider: (1) the local-scale ecological functions of individual trees, (2) their role as biological legacies in modified landscapes, and (3) landscape-scale ecological functions of multiple scattered trees. In addition, examples of direct benefits from scattered trees to humans are given in Table 1.

### 3.1. Local-scale ecological functions of scattered trees

At the local scale, a given scattered tree influences its abiotic environment as well as plant and animal life (Fig. 2). Local changes to the abiotic environment are widely documented in natural, cultural and recently modified landscapes throughout the world, including the dehesas (Joffre et al., 1999), African savannas (Dean et al., 1999), and Australian rangelands (Facelli and Brock, 2000). Typical changes involve a cooler and often wetter microclimate under a given tree due to the interception of radiation and precipitation (Mistry, 2000). Stem flow, water uptake through the root system from below and around the tree, and increased infiltration of water into the soil further enhance the concentration of water near a given tree, especially in otherwise dry environments (Vetaas, 1992; Eldridge and Freudenberger, 2005).

Scattered trees also contribute to a local increase of nutrients, as demonstrated in dehesas (Joffre and Rambal, 1993), in south-eastern Australia (Wilson, 2002), the Brazilian Caatinga (Tiessen et al., 2003), and African savannas (Belsky, 1994). Nutrient levels under scattered trees are typically enhanced by litter accumulation, animal dung, the interception of nutrients by trees, and the accumulation of nutrients by tree roots (Wilson, 2002; Dean et al., 1999; Prober et al., 2002). Many scattered trees in dry savannas form symbiotic relationships with *Rhizobium* bacteria, thereby fixing atmospheric nitrogen and making it accessible to plants (Vetaas, 1992). By increasing the local water balance and nutrient concentration, scattered trees can enhance primary productivity (Ludwig et al., 1999).

Numerous benefits to plant life originate from scattered trees. The most basic benefit to plant diversity is the presence of scattered trees themselves. In recently modified ecosystems, scattered trees often represent samples of the original, pre-modification vegetation, and therefore provide important conservation opportunities in their own right (see Section 3.2). In central American modified landscapes, scattered trees are often represented by more than 50 species (Guevara et al., 1992; Harvey and Haber, 1999; Otero-Arnaiz et al., 1999; Aguilar and Condit, 2001), and in temperate Australia many scattered trees are the remnants of threatened vegetation

communities like white box-yellow box-Blackely's red gum woodlands (*Eucalyptus albens*/*E. melliodora*/*E. blakelyi*; Gibbons and Boak, 2002). The conservation values of scattered trees per se also has been noted in the Brazilian Cerrados (Furley, 1999), the dehesas (Díaz et al., 1997), and British wood-pastures (Peterken, 1981, 1996; Kirby et al., 1995). Some scattered tree systems, such as dehesas, can have relatively few tree species (*Quercus ilex* and *Q. suber*), but still have high conservation value (Díaz et al., 1997).

Many other plant species typically benefit from the presence of scattered trees. For example, dehesas provide habitat for 30% of vascular plants in the Iberian peninsula (Pineda and Montalvo, 1995). Both in natural savanna landscapes (San José et al., 1991) and human-modified landscapes like in Central America (Guevara et al., 1992) or eastern Australia (Toh et al., 1999), scattered trees often function as "nurse plants" or "fertility islands", in that they provide favorable conditions for the recruitment of other plants (San José et al., 1991; Facelli and Brock, 2000). Plant species richness is typically higher under scattered trees than in the surrounding landscape, as demonstrated in Central America (Guevara et al., 1992), the Negev desert in Israel (Munzbergova and Ward, 2002), arid Australia (Facelli and Brock, 2000), and temperate Australia (Prober et al., 1998).

Scattered trees also are used by a wide range of animals throughout the world, in natural, cultural and recently modified scattered tree ecosystems. The micro-ecosystem surrounding an individual tree greatly enhances structural complexity relative to its surrounds. A wide variety of birds has been documented as using the canopies of scattered trees, for example, in Australia (Law et al., 2000; Fischer and Lindenmayer, 2002a), Central America (Guevara and Laborde, 1993; Harvey and Haber, 1999; Luck and Daily, 2003), southern Africa (Dean et al., 1999), and central Africa (Duncan and Chapman, 1999). Insectivorous bats in Australia forage around the canopy of scattered trees (Law et al., 1999, 2000; Lumsden et al., 2002; Lumsden and Bennett, 2005), and frugivorous bats make extensive use of scattered trees in many tropical landscapes (Duncan and Chapman, 1999; Galindo-González et al., 2000; Galindo-González and Sosa, 2003). A wide variety of canopy invertebrates has been recorded in Australia (Majer and Recher, 2000), and a range of ground-dwelling invertebrates have been documented below scattered trees within the dry, semi-deciduous forest zone in Ghana (Dunn, 2000) and under paddock trees in south-eastern Australia (Oliver et al., 2006). Cavities in scattered trees are used by a variety of birds,



mammals, reptiles and amphibians, as documented in Australia (Saunders et al., 1982; Gibbons and Lindenmayer, 2002; Manning et al., 2004a) and southern Africa (Dean et al., 1999).

### 3.2. Scattered trees as biological legacies

In landscapes that have been disturbed by natural processes or human activities, scattered trees play an important role as "biological legacies" (Elmqvist et al., 2002). Biological legacies are organisms or organically derived structures that persist after a disturbance (Franklin et al., 2000). Biological legacies have several functions including: representation of tree species per se (see above); assisting other species to persist (the so-called "life-boating" function, sensu Franklin et al., 1997); providing habitat for recolonization of a site (structural enrichment); influencing patterns of ecosystem recovery (nucleation); providing a source of energy and nutrients for other organisms; and stabilization of environmental conditions (reviewed by Lindenmayer and Franklin, 2002).

The concept of "nucleation" is used to describe the spreading of recovery from many different foci following a disturbance (Franklin and MacMahon, 2000), and is a particularly important function of scattered trees. In recently disturbed ecosystems, scattered trees can act as "regeneration nuclei" (Guevara et al., 1986). This can be in the form of seed directly from the trees (Cascante et al., 2002; Elmqvist et al., 2002), or indirectly from seeds deposited in droppings by organisms attracted to the trees, such as birds and bats (Guevara et al., 1986; Elmqvist et al., 2002). Scattered trees can therefore function as focal points for future restoration activities (Otero-Arnaiz et al., 1999; see below). Despite reduced genetic variability, the reproductive potential of scattered trees remains high in some landscapes (Cascante et al., 2002), and scattered trees represent potential sources for large-scale natural regeneration of Australian woodlands (Dorrough and Moxham, 2005) and Central American rainforests (Galindo-González et al., 2000). Natural regeneration is a substantially cheaper and ecologically preferable form of restoration than tree planting (McIntyre, 2002; Spooner et al., 2002). The "fertility island" effect of scattered trees (see above) further enhances their ability to act as central points of ecosystem recovery from which plant succession may radiate outwards into other parts of a given landscape (Toh et al., 1999).

Scattered trees are often the oldest living structures in disturbed landscapes and provide important ecological continuity through time. Ironically, although scattered tree ecosystems, such as wood-pastures, are often not regarded as "proper forest" (Rackham, 1998), they can provide refuges for organisms associated with original "natural" forest. For example, wood-pastures in Britain contain structures, species, and communities which are relicts of past management systems as well as original natural forest (Peterken, 1981, 1996; Kirby et al., 1995). Trees in British wood-pastures can live between 300 and 500 years and provide habitat for fungi and invertebrates associated with decaying wood and epiphytes largely absent in other forest types (Peterken, 1981, 1996; Alexander, 1999). Similarly, retained trees in recently logged boreal forests provide habitat continuity for lichen species that are directly dependent on these trees (Hazell and Gustafsson, 1999). Furthermore, in many human-modi-

fied ecosystems, scattered trees pre-date the era of tree planting and preserve local tree genotypes (Kirby et al., 1995).

### 3.3. Landscape-scale ecological functions of scattered trees

In addition to the local-scale ecological functions of a given individual scattered tree, in combination, multiple trees scattered throughout a landscape provide additional ecological functions (Fig. 2). The most obvious landscape-scale function of scattered trees is that they contribute to the overall amount of tree cover in a landscape. The density of trees is of considerable scientific and conservation interest in natural landscapes (Jeltsch et al., 1996; Mistry, 2000). Perhaps more importantly, scattered trees make an important contribution to overall tree cover in many cultural and recently modified landscapes. Recently modified ecosystems such as grazing landscapes in temperate Australia (Gibbons and Boak, 2002) and tropical Central America (Galindo-González et al., 2000) often contain a large proportion of their total remnant tree cover as scattered trees or small clumps of trees.

Tree cover is important for many animal species, and low amounts of tree cover in previously forested landscapes may lead to cascades of extinctions as a result of the simultaneous loss of the amount of unmodified vegetation and landscape connectivity (Andrén, 1994). Despite its modified status, a landscape mosaic characterized by scattered trees often provides habitat for a range of animal species, including birds and bats in both Central America (Guevara and Laborde, 1993; Galindo-González and Sosa, 2003) and south-eastern Australia (Law et al., 2000; Fischer and Lindenmayer, 2002a,b). A key feature of landscapes with scattered trees is that their connectivity remains relatively high for some animals (Guevara and Laborde, 1993; Graham, 2001; Fischer and Lindenmayer, 2002b).

Landscapes dominated by scattered trees can provide valuable foraging habitat for some animal species. For example, lichen forest in the forest-tundra transition zone of the boreal forest in Quebec may represent a large reservoir of forage for large caribou (*Rangifer tarandus*) herds (L. Sirois, pers. comm.). Some species of bats and birds that use scattered trees for foraging are important seed dispersers. In tropical modified landscapes, frugivorous bats play a particularly important role in dispersing primary and secondary rainforest plants (Duncan and Chapman, 1999), thus increasing plant genetic connectivity and population viability (Cascante et al., 2002). The survival of bats in these landscapes therefore is considered key to future forest recovery (Galindo-González et al., 2000). Other mutualists of trees, such as pollinators, have been studied less extensively in modified landscapes (but see Ricketts et al., 2004). However, the general notion that a loss of landscape connectivity may result in the disruption of mutualist relationships in fragmented landscapes is well established (Cordeiro and Howe, 2003), and it is reasonable to expect that scattered trees will at least somewhat improve connectivity for a wide range of mutualist species.

More generally, scattered trees enhance landscape heterogeneity (the horizontal patchiness) of landscapes. For modified landscapes, it is widely accepted that other things being equal, increased landscape heterogeneity tends to increase landscape scale species richness (Benton et al., 2003; Luck and Daily, 2003).



In previously densely vegetated landscapes, scattered trees contribute to the "softening" of the matrix surrounding more discrete vegetation remnants (Lindenmayer and Franklin, 2002). Structural contrast at edges is widely acknowledged to result in a cascade of abiotic and biotic changes, ultimately leading to synergistic changes in both plant and animal life (Ries et al., 2004; Harper et al., 2005). Scattered trees reduce the structural contrast between patch edges and the matrix, and therefore reduce the likelihood and intensity of negative edge effects.

#### 4. Threats to scattered trees

Scattered trees in natural, cultural and recently modified landscapes face some similar threats, as well as some threats that are unique to particular ecosystems. The most direct threat to all scattered trees is clearing by humans. For example, the legal and illegal removal of scattered trees is widespread in Australian grazing landscapes (Gibbons and Boak, 2002). Similarly, widespread land clearing continues in some Central American landscapes (Aguilar and Condit, 2001).

A slower, but equally problematic, threat to scattered trees is the lack of natural regeneration. Recruitment failure is often related to high grazing pressure, and may be a problem in natural, cultural and recently modified landscapes with scattered trees. Reduced recruitment of scattered trees has been reported in African savannas (N. Van Rooyen, unpublished data, cited in Jeltsch et al., 1996), Central American farming landscapes (Harvey and Haber, 1999; Graham, 2001), dehesas (Pulido et al., 2001), British wood-pastures (Kirby et al., 1995), and temperate Australian grazing areas (Spooner et al., 2002; Saunders et al., 2003). In the latter, the lack of recruitment threatens the persistence of scattered trees across vast areas of the wheat-sheep zones in eastern and Western Australia. In these landscapes, scattered trees without any younger generations of trees are "the living dead" (*sensu* Janzen, 1988). Because many scattered trees are dying of old age, a recent study in eastern Australia estimated a narrow window of opportunity spanning only a few decades in which large-scale tree regeneration will be possible (Dorrough and Moxham, 2005).

Some scattered tree ecosystems can be threatened by vegetation encroachment. For example, in many natural dry savannas, overgrazing can lead to shrub encroachment with often detrimental consequences for native species (Meik et al., 2002). In dry savannas, the negative impacts of livestock grazing are often exacerbated by changed fire regimes and strong rainfall events, leading to the invasion of thickets of unpalatable shrubs (Milton et al., 1994; Tews et al., 2004b). Maintaining appropriate grazing pressure is also important in British wood-pastures to sustain trees and open grassy areas in the same location (Kirby et al., 1995). In wood-pastures, both too much and too little grazing can be a threat. If there is too much grazing, trees do not regenerate; if there is too little grazing, open wood-pastures turn into denser forest ecosystems (Peterken, 1981, 1996).

These examples highlight that although the effect of grazing can vary, appropriate grazing regimes are pivotal to the continued existence of many ecosystems characterised by

scattered trees. Determining what constitutes an appropriate grazing regime is not straightforward, and depends on the particular ecosystem under investigation. In many cases, choices need to be made about which species are in most urgent need of conservation attention. For example, Martín and Lopez (2002) found that lizard abundance in dehesas increased with dense understory vegetation. However, dense understory vegetation decreased the quality of hunting habitat for the endangered Spanish imperial eagle (*Aquila adalberti*).

Salinity can be an additional threat to scattered trees in both natural and human-dominated dry ecosystems. Scattered trees contribute to maintaining the ground water table at naturally low levels (Stirzaker et al., 2002). The removal of scattered trees, in turn, can lead to a rising ground water table, which can bring naturally occurring salts to the surface. The widespread removal of trees in temperate Australia has led to large-scale salinity problems, which now threaten both biodiversity and agricultural productivity (Saunders and Hobbs, 1995). Similar mechanisms also have led to increased salinity in some natural ecosystems such as the Negev desert in Israel (Munzbergova and Ward, 2002).

More generally, scattered trees may be threatened by poor tree health. In the Mediterranean, the tree root pathogen *Phytophthora cinnamomi* is causing a severe decline of oak species (*Quercus* spp.) (Plieninger et al., 2003). In Australia, rural dieback of eucalypts, where trees are severely defoliated, is leading to large-scale and premature tree death (Landsberg and Wylie, 1983). It is caused by complex interactions between numerous biotic and abiotic factors, including land management practices (Landsberg, 1990). In the United Kingdom, debarking by the introduced grey squirrel (*Sciurus carolinensis*) threatens the long-term persistence of wood-pastures (Mountford and Peterken, 2003).

Finally, land use intensification poses a threat to scattered tree ecosystems. In the Iberian dehesas, regeneration failure of oak has been exacerbated by recent agricultural intensification (Díaz et al., 1997; Pulido et al., 2001) and urban development (Plieninger et al., 2004). In Australia, scattered trees are more likely to be lost in cropping landscapes than in grazing landscapes (Ozolins et al., 2001). In addition, removal of fallen deadwood and standing dead trees for firewood (Driscoll et al., 2000) and the "tidying" of pastures by farmers (Reid, *in litt.*) can threaten the continued existence of key structural elements. Similar threats have been reported in British wood-pastures. Here, the removal of fallen deadwood and standing dead timber has eliminated mature habitat in many places, and recreation pressures such as car parks, heavy trampling and removal of dangerous branches at iconic locations, and vandalism are important threats to the long-term persistence of wood-pastures (Kirby et al., 1995; Peterken, 1996).

#### 5. Scattered trees and landscape management

##### 5.1. Landscape management approaches

One of the great challenges in landscape management is the trade-off between meeting short-term human needs and



maintaining the capacity to provide ecosystem services in the long term (Foley et al., 2005). There is a growing debate about the best way to manage landscapes in the face of growing human populations and associated demand for food. This debate has recently been framed as a trade-off between two approaches: "land sparing" versus integrated landscape management (Green et al., 2005; Mattison and Norris, 2005). Land sparing occurs where higher yielding parts of the landscape are intensively farmed to reduce pressure for more farmland. Integrated landscape management (also known as wildlife-friendly farming, *sensu* Green et al., 2005) is where native species are maintained across entire production landscapes (Green et al., 2005).

While land sparing may be attractive in theory (Green et al., 2005), it may be unsustainable in practice. First, there is no guarantee that land sparing will reduce forest loss because greater farm productivity can induce additional clearance to further increase profitability (Simon and Garagorry, 2005). Second, there is no guaranteed link between intensification in one place and reservation in another. Third, high productivity areas are most likely to be targeted for intensification, but are usually already the least reserved and most modified (Braithwaite et al., 1993; Lindenmayer and Franklin, 2002). Furthermore, the density of many organisms is skewed towards the most productive parts of landscapes (Braithwaite, 1983). Fourth, land sparing can result in the separation of commodity production and non-production areas, which ignores the interdependence of the two and the interaction of pattern and process in landscapes. Fifth, the consequences for long-term sustainability from land sparing are unknown because of potential lag effects on organisms and ecosystem processes arising from landscape consolidation. Sixth, land use intensification often eliminates key landscape elements, such as scattered trees, that obstruct machinery and intensive farming practices (Maron, 2005).

As a consequence of these issues, it may be difficult to differentiate the practical on-ground outcomes of land sparing from the traditional transition of land use, seen throughout human history, towards greater intensification and ecosystem fragmentation (*sensu* Saunders et al., 1991; McIntyre and Hobbs, 1999; Foley et al., 2005). As discussed above, land use intensification is a major threat to scattered tree ecosystems around the world. Evaluation of land sparing and consolidation of native ecosystems as land management options should first consider their possible shortcomings, and their potential effects on keystone structures such as scattered trees.

## 5.2. Scattered trees and integrated landscape management

Integrated landscape management attempts to reconcile conservation and production in the same landscape (*sensu* Hobbs and Saunders, 1991), and is practiced in many cultural scattered tree ecosystems, such as the *dehesas* or British wood-pastures. In integrated landscapes formerly covered by forest or woodland, scattered trees can be used as a useful landscape management tool which can complement conservation reserves and consolidated blocks of remnant vegetation.

Agroforestry, which is defined as "an intimate mixture of trees with farm crops and/or animals on the same piece of land" (Savill et al., 1997, p. 234), is a good example of how scattered trees can be used as a landscape management tool. Agroforestry has significant potential to achieve conservation goals in agricultural landscapes (Harvey et al., 2004; Salt et al., 2004) and lies at the intersection between agriculture and forestry. Both *dehesas* and wood-pastures are examples of agroforestry.

Some techniques from forestry also offer useful insights on the benefits of integrating scattered trees in landscapes over the long term. The notion of biological legacies (see above) underpins the technique of "green tree retention" which is increasingly being used in boreal forest management (Vanha-Majamaa and Jalonen, 2001). With green tree retention, a certain number of trees are retained permanently after harvesting to mimic conditions after a moderate-intensity natural disturbance (Vanha-Majamaa and Jalonen, 2001; Lindenmayer and McCarthy, 2002). The main purposes of green tree retention are:

- the "life-boating" of species and processes after logging as tree cover is re-established;
- the enrichment of re-established stands with structural elements; and
- the enhancement of landscape connectivity (Franklin et al., 1997).

Green tree retention can maintain canopy continuity, preserve old and large trees and maintain habitat and structural diversity. There are two spatial patterns of green tree retention. First, in "dispersed retention" retained structures are distributed evenly throughout the harvest unit. This form of retention is also useful for dispersing mitigating effects (such as modification of microclimate, hydrology or soil stabilization through roots) over the whole stand (Franklin et al., 1997; Lindenmayer and Franklin, 2002). Second, in "aggregated retention" small patches are retained to be representative of the original stand conditions and to provide intact understory and soil organic layers. Unlike dispersed retention, effects of this approach are confined to the immediate area around the retained patch (Franklin et al., 1997; Lindenmayer and Franklin, 2002). Green tree retention thus contributes to a continuum of possible forest management options, and represents one end which explicitly recognizes the value of scattered trees.

The principles underpinning agroforestry and green tree retention have implications for the management of existing scattered tree ecosystems and formerly wooded and forested landscapes. Variable retention harvest systems (which include green tree retention as a component) provide "a continuum of structural retention options" (Franklin et al., 1997, p. 115). The idea of a continuum of landscape management options, from consolidated patches through to areas of scattered trees offers a promising approach to landscape management. As a practical approach to managing landscapes, this would be highly compatible with recent developments in the area of landscape concepts. Scattered trees do not fit well into schematic "patch-matrix-corridor" landscape models which categorize landscapes either "habitat" or "non-habitat" (McIntyre and Hobbs, 1999; Manning et al., 2004b). This is



because they occur in what is generally considered the "matrix". It is now recognized that many landscapes have habitat that is modified, but not destroyed ("landscape variegation" sensu McIntyre and Hobbs, 1999). It is also recognized that vegetation often occurs in spatial continua and habitat boundaries are often indistinct or gradual (McIntyre and Hobbs, 1999; Manning et al., 2004b). Further, different organisms perceive and respond to the same landscape differently (the Continua- Umwelt concept, Manning et al., 2004b). This paper demonstrates that many organisms consider scattered trees as important habitat. The maintenance and expansion of scattered trees across landscapes, and the use of techniques such as agroforestry and green tree retention, are highly compatible with these continua-based landscape concepts. It is thus possible to envisage future landscapes where consolidated conservation areas will be embedded within integrated, multi-use scattered tree ecosystems.

In grazing landscapes, such as those in temperate Australia, regeneration of scattered trees could be encouraged through techniques such as micro-restoration. The aim of micro-restoration is to facilitate the regeneration of saplings in the immediate vicinity (<30 m radius) of existing large scattered trees thereby maintaining the spatial pattern of scat-

tered trees (Lindenmayer et al., 2005; Fig. 3). Methods for micro-restoration will be locally specific, and dependent on the specific mechanisms involved in the regeneration of particular tree species. However, methods might include encouragement of regeneration by placing small temporary fences around individual mature trees or groups of trees to exclude grazing, direct planting and seeding, soil scarifying or burning beneath existing trees. Notably, micro-restoration could be useful in complementing existing restoration programs which aim to establish large and consolidated patches of native vegetation (Bennett et al., 2000). Other management strategies might include reduced stocking rates or alternative grazing regimes (Jansen and Robertson, 2001; Spooner et al., 2002).

Future landscape management approaches, using a range of tree retention and regeneration techniques, would ideally recognize the complementary contributions of large patches of native vegetation and extensive areas of scattered trees, and provide a promising vision for genuine and sustainable integration of conservation and production.

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Fig. 3 – Micro-restoration is where tree regeneration is facilitated in the immediate vicinity (<30 m radius) of an existing scattered tree. These examples, from south-eastern Australia, show what micro-restoration might look like (top photo by D. Lindenmayer, bottom photo by A. Manning).



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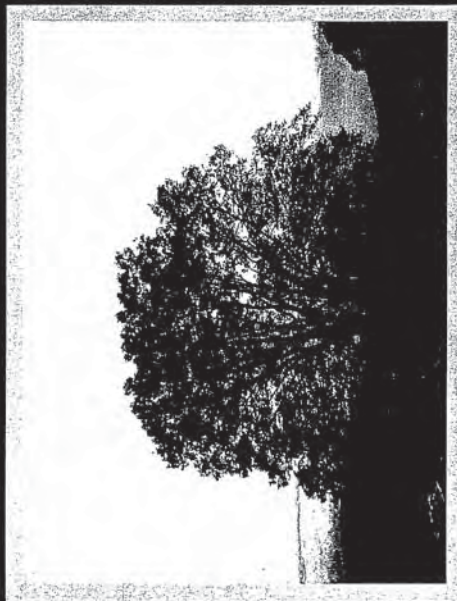


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# Oaks 2040



## The Status and Future of Oaks in California

By Tom Gaman and Jeffrey Firman  
Published by the California Oak Foundation

## Oaks 2040: The Status and Future of Oaks in California

By Tom Gaman and Jeffrey Firman<sup>1</sup>

### *Introduction: Developing planning tools for oak futures in California*

Ecological functions, wildlife habitat, recreational opportunities and scenic values are seriously impaired as population densities and other landscape use pressures increase. Managers of oak woodlands and forests need to balance the biological, sociological and economic interests of private landowners, public agencies, business, universities, environmental groups and concerned individuals. Planning must address the complexities of local, regional and state-wide oak issues within the context of practical on-the-ground land use decisions.

Oaks 2040 is based on objective oak data and is designed to serve decision makers who may develop local and regional Oak Woodlands Management Plans or advance other conservation strategies. A statewide map of oak distribution and a current forest and woodland inventory, created by state and federal researchers, were the starting points for Oaks 2040. From those, regional analyses of forest structure and oak types as well as region-specific oak inventory summaries have been developed. By evaluating these maps and inventories against current economic growth projections, Oaks 2040 identifies the location and extent of oaks most at risk.

Cover photo: Black Oak at Big Sur

<sup>1</sup> Tom Gaman [tgaman@forestdata.com](mailto:tgaman@forestdata.com) and Jeffrey Firman [jfirman@forestdata.com](mailto:jfirman@forestdata.com) of Forest Data, P.O. Box 276, Inverness, CA 94937. Gaman and Firman ([see www.forestdata.com](http://www.forestdata.com)) have been active many years in forest inventory, data analysis, mapping and forest conservation. Both have master's degrees in forestry from Yale University. Gaman is a registered professional forester and a board member of the California Oak Foundation.

# Oaks 2040



"The Oak Woodland Conservation Act requires cities and counties to assess their wealth in oak resources and to adopt Oak Woodlands Management Plans in order to meet the need for healthy watersheds, clean air and water, and sufficient high quality wildlife habitat."

Methods

MAPPING OAK TYPES

A number of overall vegetation maps, maps of hardwoods in general, and oak-specific maps have been generated over the years. Currently, the most reliable statewide vegetation map available is the "LCMMP Vegetation Map" (FRAP map) produced by the California Department of Forestry and Fire Protection's Fire and Resource Assessment Program (FRAP) in conjunction with the US Forest Service (USFS) Region 5 Remote Sensing Lab (RSL) in Sacramento. While these maps do not focus specifically on oaks, oak habitat types can easily be extracted from these vegetation types. Using these maps as a foundation (supplemented by other earlier mapping efforts), species-specific range maps of oak types' throughout the state (FRAP 2005) have been generated.

The FRAP map uses the *Calveg* classification system which first divides all vegetation into *Covertype*. *Covertype* can be equal to the following: conifer (CON), shrub (SHB), barren (BAR), hardwood (HDW), grass (HEB), water (WAT), conifer/hardwood mix (MIX), urban (URB), or agricultural (AGR). For finding oak habitat, only two *Covertypes* are relevant. All *woodland* classified as 'hardwood' (HDW) or *forest* classified as 'conifer/hardwood mix' (MIX) can potentially be oak habitat provided it contains the relevant hardwood species. All other *Covertypes* were eliminated from the analysis.

Citizens Concerned with Oak Conservation: Oaks are more than a distinct component of the landscape for many of us who live in California. For hundreds of years, people have lived in, raised families under, and worked around these generous, natural and cultural icons. Today, increasing population pressures and poorly-planned development are threatening oak sustainability.

The Oak Woodland Conservation Act requires cities and counties to assess their wealth in oak resources and to adopt Oak Woodlands Management Plans in order to meet the need for healthy watersheds, clean air and water, and sufficient high quality wildlife habitat. These Plans must include a description of native oak species and their current and historical distribution, as well as existing threats, status of natural regeneration and urban growth trends. These Plans must also recognize the economic value of oak woodlands in their respective jurisdictions and encourage and support farming, ranching and grazing operations compatible with oak woodland conservation.

Oaks 2040 is designed to provide various stakeholders involved with developing or updating their community's Oak Woodlands Management Plan with current information on 48 of the 56 counties that contain significant oak resources. Every effort has been made to present this important information fairly.

Readers must realize, however, that COF is an advocate for sustainable oak resources. To that end, the full report mentions the importance of using available tools, such as acquisition in fee, conservation easements in perpetuity, deed restrictions and oak mitigation banks, in a timely fashion to achieve conservation of oak resources.

COF's Board of Directors thanks its members, associates and friends for their individual and collective efforts to establish a viable Oak Reserve system made up of well-managed oak woodlands and forests on private and public lands throughout California.

Sincerely,  
Janet Santos Cobb

After *Covertype*, the *Calveg* system also specifies *Vegetype*, which identifies the dominant species association. For both HDW and MIX *covertypes*, the data were screened to ensure that the hardwood associations being mapped in a particular location are oaks. Dozens of hardwood *Vegetypes* are mapped throughout the state, but only twelve are dominated by tree oaks. Nine of these are dominated by a single species, each forming its own Oak Habitat Type, or "Oak Type." Three heterogeneous hardwood types were combined to generate a "mixed" Oak Type. The ten resulting Oak Types, each potentially occurring in both "woodlands" and "forests", are listed in the following Table 1:

This rigorous selection and reclassification process was applied to the FRAP maps. The results are GIS layers and maps depicting the distribution of woodland and forest oak habitat types throughout California. These geographic data provide the foundation for the landscape-level analysis of the distribution and diversity of California's oak woodlands and oak forests. See the tables in Appendix A for acres of cover where oaks dominate the woodland by county and Oak Type and acres of cover where oaks are present in the forest by county and Oak Type.

OAK TYPE	SCIENTIFIC NAME	TYPE(S)
Black Oak	<i>Quercus kelloggii</i>	QK
Blue Oak	<i>Quercus douglasii</i>	QD
Canyon Live Oak	<i>Quercus chrysolepis</i>	QC
Coast Live Oak	<i>Quercus agrifolia</i>	QA
Engelmann Oak	<i>Quercus engelmannii</i>	QN
Interior Live Oak	<i>Quercus wislizeni</i>	QW
Oregon White Oak	<i>Quercus garryana</i>	QG
Tanbark Oak	<i>Lithocarpus densiflorus</i>	QT
Valley Oak	<i>Quercus lobata</i>	QL
Mixed Oaks	not applicable	EX/NX/TX

Table 1. Oak Types

<sup>1</sup>"Oak Woodlands" are considered to be those mapped vegetation types where oaks dominate the landscape. By definition, they have at least 10% canopy cover.  
<sup>2</sup>"Oak Forests" are those vegetation types dominated by trees, but *Quercus spp.* or *Lithocarpus densiflorus* may not necessarily be among the dominant species.



## California oaks: the statewide analysis

To facilitate statewide analysis, California counties have been grouped into six distinct regions, each of which is discussed later in this report. In an attempt to represent the levels at which conservation policy is often decided, county boundaries have been utilized for this regional split (see Figure 1), rather than natural boundaries such as watersheds or bioregions.<sup>4</sup> The tables in Appendix B summarize inventory details for woodlands and forests statewide by oak type.

*"The plots provide information not obtainable via remote sensing techniques – an inventory of forest fuels, species distribution, specific size, growth, regeneration, habitat features, pest and disease."*

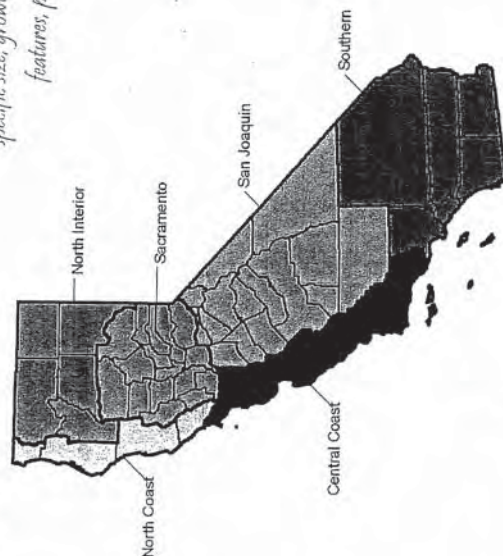


Figure 1 – California is divided into six regional groupings of counties.

<sup>4</sup> These are the same regions used in Bolinger's 1988 *The Hardwoods of California's Timberlands, Woodlands, and Savannas*, except that the San Joaquin Valley has been separated from the rest of Southern California.

### INVENTORY AND ANALYSIS

The other critical element for assessment of mapped oak types is the inventory summary, which is based upon data obtained from the USFS Forest Inventory and Analysis Program (FIA). This statewide grid of permanent forest survey sample "plots" yields information about what the mapped oak forests and woodlands look like on the ground. The plots provide information not obtainable via remote sensing techniques – an inventory of forest fuels, species distribution, specific size, growth, regeneration, habitat features, pest and disease. With point-specific data ranging from species composition to seedling regeneration to tree size and density, these plots help one understand the makeup of each of the ten oak types.

The most recent FIA field data was obtained to provide an inventory of each of the oak types discussed above. Combining the ground-based survey data and the GIS mapping data enabled the authors to provide a comprehensive oak inventory using new vegetation maps and the 2001-2004 FIA inventory data.

Using conventional computer programs, inventory data was processed to produce summaries of each plot. The survey plots were grouped by oak type within each region and a customized program was used to produce inventory summaries per acre by oak type by region. Regional totals were then summed up to provide an inventory for the entire state. A variety of other factors were analyzed using the inventory data including basal area and tree counts per acre of oaks relative to total trees, size distribution, regeneration status, and determination of associated hardwood and conifer species. Appendix B summarizes these details for woodlands and forests statewide by oak type.

<sup>1</sup> The 'developed' and 'at risk' designations are assigned to privately owned lands only, as those held in public ownership are considered 'stable' with regard to development. However, publicly-owned lands do face other challenges such as poor oak regeneration and non-sustainable land management practices.

### OWNERSHIP AND AT RISK ANALYSIS

Two additional layers are added to further intensify the oak mapping analysis. Land ownership and development risk layers are incorporated into the map to assess pertinent conservation issues. The land ownership data is courtesy of the California Department of Forestry's Forest and Rangeland Resources Assessment Program (FRAP 1999). Using the FRAP layer, the state is divided into a variety of public and private ownership categories. The statewide ownership layer overlaid on top of the Oak Type map reveals ownership patterns of California's oaks.

The development risk data has been derived from the California Department of Finance's projected development layer. This dataset is based on 2000 US Census Data (FRAP 2001). This layer tracks past development by decade and predicts future development through 2040. Using this information, three categories were defined. 'Developed' is defined as anything that has been developed (greater than 32 housing units per square mile) by 2000. 'At Risk' refers to anything that has not been developed by 2000 but is expected to develop by 2040. 'Stable' refers to anything that has not been developed by 2000 and is unlikely to be developed before 2040.<sup>2</sup> Once the layer was divided into these three categories, it was overlaid on top of the Oak Type Map. The oak woodlands of the state were thereby divided into groups by oak type, ownership and development risk.

#### OAKS PLAY A MAJOR ROLE IN THE CALIFORNIA LANDSCAPE

California has approximately 8.5 million acres of oak woodland and 4.5 million acres of oak forest. These 13 million acres comprise more than one-eighth of the state's area (see Figure 2). The Sacramento and San Joaquin regions are home to more than half of California's oak woodland. Oak forests are concentrated in the North Coast and North Interior regions. California currently has approximately two billion oaks greater than 1" DBH. More than 800 million of these oaks are larger than 5" DBH.

California oaks are diverse. Blue oak is California's dominant oak species, representing more than one-third of the state's oak woodlands. Canyon, coast and interior live oak woodlands comprise approximately one-third of California's oak woodlands. Tanbark, black and canyon live oak forests account for more than 80 percent of California's oak forests.

*"More than one million acres of California's oak woodlands are developed and approximately 750,000 are at risk of development before 2040."*

In oak woodland, oaks comprise 60 percent of the total tree basal area, 67 percent of trees greater than 5" DBH and 37 percent of trees greater than 24" DBH. In oak forest, oaks comprise 18 percent of the total tree basal area, less than 24 percent of trees greater than 5" DBH and eight percent of trees greater than 24" DBH. Blue oak, Oregon white oak and, to a lesser extent, interior live oak, are regenerating poorly. Blue oak averages about one seedling per thousand square feet in woodlands, and less than one seedling (one foot or more in height) per two established oak trees. Not a single Engelmann oak or valley oak seedling was tallied on any of the 932 FIA plots.

#### OAKS 2040: FUTURE PROSPECTS FOR CALIFORNIA'S OAKS

More than one million acres of California's oak woodlands are developed and approximately 750,000 are at risk of development before 2040. Twenty percent of California's oak woodlands are facing rapid and increasing urbanization by 2040. The oak woodlands of the Central Valley and Sierra Foothills face the most immediate threats. Eighty percent of California's oak woodlands that are at risk of development are located in the Sacramento and San Joaquin regions. See Figure 3.



Figure 2 – This map shows the distribution of oak woodlands and oak forests.



Figure 3 – This map illustrates the distribution of California's oaks 'developed,' 'at risk' and 'stable.'

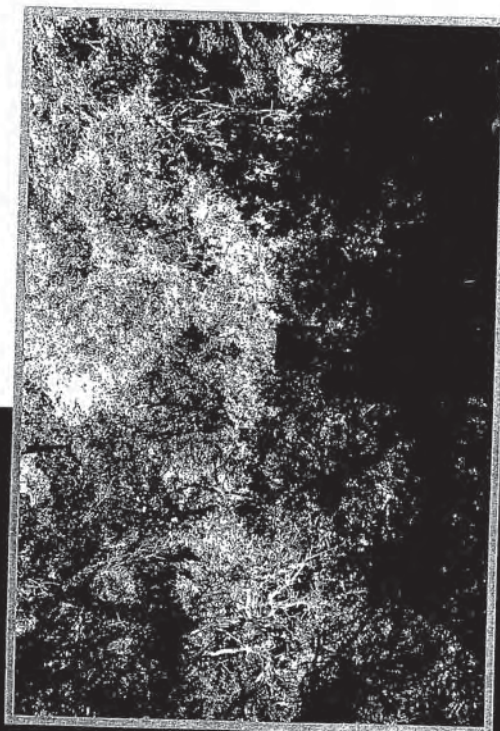


# North Coast Region

Del Norte  
Humboldt  
Mendocino  
Sonoma

## CALIFORNIA OAKS: THE REGIONAL ANALYSES

This section provides regional summaries. Each regional description includes oak distribution, oak woodland, oak forest diversity and oaks at risk.<sup>1</sup>



Oaks 2040 co-author Tom Corman is pictured in a mixed forest of Oregon white oak, interior live oak and Canyon live oak.

<sup>1</sup>Appendix B summaries herein presented statewide are further detailed by region in the full report online at <http://www.californiaoaks.org/Oaks2040>.

### North Coast Region

Counties included in this region are Del Norte, Humboldt, Mendocino and Sonoma.

#### OAK DISTRIBUTION

The North Coast Region has 1.3 million acres of oak woodland and 1.5 million acres of oak forest. In fact 35 percent of California's oak forest is found in the North Coast region, and oaks are present on 45 percent of the region's land (more coverage than any other region).

Mendocino County contains more than one-half of the region's oak woodland, but Humboldt and Sonoma counties also have significant stands. The North Coast's oak forests are found primarily within Humboldt and Mendocino counties.

In the North Coast region, there are 210 million oaks greater than 1" DBH and 110 million oaks greater than 5" DBH. Only the Central Coast tops the North Coast's two million oaks with DBH greater than 24".

#### NORTH COAST OAK DIVERSITY

The North Coast oak woodlands feature Oregon white oak, tanbark oak and mixed oak. Canyon live oaks and black oaks are also present, mixing in with Douglas-fir, madrone and bay. Oaks comprise approximately one-half of the basal area, trees/acre, and trees greater than 5" DBH/acre in white oak woodlands. In tanbark oak woodlands, *Quercus spp.* (true oaks) comprise less than 20 percent of the basal area, trees/acre, and trees greater than 5" DBH/acre, but when including tanbark oak (*Lithocarpus densiflorus*) oaks then comprise 48 percent of basal area and number of trees per acre.

In the North Coast's oak forests, tanbark oak is predominant. Associated species include Douglas-fir, redwood, madrone, bay, canyon live oak and black oak. In tanbark oak forests, oaks provide 42 percent of the basal area and more than half of total trees greater than 1" DBH.

### OAKS AT RISK IN THE NORTH COAST REGION

In terms of ownership, 84 percent of the North Coast's oak woodlands are located on private property. Most of the remainder is owned by the USFS and various other federal government agencies. Private ownership of oak woodland

increases moving southward, ranging from 40 percent in Del Norte County to 95 percent in Sonoma County.

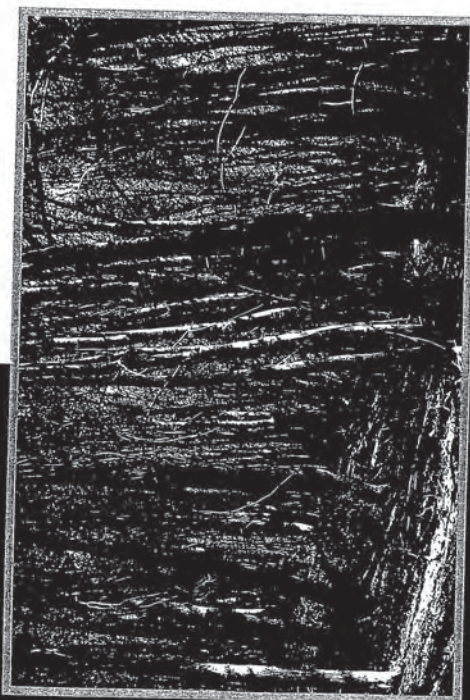
Eight percent of North Coast oak woodlands have already been developed and four percent are at risk of near-time development. Nearly 90 percent of the oak woodlands are reasonably stable for the time being.

Sonoma County has experienced the most urbanization with 20 percent of oak woodlands developed and 10 percent at risk. Oak woodland development rates are relatively low in Del Norte and Humboldt counties with more than 95 percent of oak woodlands being stable for now. Mendocino County oak woodland is already five percent developed and another five percent is at risk of development before 2040.



# North Interior Region

Lassen  
Modoc  
Shasta  
Siskiyou  
Trinity



Tanbark oak forest

## North Interior Region

Counties in this region are Lassen, Modoc, Shasta, Siskiyou and Trinity.

### OAK DISTRIBUTION

Nearly one million acres of oak woodland and 1.1 million acres of oak forest reside within the North Interior. The North Interior and the North Coast are the only two regions with more oak forest than oak woodland. With over 550,000 acres of oak woodland, Shasta County contains more than half of the region's totals. Trinity and Siskiyou Counties also contain large areas of oaks, with nearly 800,000 acres of oak forest and more than 400,000 acres of oak woodland in total. The North Interior has nearly 400 million oak trees, and 150 million of these oaks are greater than 5" DBH.

### NORTH INTERIOR REGION OAK DIVERSITY

In this region, a balanced mixture of blue oak, black oak, canyon live oak and Oregon white oak woodlands is found. Blue oak woodlands typically include gray pine and either interior or coast live oak, and oaks comprise more than 80 percent of the basal area and more than 90 percent of the trees. Oregon white oak woodlands include black oak, Douglas-fir, and ponderosa pine, and oaks make up 40 percent of the basal area and more than half of the trees greater than 5" DBH. In black oak and canyon live oak woodlands, oaks comprise 50 percent of the basal area and 70 percent of the trees greater than 5" DBH.

In the North Interior oak forests, canyon live oak and black oak are prominent. These two oak species mix in with the local conifer species, including Douglas-fir, ponderosa pine, sugar pine and madrone. In black oak forests, oaks comprise one-fifth of the basal area. One-third of the trees greater than 5" DBH are oaks. In canyon live oak forests, one-third of the tree basal area is oaks and less than half of the trees greater than 5" DBH are oaks.

### OAKS AT RISK IN THE NORTH INTERIOR REGION

In terms of ownership, 60 percent of North Interior oak woodlands are privately owned. The USFS manages 33 percent and the Bureau of Land Management (BLM) manages six percent. Excluding Shasta County, oak woodland ownership is split roughly 50-50 between private and public; the USFS manages most of the public oak woodland. Shasta County's oak woodland ownership is 73 percent private, 20 percent USFS, and six percent BLM.

Ten percent of the region's oak woodland has already been developed. Three percent is at risk for development by 2040. Eighty-seven percent is unlikely to develop before 2040. Shasta County oak woodland is most at risk with fifteen percent having been developed and five percent more to be developed by 2040. Oak woodlands in Trinity, Siskiyou, Modoc and Lassen Counties are all less than five percent developed and less than one percent at risk.

# Central Coast Region

Alameda

Contra Costa

Marin

Monterey

San Benito

San Francisco

San Luis Obispo

San Mateo

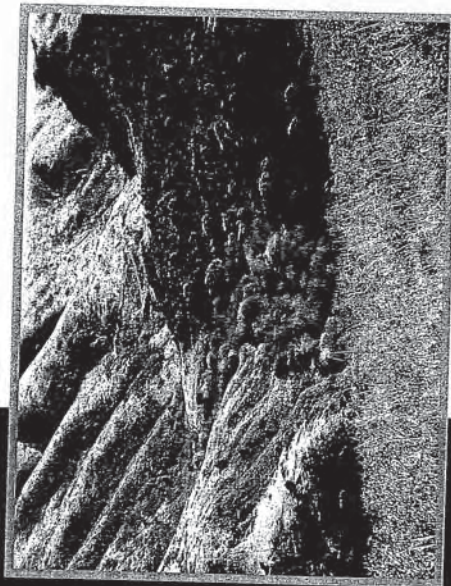
Santa Barbara

Santa Clara

Santa Cruz

Solano

Ventura



Coast live oak savannah in Marin County

## Central Coast Region

Counties included in this region are Alameda, Contra Costa, Marin, Monterey, San Benito, San Francisco, San Luis Obispo, San Mateo, Santa Barbara, Santa Clara, Santa Cruz, Solano and Ventura.

### OAK DISTRIBUTION

The Central Coast is home to 1.6 million acres of oak woodlands and 300,000 acres of oak forests. Oaks are present on 17.5 percent of the region's area.

Four counties provide 75 percent of the Central Coast oak woodlands: Monterey, Santa Barbara, Santa Clara and San Luis Obispo. Oak woodlands comprise more than 20 percent of the area in Alameda, Monterey and Santa Clara counties. Santa Cruz County has more than 100,000 acres of forest oaks, and there are oaks present on over 50 percent of county land.

### CENTRAL COAST OAK DIVERSITY

One-half of the Central Coast's oak woodland is coast live oak, and one-third is blue oak. Eighty percent of California's coast live oak woodland is in the Central Coast. Coast live oak woodland regularly includes bay trees, but oaks account for nearly 80 percent of the basal area in this oak type and over 90 percent of the trees greater than 10" in diameter. Blue oak woodland often includes coast live oaks.

Overall, more than 95 percent of trees in all size classes are oaks. Mixed oak woodlands include coast live oak and bay mixing with black and/or blue oaks. Oaks account for more than 60 percent of the basal area and more than 50 percent of the trees greater than 5" DBH in these stands. Thirty percent of the state's valley oak woodland is in the Central Coast, but there is not adequate inventory data to confidently describe this critical oak type.

Tanbark oak and coast live oak account for three-quarters of the region's oak forests. Redwood and Douglas-fir are dominant in tanbark oak forests, but oaks comprise 40 percent of the trees greater than 5" DBH and one-quarter of the basal area. Coast live oak forests often include canyon and/or interior live oak, with bay and redwood or Douglas-fir. Overall, oaks account for 10 percent of the basal area of

oak forest stands and provide more than 20 percent of the trees greater than 5" DBH.

### OAKS AT RISK IN THE CENTRAL COAST REGION

A complex land ownership matrix covers the oak woodlands of the Central Coast. Private ownership of oak woodlands predominates, averaging 75 percent throughout the region and ranging from 65 percent in Santa Barbara County to 95 percent in Alameda County. Another 15 percent is managed by the Los Padres National Forest, five percent by the US Military, and five percent by state and local governments. The Los Padres National Forest covers much of the oak woodlands in Ventura, Santa Barbara, San Luis Obispo and Monterey counties. Additionally, the BLM manages 20 percent of San Benito's oak woodlands and Fort Hunter-Liggert holds 12 percent of Monterey's oak woodlands. The state owns approximately 10 percent of oak woodland in Santa Clara, Contra Costa and Santa Cruz counties. Local ownership covers nearly 20 percent of oak woodland in Marin and Contra Costa counties.

Almost 85 percent of the Central Coast oak woodlands are unlikely to be developed before 2040. Most of the remaining area have already been developed. Less than three percent is still at risk of development. Monterey County once again leads the way with 24,000 acres of oak woodland at risk, more than half of the region's total. Santa Clara, Santa Barbara, and San Luis Obispo counties are next on the list. Four percent of Monterey's oak woodlands are at risk, topped in the region only by Santa Cruz County at eight percent. In fact, more than three-quarters of Santa Cruz's oak woodlands have already been developed and less than 16 percent are currently in the stable category. Both of these figures are records for the state.



# Sacramento Region

Butte  
Colusa  
El Dorado  
Glenn  
Lake  
Napa  
Nevada  
Placer  
Plumas  
Sacramento  
Sierra  
Solano  
Sutter  
Tehama  
Yolo  
Yuba



Mixed oak woodland dominated by gray pine

## Sacramento Region

Counties in this region include Butte, Colusa, El Dorado, Glenn, Lake, Napa, Nevada, Placer, Plumas, Sacramento, Sierra, Solano, Sutter, Tehama, Yolo and Yuba.

### OAK DISTRIBUTION

The Sacramento region's 2.1 million acres of oak woodlands provide nearly one-quarter of the state's total. Oaks are present on 20 percent of the region's land.

Tehama County has more oak woodlands than any other county in the region, but large oak populations are found in many counties. Thirty-three percent of Napa County is covered by oak woodlands, giving it the greatest density of oak woodlands in the state. Tehama, Yuba, Lake and Nevada counties are each at least 20 percent covered by oak woodlands.

### SACRAMENTO REGION OAK DIVERSITY

More than half of the Sacramento region's oak woodlands are blue oak. Gray pines mix in, but oaks comprise 70 percent of the basal area and 80 percent of the trees greater than 5" DBH. The region contains more than one-third of the state's blue oak woodland.

Interior live oak woodland contains blue oak, valley oak, black oak, gray pine, and ponderosa pine. Canyon live oak and black oak woodlands include Douglas-fir, ponderosa pine, and incense cedar. In canyon and interior live oak woodland, oaks make up 80 percent of the basal area and 90 percent of the trees.

The Sacramento region has more than one-third of California's valley oak woodland. Tehama County has the most blue oak, valley oak and canyon live oak woodland. El Dorado has the most interior live oak and black oak woodland.

Black oak and canyon live oak dominate the region's oak forests. Canyon live oak forests are 60 percent oaks, mixing with ponderosa pines and Douglas-fir. Black oak forests are 25 percent oaks, along with Douglas-fir, ponderosa pine, white fir and incense cedar.

### OAKS AT RISK IN THE SACRAMENTO REGION

More than 80 percent of the Sacramento region's oak woodland is privately owned. The USFS owns about 60 percent of the remaining public lands, including large portions of the oak woodlands in Plumas (81 percent), Sierra (74 percent), Glenn (28 percent), Placer (20 percent) and Lake (19 percent) counties.

Private ownership of oak woodlands surpasses 80 percent in all other counties, topped off by Solano (98 percent), Yolo (97 percent), Sacramento (96 percent), Colusa (94 percent), and Napa (93 percent) counties.

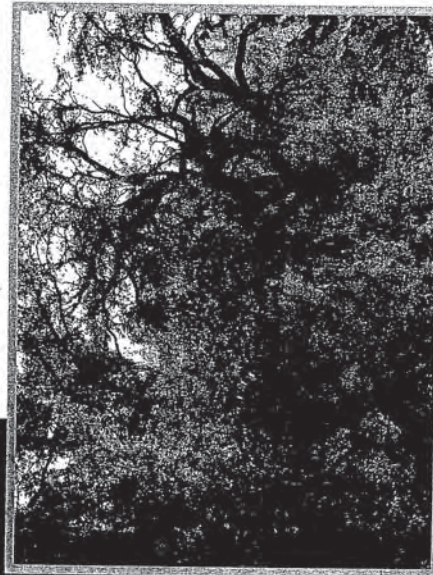
The Sacramento region is more at risk of development than any other. Only two-thirds of its oak woodlands are considered 'stable.' One-sixth is developed and one-sixth is at risk. More than 300,000 acres of oak woodland could be developed in the Sacramento region by 2040.

El Dorado County has more oak woodlands at risk than any other county in the state, but Tehama, Butte and Yuba counties are not far behind. By 2040, 80 percent of El Dorado's oak woodlands and more than half of the oak woodlands in Nevada, Yuba and Placer counties may be developed.



# San Joaquin Region

Alpine  
 Amador  
 Calaveras  
 Fresno  
 Inyo  
 Kern  
 Kings  
 Madera  
 Mariposa  
 Merced  
 Mono  
 San Joaquin  
 Stanislaus  
 Tulare  
 Tuolumne



Valley oaks in Calaveras County

## San Joaquin Region

Countries in this region are Alpine, Amador, Calaveras, Fresno, Inyo, Kern, Kings, Madera, Mariposa, Merced, Mono, San Joaquin, Stanislaus, Tulare and Tuolumne.

### OAK DISTRIBUTION

The San Joaquin region has more than 2.3 million acres of oak woodlands and 500,000 acres of oak forests. Oaks are present on only 10 percent of the region's land. However, certain portions of the region have far greater oak woodland density than others. Twenty-seven percent of the state's oak woodlands fall within these 15 counties. The San Joaquin region currently has more than 450 million oak trees. More than one-third of these oaks are larger than 5" DBH.

### SAN JOAQUIN REGION OAK DIVERSITY

More than half of the region's oak woodlands are blue oak and another 25 percent are interior live oak. Associated species include gray pine and buckeye, as well as valley oak, blue oak and canyon and interior live oaks. The San Joaquin region has more blue oak woodlands and interior live oak woodlands than any other region. In blue oak woodlands, oaks account for 70 percent of the trees and 80 percent of the basal area and trees greater than 5" DBH. In interior live oak woodlands, oaks provide 70 percent of the tree basal area and more than 80 percent of all trees. In canyon live oak woodlands, oaks comprise 55 percent of the basal area, 62 percent of all trees and 67 percent of trees greater than 5" DBH.

Canyon live oak and black oak comprise almost 90 percent of oak forests. Associated species in San Joaquin oak forests

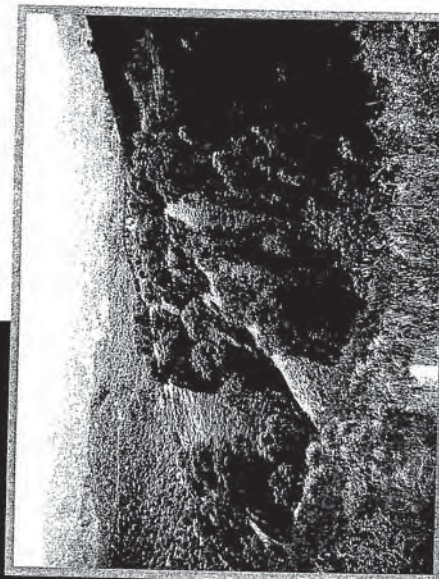
include incense cedar, ponderosa pine, sugar pine and white fir. In canyon live oak forests, oaks provide one-third of the basal area and nearly one-half of the trees. In black oak forest, oaks comprise more than half of the trees, but only one-third of the trees greater than 5" DBH and only one-quarter of the tree basal area.

### OAKS AT RISK IN THE SAN JOAQUIN REGION

Seventy-three percent of the San Joaquin region's oak woodlands are privately owned. The USFS owns 18 percent and BLM owns five percent. Ten percent of the oak woodlands in the region have already been developed. Ten percent are at high risk of development by 2040. Eighty percent are currently stable, however targeted planning could ensure that a greater number of acres are conserved for the long-term. Nearly 250,000 acres of oak woodlands in the San Joaquin region are at risk of development by 2040. Only the Sacramento region contains more oak woodlands at risk. In Madera, Amador and Calaveras counties combined, more than one-third of all oak woodland may be developed before 2040.

# Southern Region

Imperial  
Los Angeles  
Orange  
Riverside  
San Bernardino  
San Diego



Blue oak woodland in Macherna Mountain Wilderness, Los Padres National Forest

## Southern Region

Counties in this region are Imperial, Los Angeles, Orange, Riverside, San Bernardino and San Diego.

### OAK DISTRIBUTION

The Southern region is home to more than 300,000 acres of oak woodlands and more than 200,000 acres of oak forests. Combined, these 500,000 acres comprise only two percent of the region. However, discounting urban areas and desert, oak woodland concentration is much higher. San Diego and Los Angeles counties collectively contain more than two-thirds of the Southern region's oak woodlands. San Bernardino County has the greatest area (90,000 acres) of oak forests in the region.

### SOUTHERN REGION OAK DIVERSITY

Coast live oak and canyon live oak are most prevalent, but black oak and Engelmann oak populations are also significant. Eighty-five percent of the basal area is comprised of oaks. Ninety-two percent of the trees greater than 5" DBH are oaks and 96 percent of the trees greater than 1" DBH are oaks. The rare Engelmann oak is found only within this region, mostly in San Diego County. Los Angeles County is home to the majority of the region's blue oak and valley oak woodlands.

Canyon live oak and black oak dominate in the Southern region's oak forests. These oaks mix with Coulter pine, Jeffrey pine, incense cedar and white fir.

Oaks comprise less than 50 percent of the basal area but more than 80 percent of the trees and 65 percent of the trees greater than 5" DBH.

### OAKS AT RISK IN THE SOUTHERN REGION

The oak woodlands of the Southern region have the highest levels of public ownership found in the state. USFS owns 44 percent of the region's oak woodlands. Eleven percent of oak woodlands are owned by other government agencies,

and 45 percent are privately owned. The land ownership patterns within this region are variable. The oak woodlands in San Diego and Orange counties are predominantly privately-owned, but the USFS owns most of the oak woodlands in San Bernardino, Riverside and Los Angeles counties.

Twenty percent of the Southern region's oak woodlands have already been developed. Ten percent are at risk of development by 2040. Development of the remaining 70 percent is not anticipated in the near future. Oak woodland development percentages are higher than in any other region in the state. Only the Sacramento region has a lower percentage of oak woodlands that are considered stable.

Riverside and San Diego counties lead the region with almost 20 percent of their oak woodlands at risk. Both Orange and Los Angeles counties have already had over 20 percent of their oak woodlands developed.

San Diego and Orange counties have the lowest percentages of stable oak woodland with 65 percent in each county. San Bernardino tops the list with 78 percent stable for the time being.



APPENDIX A – TABLE ONE: ACRES OF COVER WHERE OAKS DOMINATE THE WOODLAND BY COUNTY AND OAK TYPE

REGION	COUNTY	OAK TYPE										Total Acres
		Black Oak	Blue Oak	Canyon Live Oak	Coast Live Oak	Engelmann Oak	Interior Live Oak	Mixed Oak	Oregon White Oak	Tan Oak	Valley Oak	
North Coast	Del Norte	84	0	1,011	0	0	0	2,839	355	42,778	0	47,168
	Humboldt	16,671	0	20,831	10	0	0	13,572	100,484	151,873	0	305,442
	Mendocino	49,553	12,040	60,603	863	0	16,715	119,231	283,036	104,631	4,206	650,879
	Sonoma	3,212	524	7,354	21,601	0	1,404	176,852	41,124	30,402	524	283,077
	Lassen	7,945	0	0	0	0	0	0	438	0	0	8,403
North Interior	Madec	737	0	0	0	0	0	0	369	0	0	1,106
	Shasta	170,028	268,857	83,918	0	0	4,643	46	21,116	336	6,055	554,998
	Siskiyou	13,053	0	57,578	0	0	0	10,141	97,529	5,646	0	183,938
	Trinity	51,154	275	84,077	0	0	0	0	86,692	15,747	11	231,956
	Alameda	0	29,273	12	40,340	0	0	28,255	0	0	1,396	99,275
Central Coast	Contra Costa	30	29,758	58	32,564	0	0	5,051	0	0	691	70,605
	Marin	0	318	0	10,383	0	0	36,792	875	0	108	48,468
	Monterey	679	252,092	0	266,145	0	0	0	0	0	0	26,776
	San Benito	0	61,729	0	44	0	0	753	0	0	0	82,534
	San Luis Obispo	1,773	68,413	92	83,636	0	0	25,419	0	31	8,672	188,035
Sacramento	San Mateo	0	515	0	15,021	0	0	3,089	0	0	65	20,693
	Santa Barbara	0	22,548	26,794	170,970	0	0	58,888	0	197	2,925	223,435
	Santa Clara	52	58,083	110	74,259	0	0	6,362	0	10	3,543	194,946
	Santa Cruz	0	0	0	22,474	0	0	0	0	48	0	28,884
	Ventura	61	151	14,627	49,929	0	0	46,668	0	0	1,179	65,747
San Joaquin	Butte	20,042	100,835	31,037	0	0	0	4,045	0	5,031	429	208,084
	Colusa	353	112,868	3,342	0	0	167	0	450	0	1,563	118,741
	El Dorado	35,900	46,247	24,591	0	0	90,549	15,893	0	0	3,700	216,888
	Glenn	0	5,842	81,184	0	0	0	23	0	0	0	87,016
	Lake	23,948	90,203	34,348	42	0	3,508	15,013	7,777	1,091	2,626	117,816
Southern	Napa	1,236	62,243	941	5,719	0	6,682	88,715	1,380	12	1,474	178,056
	Neveda	27,129	34,650	12,228	0	0	49,647	2,686	0	84	2,172	128,697
	Placer	35,441	49,754	11,720	0	0	24,333	12,212	0	0	2,709	166,403
	Plumas	18,443	0	11,720	0	0	0	38	0	102	0	30,413
	Sacramento	0	7,254	0	0	0	789	26	0	0	49	8,119
San Joaquin	Sierra	9,200	8	8,312	0	0	8	3	0	79	0	17,869
	Solano	44	17,365	0	2,010	0	848	6,228	0	0	1,074	27,568
	Tehama	24,505	443,003	46,383	0	0	1,972	0	1,069	71	12,228	579,242
	Yuba	10,459	47,733	4,150	0	0	1,211	0	0	1,485	1,384	61,550
	Alpine	612	0	130	0	0	26,186	527	0	0	0	742
San Joaquin	Amador	9,360	49,802	12,071	0	0	44,813	5,012	0	0	0	123,080
	Calaveras	11,229	115,449	26,532	0	0	42,538	860	0	0	235	194,362
	Fresno	15,929	228,935	41,537	0	0	81,779	22,354	0	0	424	390,338
	Inyo	590	0	3,546	0	0	0	25	0	0	0	4,161
	Kern	16,732	153,491	49,437	10	0	71,062	22,822	0	0	7,059	323,013
San Joaquin	Kings	0	9,576	0	0	0	0	111	0	0	0	10,029
	Madera	9,407	124,132	29,844	0	0	98,561	1,896	0	0	0	266,160
	Mariposa	12,117	120,825	42,628	0	0	106,607	684	0	0	798	283,858
	Merced	0	50,868	0	2,411	0	5	3,573	0	0	532	57,790
	San Joaquin	0	17,484	0	424	0	437	1,686	0	0	18	20,449
Southern	Stanislaus	0	104,218	0	1,288	0	1,279	1,074	0	0	181	108,038
	Tulare	43,406	157,740	43,210	0	0	67,799	33,004	0	0	256	345,915
	Tuolumne	18,082	72,807	48,071	0	0	72,308	349	0	0	186	211,803
	Los Angeles	1,596	2,487	60,102	30,790	32	351	970	0	0	2,177	98,803
	Orange	0	0	2,419	10,440	0	0	0	0	0	0	12,859
Southern	Riverside	3,248	0	14,207	12,128	2,371	910	172	0	0	0	33,036
	San Bernardino	11,083	0	33,953	2,534	0	538	761	0	0	0	48,869
	San Diego	10,423	0	9,255	74,491	17,964	0	8,519	0	0	0	120,903
	ALL COUNTIES	692,597	3,184,018	1,016,373	930,534	20,367	869,380	738,453	539,449	388,495	85,882	8,565,459

www.californiainfo.org/Oaks2010

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Post-fire black oak regeneration in Mendocino National Forest





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October 2006

## California Oak Foundation

*Our mission is to protect and perpetuate native oak woodlands.*

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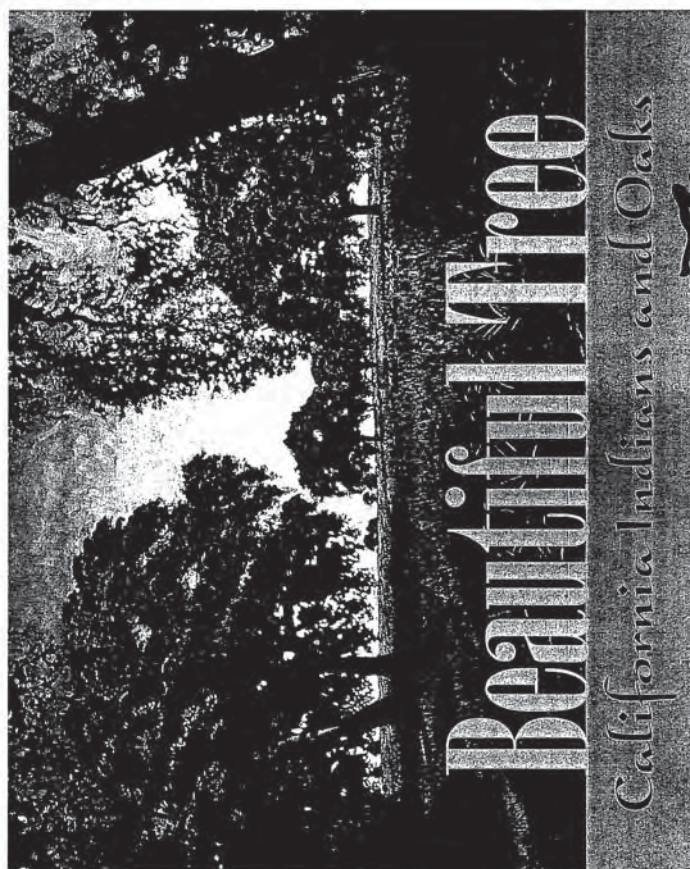
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# Oaks

## California Oak Foundation

*Our mission is to protect and perpetuate native oak woodlands*





SARA-LARUS TOLLEY

When Europeans first stepped foot in the territory now called California, it was one of the most densely populated areas on the continent. The rich ecosystem was made up of a web of interrelated plants and animals, many of which relied on oaks or acorns to survive. Remnants of the great oak savannas remain in some parts of the state, but urbanization, agriculture, and grazing have taken their toll. Yet, Native peoples of California still consider the acorn a symbol of the sustenance of their cultures, and today environmentalists frequently turn to the tribes to help build coalitions for the preservation of open space where oaks might spread their branches. One important connection that the tribes emphasize in such struggles is that protecting oaks means protecting sacred areas: village sites, pounding rocks, burial places. Here, respecting Native peoples and respecting oaks go hand in hand. This special supplement celebrates Indian peoples' relationships with oaks, oak-based ecological

Kaweah Oaks, oil on canvas, 2004, by Laura Cunningham.

In the Pomo language,  
the word for oak,  
chiskale, means  
"beautiful tree."

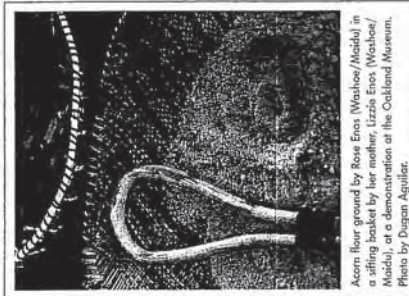
communities, and acorns. It highlights connection and looks to protection, in the spirit of something Makahmo Pomo basketweaver Elsie Allen once said: "The Indians and the acorn trees are just like the same thing. We wouldn't be the same Indians if there weren't acorns. For as I know, the acorn trees have always been here and so have we."

There are twenty species of oak in California and, ecologically speaking, sixty-eight oak communities. Oaks are absent from only the most extreme environments. This means great diversity on a common plan: valley oaks can grow up to

130 feet tall, while the huckleberry oak grows only three or four feet. Botanically, oaks (genus *Quercus*) are divided into three broad groups, apparently distinguished by bark coloring, but in fact distinguished by acorn production: there are white, black, and intermediate oaks. White oaks produce an acorn crop in one year; black oaks take two years. And while the meat of white

oak acorns is white, sweet, and palatable, black oak acorns have higher fat content and are yellow in appearance and often bitter with tannins.

"Intermediate" oaks are just that—intermediate between white and black. The black oaks are generally the favored species when it comes to harvesting acorns for food. Tan oaks are also favored, and perhaps even preferred. Botanically tan oaks belong to a separate genus and species (*Lithocarpus*) and are thus technically not oaks, but we include them in this supplement on the merit of their tasty acorns and the cultures they have sustained.



Acorn flour ground by Rose Enos (Washoe/Noish) in a sitting basket by her mother, Lizzie Enos (Washoe/Noish), at a demonstration at the Oakland Museum. Photo by Dugan Aguilera.

As with all things in nature, oaks have cycles of productivity. Some years are better for acorn than others and thus the diversity of oak species in a landscape is very important. In terms of human use, these cycles of good and bad years mean that the gathering and storage of acorns is a true skill. Along similar lines, tribal leaching technologies were real breakthroughs that made available a nutritional bounty from an otherwise unpalatable and indigestible plant form. As Pavlik et al. explain, "Depending on the species, acorns can contain up to 18 percent fat, 6 percent protein, and 68 percent carbohydrate (the rest being

water, minerals, and fiber). In comparison, modern varieties of corn and wheat have 2 percent fat, 10 percent protein, and 75 percent carbohydrates. Acorns are also good sources of vitamins A and C and many of the essential amino acids" (2002: 76). The contributors to this supplement celebrate the taste and styles of eating such an excellent food source.

California peoples' technological innovations and cultural patterns of using acorn led, in turn, to techniques for leaching buckeye, grinding pinole, and processing other

plants. Again and again we'll find that oaks played their part in the bounty of the California landscape in more than the most obvious ways.

For instance, it is worth contemplating the mycorrhizal relationship between oak roots and fungi. Oaks gather water through fuzzy white root coverings called mycorrhizae and the sugars in these root coverings attract fungi that give the oak roots water and minerals. What this leads to

Native Californians and foresters often differ on their views of the tan oak. For Native Californians, the tan oak is a beautiful tree, a source of nourishment and delight; for foresters, it's a tree that usurps land from other trees, grows very quickly, and is generally seen as a scourge. Because of this difference, Native communities and foresters often disagree about which trees to protect and conserve.



is the production of the delectable *Boletus edulis* (porcini), honey, and other mushrooms!

Further still, the large amount of protein and fat in acorns is more than enough to nourish a wide variety of animals. Mule deer browse extensively on acorns as well as on oak leaves and twigs. And it's not just deer: of California's 169 terrestrial mammals, at least 60 use oak communities and landscapes. Oaks support little mammals—harvest mice, dusky-footed woodrats—and big ones—mountain lions, black bears, even grizzlies back in the day. Joaquin Miller and many others described young grizzlies dining delightfully in tired oak

branches, or adults pounding their weight against trees to get the fatty seeds to fall.)

Countless varieties of insects are attracted to these trees, too. Oaks host more gall insects than any other native tree in the United States. A gall develops as part of a chemical reaction that occurs when insect eggs (typically wasp eggs) hatch into larvae. These tumor-like growths will be used as food for the larvae so they can make it to their adult stage.

Meanwhile, millions of migrating birds are dependent on these same insects that inhabit the oak corridors. (The term "corridor," by the way, might help you visualize the state's remaining oak communities as pathways for animals that, sadly, do not always connect without breaks.) In oak communities, one finds so many amazing creatures: Rare ants. Arboreal salamanders. Western

skinks, with their glamorous blue tails, as you'll see represented in one of Bari Talley's illustrations in this supplement. Even common creatures become alluring when their biological story gets told: oaks support communities of acorn woodpeckers, who are cooperative breeders, sharing their granaries as they raise their young in extended families. So dependent are they on their oak

environment, the cooperative system breaks down when there are shortages due to the destruction of the many varieties of oak they rely upon. Oaks, you see, are the keystone species in their environments. If they go, the whole interrelated web goes. The point here and throughout this supplement is that when we think of oaks, we should expand our sense of the bounty that they provide.

Again looking to humans and their relationships with these trees, besides the acorns and the animals attracted to the acorns, oaks provide wood for cooking and heating and material

for decorative and everyday arts. Oaks also form the basis for creation myths and tribal identities: eating acorn has become a means of internalizing culture and continuing oneself (on a cellular level) as a California Indian person.

And teaching about oaks and acorn is a means of cultural education. Here, culture and conservation come together once again, because a traditional component of the California Indian worldview is, in the most general sense, that the bounty of oaks needs to be used to be fully respected.

Helen McCarthy has written sensitively about this topic.

There is a strong interdependence between plants and people. The acorns—and other resources as well—were put here on earth for people to use, for people's survival. The people need the plants in order to live, but the plants also need the people; they need people to gather their seeds, and leaves, and roots, and to talk and sing and pray to them....if plants are not used by people the spiritual relationship is broken, and the plants no longer have a place (1993: 225).



Mary Beaufield (Iroquois) blowing oak off a cooking stone that has been lifted from the fire with a cooking paddle. Suning Village dedication, Patrick's Point State Park, September 22, 1990. Photo by Beverly R. Ortiz.

This might offer a way of thinking about such recent scourges as Sudden Oak Death; in answer to the disease, Kashaya Pomo elders have been praying over the tan oaks. This practice of respectful use runs counter to non-Indian ecological perspectives that might put oaks in isolated preserves (like animals in zoos), surrounded by pavement or subdivisions, valued for their beauty alone. The dilemma of the modern world always seems to be a variation on the idea that without flooding, predators, burning, and gathering, the whole system doesn't work

as well, but going back to "the way things were" is no longer completely possible. California Indians find themselves enmeshed in these kinds of conundrums and compromises. California's tribes, for instance, strive for a balance of use and protection of resources as they make political decisions about what is best for their communities today. In what follows, readers will find examples of the kinds of political and cultural use decisions tribes have made. What will become clear is that it is not at all hard to find a lifetime of lessons if one takes the

## The Heart of the First Oak

In the Maids creation myth it is declared that the Creator's first act after forming the dry land, was to cause a great oak tree to spring up on which grew all the twelve varieties of acorns. Later these different varieties came to grow on different trees. The marvellous tree, however, created by Koyanup, was still standing, according to old men, at Durham (Ta-doko) at the time when, in the early 1840s, the first settler arrived. The tree was cut down by him in spite of strong protest by the Indians, and it is declared that the stump bled profusely at the first stroke of the axe, and that in the heart of the tree was found a peculiar substance like a roll of thin, strong paper, from which the blood flowed. The exact spot at which the tree stood is still pointed out.

Roland B. Dixon. "The Northern Maids." *American Museum of Natural History Bulletin* (1907), 17 (3).



Maids Tree of Life, by Dolbert Castro. Photo courtesy of the Oakland Museum of California.

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## Acorns Were Not Always Bitter

According to Cahulla oral literature, acorns were not always bitter. At one time, it is said, two powerful shamans had an argument. One of them caused all acorns to become bitter to harm the other shaman. Since that time it has been necessary for Cahulla to leech their acorns. Another version of the story says that it was the creator-god Mukar who became angry at his people and turned acorns bitter. ♡

*Lovell John Bean and Katherine Siva Saubel. Temalpach: Cahulla Indian Knowledge and Usage of Plants. Malki Museum Press, Morongo Indian Reservation; 1979.*



Julia Parker (Coast Miwok/Kashaya Pomo) removing acorn from a leaching basin, Yosemite National Park, c. 1980. Photo by Beverly R. Ortiz.

## Story of Oaks

The White Oak (*alwham*) had her cap all finished nicely. The Live Oak (*am'pu*) had her cap all finished too. Black Oak (*hancip*) was making *ashpanditch* (a long water-packing basket), and when they said, "Let's go," she put her hat on. That's why it is long. Tanbark Oak was making an Indian basket cap (*ap'zan*) and hers wasn't finished, but she put it on, and that's why the tanbark acorns look so rough.

*Icharya were the beings before they became trees and rocks.*

White Oak and Live Oak laughed at Tanbark Oak and Black Oak, but they retorted, "As long as people live, they will always have

us first, and you—they don't think much about you." And that is why, when people are together, they always make tanbark acorn soup and the next they use is black oak.

They laughed at Tanbark Oak because her cap looked so rough, and at Black Oak because her cap was so long. ♡

*Mary Ite. In Karuk Myths by Alfred Kroeber and Edward Gifford. Berkeley: University of California Press, 1980.*



New Caps, by Burt Gayle, Warmhead Talley.

## The Annual Harvest

INTERVIEWS BY SUELLEN OCEAN

*Editor's note: In the fall of 2004, Suelien Ocean, author of Acorns and Eat 'Em and The Acorn Mouse, interviewed Native Californians throughout the state about that year's acorn harvest. What follows are excerpts from her interviews with Ronald W. Lincoln, Sr., Julie Tumamait-Stenslie, and Patrick Renick.*

In the west, over the mountains, Ronald W. Lincoln, Sr., was out gathering acorns when I first tried to reach him. Ronald lives on the Round Valley Reservation in Covelo, which is located in Mendocino County. His heritage is Wiyackti, Konkow, and Pomo. Ron and members of his family are gathering the acorns this (and every) year from black oak and an oak trees. The older family members are teaching the young ones. They talk as they gather.

When asked if the places where they gather are ancient, Ron's reply is that

they are pretty much old, but a lot of the old trees have been cut down or a fire went through there. We are fortunate at Round Valley Indian Reservation; we have a lot of [gathering sites] and we develop relationships with the ranchers. Many will work

with us, it's a yearly thing, and we're always looking for new places. The regular spots are sparse; we need new spots. Every other year we go to different sites, they're all mapped out.

We keep up the tradition and share with other folks and barter. We like to have acorns available for gatherings and ceremonies. We make acorn mush and it's served by itself, why spoil it by adding anything to it? It's a natural food. Processed food now is killing everybody.

The trees have a spirit about them; they are living things. That's what we honor.

The acorns are a sacred food, and we handle them gently. We crack them and clean them up nice. We are respectful and process them with good thoughts in mind.

We're modern, we use whatever is available, we dry them using cardboard or sacks that we can stick out into the air, or if it's raining we put them by the stove. We try to be quick about it. Acorns, they don't wait for anybody; if we don't gather them up the deer will get them.

## Hot Springs Leaching

Hayes (1929-30) reported a variation on the customary leaching technique among the Cupeño at Warner's Hot Springs. He observed them soaking acorn and plum seed in the hot springs. Romero (1954:56) also recorded an alternate processing method in which acorns were put into fine, hand-woven net bags tied with rawhide and placed into a stream. According to Romero, the running water caused acorn shells to split open and released most of their tannic acid. They were then dried and ground into meal.

*Lovell John Bean and Katherine Siva Saubel. Temalpach: Cahulla Indian Knowledge and Usage of Plants. Morongo Indian Reservation; Malki Museum Press, 1979.*





a valley ripe with acorns  
and yellow poppies everywhere  
as I lay here  
dreaming of you

William Oundasan. Round Valley Songs. Minneapolis:  
West End Press, 1984.



Julie Tumamait-Stenslie is a storyteller from the  
Chumash nation living "fourteen miles inland, in  
Ojai, in oak-studded Ventura County," where  
there are live and coast oak as well as smaller  
varieties, probably thirty different varieties of  
oak trees, she said. She has been working as an  
educator for about sixteen years and knows a lot  
about her people.

Julie grew up eating a lot of natural foods, but  
she only started working with acorn about ten  
years ago. At first she stored the acorns in plastic  
bags, but she quickly learned not to do this because  
in plastic bags the acorns retain moisture and go  
bad. Now she gathers them in plastic bags and  
transfers them to paper bags so the acorns can dry.

I had to figure out myself that acorns turn  
brown after you crack them open. It wor-  
ried me at first. I also found that after

roasting them I cool them and put them in  
the blender to grind them into flour.

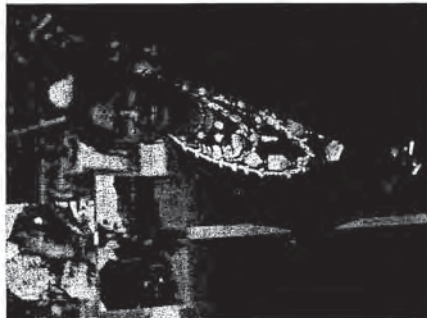
Leaching them in the blender, if I only  
have two or three cups, it works well. I just  
fill it up with water and pour it off. This  
way, even if it takes a long time, it makes  
me feel that I am still doing it the old way.

I try to roast [them] and put [them] in  
Ziploc bags and stick [them] in the freezer.  
One by one, I take a bowl and wash them  
to get all the dirt out and sit in front of my  
favorite [TV] program or sit outside with  
my little boy before or after dinner in the  
beautiful weather and use a rock to crack  
them. My husband crunches over the shells  
when he comes home, and the birds—  
scrub jays—enjoy their share. We have a  
great cookie recipe and my husband asks,  
"When does the end product appear?"

There's got to be an easier way than one  
at a time, but I make myself comfortable. I  
get a cup of coffee....I work with about six  
cups of flour at a time, going through differ-  
ent stages. [After shelling I] roast, then  
blend into a flour, then leach them in a  
bowl or blender. I use warm water and let it  
sit. I keep an eye on it and keep going back  
every half hour. I can get it done in one day.  
I don't like to boil them; I feel like it boils  
nutrients out. Once they are leached I  
spread the flour out onto a tray and bake  
again in a very low-temperature oven. I love  
to run my hands through the acorns, it's  
such a wonderful feeling.

Julie attends the Acorn Festival in Malibu, now  
in its fourth year, as a storyteller and demonstra-  
tor. This year she brought acorns. "The kids stay  
for almost an hour, cracking and cracking the

Julie Tumamait-Stenslie, Ojai Day, 2004.  
Photo by Jonathan Epstein.



acorns, twenty kids coming and pounding. There's  
something very calming, a release of anxiety. The  
parents say, 'I can't get my kids to leave.'"

Some parents are concerned that acorns  
could be poisonous. But Julie calmly assures  
them that the tannic acid is released in the  
leaching process. She teaches the parents and  
children that her ancestors learned how to  
process acorns by watching the animals, who  
buried them. "I love bringing [our culture] to  
non-Natives as well as Native children. The pub-  
lic schools are kind of clueless, still teaching his-  
tory as if we are no longer here," Julie said.

Tribal elder Patrick Renick, of the Hopland/  
Sherwood Pomo Indian Tribe, already has a  
bucket of tan oak acorns. They're the only ones  
he gathers. "I'm only sixty-two," he proclaimed.  
"[but] I don't look my age and don't feel it."  
When asked if it's the acorns, he said, "Yes, and  
the seaweed. I gather quite a bit of it."

Born in a hop field in Sonoma County, Patrick  
said his mom passed away when he was two years  
old. After that he was raised by Lucy Cooper, his  
great-great-great-grandmother, who was ninety-  
eight years old when his mother died.

We lived on an original dirt floor outside of  
a makeshift house; we came in the house  
when [the floor] flooded. We did the acorns  
as a family thing. My great-great-great-  
grandfather, Jim Cooper, lived to be 108. I  
learned everything from them. I didn't  
speak English, I spoke Northern Pomo.

Patrick is quick to correct himself: "I'd be lying  
if I said I didn't speak English, because I could  
cuss good."

Patrick attended the River Union Elementary  
School in Talmage, near Ukiah. His father,  
Robert Renick, worked there in the pear orchards  
as a ranch manager. The family used pear boxes  
to gather acorns.

Acorns were a [staple], like wheat, for us.  
We gathered them on old traditional  
grounds, usually by the coast. That's origi-  
nally where we were from; the old people  
lived way up by Hales Grove, headwaters  
of the Udal Creek. My Dad would take us

up in the farm truck; we had no car. We  
would drive five hours on a one-and-a-half-  
lane road.

The road Patrick refers to is the "Willis  
Road," now Highway 20, a popular road that  
links 101 to the tourist town of Mendocino, but  
back then it was "a county road. You couldn't get  
any speed up, it was mostly gravel and rock;  
there would be a tree in the middle of the road,  
we'd have to go around it."

Patrick and his family would pick all day and  
return home in the evening with three or four  
100-pound sacks.

We'd use regular potato sacks instead of  
carrying the heavy hop sacks [because] hop  
sacks are huge. Then we'd empty the potato  
sacks into the hop sacks. It would take  
about three hours to pick. Dad was pretty  
agile and he'd pick fast but the old people  
were slower.

We made bread and the mush both.  
We'd crack [the acorns] and let them dry.  
Keep them dry all the time and then we'd  
use our mortar to grind them. We'd crack  
them with rocks [and] before we did that  
we'd let them dry for a week or so and  
then we'd put them in a willowing basket,  
a round, flat basket that was made out of  
willow or redbud. The husk was like a  
peanut shell, [and] the wind current would  
blow the husk away. Then we'd grind it in  
the mortar.

Today I use a hammer and a thirty-six-  
inch-high oak stump because I can sit down  
and do it. If I use a table it will vibrate. It  
takes about three or four days to crack a 100-  
pound sack. That's just to crack them. Then  
I put them in short cardboard boxes and  
sack [them] in the house by my heater.

To grind the acorns Patrick uses a Cuisinart  
food processor. "It does two or three cups; it's  
pretty powerful. Ideally I'd like to get a bread  
grinder for wheat and things, because I'm trying  
to get away from the massive work. That's why  
people don't do it."  
Asked about storage, Patrick says, "That's the  
trick—it's always been really tough [because]



## Ishi's Wife

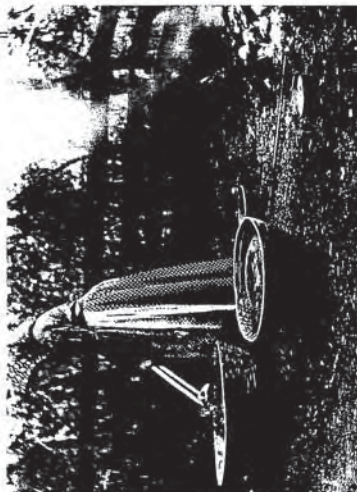
I fell in with a wild Indian once, in the jail at Oroville (my own presence there being entirely voluntary). Everybody was asking him (in various languages and pantomime) if he had a wife, or knew any women. His reply was to put a turnip in his bucket of ice water, let it sink to the bottom, then motion with his finger and say "pup! pup! pup!" Everybody thought he was saying that his wife was shot or drowned crossing a river, but he was describing the boiling of the acorn mush as the women put rocks in it.

T. T. Waterman, "Indians Devote Hard Work to Meal Grinding: Gathering Acorns for Food Is Talk of Women," *The Fresno Morning Republican*, June 29, 1924. In C. Hart Merriam's papers at the Bancroft Library.

they'll get bugs, like flour will. So I put four cups in a Ziploc and keep them in the freezer; that way no bugs will get them." As long as the nuts are dry, they can last for two years before being processed. If he's really hungry for acorns, however, he'll crack, process, and cook the acorns in one day.

After I grind them, I'll put them in a strainer...and then I'll turn the water on—cold faucet—and let it barely drip for twenty-four hours and it leaches out. Then you can put it in a pot on very low heat like cornmeal mush, stir once in awhile, [and] in twenty minutes turn it off and let it sit. It will set, kind of like a gel, and once it cools down you can eat it at your leisure. The day after I make it, I have it in the refrigerator and most of the time I eat it cold, put it in a little bowl. Tan oak is the sweetest of them all. But you can eat black oak and white oak too. You can mix them in there.

Patrick likes to bring acorn mush to elders who get hospitalized because "it cheers them up, and it's really palatable."



Kaskow woman stone-boiling acorn soup near Bidwell Bar, Butte County, c. 1903. Photo by John W. Hudson, courtesy of the California Department of Parks and Recreation.

When old Indians go into the hospital the first thing they ask is, "You got any acorn mush?" First I used to fight with the doctors and nurses about it. Then I asked them, "Well, if I prove it, will you let me give them the acorns?" And I'd have a piece of paper in my pocket from UC Berkeley that broke it down into different compounds, nutrition-wise.

When it comes to calculating each year's acorn harvest, Patrick says, "You never know. I spend a lot of time prospecting for nuts. You have to go along the road and look and see if they are plentiful or not. We can look up into the trees before they drop. It's funny, sometimes [the oaks] go dormant for a couple years. Where I'm going this year, it's loaded, but I can't tell you. It's a secret!"

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## The Little Acorn

Translated into Yurok by Aileen Figueroa (Yurok) and Barbara McQuillen



kol' wu-nu-ahl kue woo-mehl  
Long time ago an acorn  
There once was an acorn.

chey-ko' woo-mehl  
Little acorn  
The acorn was small.

o teyn-pey wehl  
It rained  
The rain fell.

u skue-soo ta' u-nok-sechl  
Good the weather come  
The sun shined.

o hue-nem' kue woo-mehl  
Grew the acorn  
The acorn grew.

o hue-nem' kue ue' weert  
Grew the root  
The root grew.

o hue-nem' ue kaap  
Grew a leaf  
Then a leaf grew.

kitch nue-mee-pe' kue woo-mehl  
Was very big the acorn  
The acorn grew more.

hey-won chey-kenec ho'-mo-no'  
At first small tan oak  
First it was a small tree.

kitch o nue-mee-pe' kue ho'-mo-no'  
Was very big the tan oak  
Then it grew into a big tree.

ho'-mo-no' kitch oo okw kue woo-mehl  
Tan oak was it had the acorn  
The tree grew a new acorn.

cho' pen-noo' kue woo-mehl  
Fell to the ground the acorn  
The acorn fell to the ground.

kol' wu-nu-ahl kue woo-mehl  
Long time ago an acorn  
There once was an acorn.

chey-ko' woo-mehl  
Little acorn  
The acorn was small.

Both pages: Illustrations by Bart Gaylor. Mercedwood Valley from *The Little Acorn*.

OF THE NEWS FROM THE YUROYUK



## Acorn: An Indigenous Curriculum



The Klamath-Trinity Joint Unified School District's Indian Education Program works to create culturally appropriate books to help students learn English as well as the Hupa, Karuk, and Yurok languages. *The Little Acorn* (2002), written by Sarah Supphan and illustrated by Bart Gayle Morehead Talley (Karuk/Yurok), is a good example. The story, about the cycle of growth, fruiting, and rebirth that is the little acorn's as well as humankind's, is as rich and satisfying as the marvelous illustrations. More information about curriculum and books can be found at [www.humboldt.k12.ca.us/ka\\_usd/K-T/indianeducation/curriculum2.htm](http://www.humboldt.k12.ca.us/ka_usd/K-T/indianeducation/curriculum2.htm).

Author Supphan had this to say about her work: When my twin daughters were in kindergarten here in Hoopa, I became aware of the difficulties that unfamiliar curriculum

can cause children. I remember one worksheet they were given in which they had to find rhyming words. One word they had to rhyme was "pail"—the thing that we always called a bucket. This totally stumped them because they didn't know what a pail was. Later I noticed the mention of such things as "chutes and ladders," elevators, traffic lights, even animals that were unfamiliar to the children in our area. Of course, the things that our kids know and understand in great detail—food such as acorns—were never mentioned. It was at that point that the idea of making books, videos, and curriculum that would be relevant to our own children took "seed" in my mind, so to speak.

Later I found out that there is sound educational philosophy behind the creation of such materials. As Jon Reyhner wrote, "Culturally relevant materials can provide the critical link between prior knowledge and texts that students read. Such materials are absolutely essential if Indian children are to succeed early in their progress toward literacy" (in *Teaching American Indian Students*).

I originally wrote the story to be included in the Karuk Tribe's HeadStart curriculum. I have a real love for children's books and I particularly like what I call "roundabout" tales, where the story begins and ends at the same place, as it does in this book.

We do sell our curriculum, including the books, throughout the state, although the only marketing we do is to have a website and to occasionally set up a booth at an educational conference. Everything we make through curriculum sales goes back into curriculum reproduction or toward the creation of new curriculum. ☼

## Oak Trees: Why Indians Reached the Pinnacle of Greatness

JUSTIN FARMER



Receiving Cradle, 'weevil, willow, scrub oak, commercial deer skin, 2000, by Justin Farmer (Ipai).

In this twenty-first-century, we seldom give much thought to the use of native woods, other than that wood is the stuff that holds up most trees, and, if it wasn't for trees, where would we get rubber, or maple syrup, or oranges? Fortunately, there are still a few of us old guys around who think in terms of how it was before J. Serra rested his gimpy leg on a boulder in San Diego circa 1769. At that time the Natives were mostly well and happy, and chainsaws hadn't been invented, so a lot of trees were still standing. Indians used oak trees for a great number of purposes, not just to warm the old tipi (*kish*).

If a twenty-first-century person absent-mindedly wandered into a museum and bumped into a showcase of early California Indian things, the most striking feature about many of the artifacts there would be the fairly high percentage of items made of or utilizing oak in one form or another. A close look at the step ladder-style cradle will reveal that oak (often *Quercus agrifolia*) was used for both the vertical frame members as well as the horizontal slats. Almost any wood would suffice but coast live oak seemed to be a bit "warmer" than pine or cedar.

Sitting next to the cradle in that same museum case might very well be a throwing stick, or rabbit stick. To the uninitiated, it might look vaguely like a fat boomerang. This implement was used by California Indian people for hunting and killing small to medium game, and for throwing at people you don't like very much. Our rabbit sticks are usually made of interior live oak (*Q. agrifolia*) or "scrub oak" (*Q. dumosa*). These oaks are used because they are extremely tough and will not break when they come in contact with a deer, a rock, or an enemy's head.



# The Children of the Great Oak

WILLIAM PINK

The Great Oak Tree is located on the reservation of the Pechanga Band of Temecula Luisio Mission Indians. It is considered to be one of the largest and oldest coast live oak trees in the world, although to accurately determine the age of the Great Oak would cause it more harm than the worth of the information. It is unfair to describe this marvelous tree, as one should be able to experience it without any preconceptions. A person could simply say that it is big or it is old, but it is more than just that. It is the memory of all that have visited it.

The popular thought among the tree's admirers is that its age is between 1,500 and 2,000 years.

Whatever the number might be, this could not compare with the tree's own majesty. It is the Great Oak.

Surviving for hundreds of years through storms, fires, floods, and sometimes abuse from well-intentioned visitors, the Great Oak must someday face the truth of nature as taught to us by the Wiyot. That truth is that someday we must all die. This is said only between thoughts of hope that the Great Oak Tree will survive for another millennia or two.

The Great Oak, like all other forms of life, makes efforts to reproduce itself, sometimes producing as many as ten thousand acorns in a good year. It is from a single seed or acorn that the Great Oak began its journey through life, a feat difficult to imagine when one stands beneath the tree's vast canopy.

Pechanga Cultural Resources is in the process of developing a program that will aid the many acorns produced by the Great Oak Tree to



The Great Oak Tree of Pechanga. Photo by William Pink.

Oak in early spring, more than five hundred seedlings were retrieved from beneath the canopy and planted in five-gallon nursery containers. More than half survived.

In the second year of the program all the acorns within reach of people standing on the ground were harvested. This time the seeds were planted in a nursery bed with a wire cloth covering to keep out the squirrels. Soon the seedlings were pointed skyward and growing through their protective cover. On the assumption that the seedlings were safe, it was decided to remove the screen.

But again, the squirrels moved in and began systematically removing and eating the seedlings. In response, the height of the nursery bed was raised and the protective screen was replaced, but soon after replacing the screen the seedlings began dying in a spotty fashion. A

begin their journey and, hopefully for some, achieve the same results. This program is referred to as "The Children of the Great Oak."

Despite the tree's prolific production, the program faces challenges. For one, it is impossible to predict the annual seed production of the Great Oak. There are also important decisions that must be made each year: Should we wait until the seeds drop to the ground or should we harvest them while they still hang from the tree?

Should we wait until the seeds germinate before removing them from the sheltering canopy of the parent? There are no simple answers.

In the first year of attempting to germinate as many acorns as possible from the Great Oak, the program came to an abrupt halt when ground squirrels either ate or removed more than two thousand seeds from the nursery bed. This was not the end of the program, however. Returning to the Great

loose into Indian Country), bark from large, dead oaks was used because it burned even hotter than "caca de vaca." Oak bark is occasionally used today in the dyeing process for basketry fibers. Junco soaked in a mixture of oak bark and rusty iron or elderberry blossoms or even mud produces a jet-black colorfast dye. If oak bark is unavailable, acorns will also do the trick.

According to Paul Campbell, oak ashes have great undiscovered medicinal qualities, and oak galls are good for the eyes, or even for a physic. Paul can make a musical instrument out of a bunch of acorns strung together, or make a top out of an acorn to amuse your kids, and he says that you can string acorns together to make a necklace for a sweet lady or your wife (or for both), that you can tan an animal skin with tannin extracted from oak bark, that you can set the trigger for a trap or snare with a fat, juicy acorn, and that you can suck tannin from an acorn to clear up a raspy throat or a bad cough. If you want, you can even make a rattle doll with a face from an oak gall.

In summary, if you can't find a use for your local oak, you aren't really trying. ☘



## It Will Live Forever: Traditional Yosemite Acorn Preparation

Beverly R. Ortiz,  
as told by Julia F. Parker

For over twenty years visitors to Yosemite National Park have watched with fascination as Julia Parker demonstrates one of the most vital aspects of traditional California Indian life—the Yosemite Miwok/Paiute skill of preparing acorn. In this intimate book, Parker describes every step of this intricate and astonishingly nuanced process.

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Chances are you won't see an agave stick in a museum, because they aren't real pretty. Agave sticks are about three to five feet long, about two inches in diameter, and are sharpened to a point or wedge at one end, kind of like a crowbar. In the spring, desert-dwelling Indians used the stick to pry the heart from either desert agave or yucca (*Yucca whipplei*). These hearts were then roasted in a pit for several days, which converted the plant's starch to almost pure sugar. Oak was used for the agave stick because it is very durable, and a person surely doesn't want his stick to break when the prying gets tough. When available, oak wood was used in the fire pit because it burns so hot and lasts so long. A very similar stick, although shorter, was also used for digging roots and bulbs from the ground.

In pitifully few museums, a visitor might see a shiny stick, which is usually made of oak. "Shiny" is a very ancient ball game in which a wooden ball was thrown, carted, kicked, or otherwise pushed from one end of a field to another by means of a two-and-a-half- to three-foot-long slender club with a cup on the business end. It was used somewhat like a lacrosse stick. Very frequently, the ball was also carved from an oak bud, usually coast live oak.

Although many woods were used in creating hunting ("long") bows, some of the southern California Indians, notably the Chumash, occasionally used coast live oak. If a bow was to be a short-term thing and a guy had minimal self-esteem, it might be made of soft woods like willow, juniper, or even elderberry. However, where a really nice piece of wood was needed to prove how discerning the owner was, his bow might be made of oak. Then if the showoff really wanted to "put on the dog," he might even use oak as a fore-shaft for his arrows.

For culinary purposes, oak was pressed into service when making a variety of utensils such as food bowls, vessels to carry or preserve fire in, tongs for lifting cooking rocks from the fire to the cooking pot, wooden mortars, and as fuel for an exceedingly hot fire. Oak bark was also used for a wide variety of other purposes. When firing clay pottery, later-day southern California Indians used cow dung ("caca de vaca") because it burns very hot with little or no flame. In pre-"vaca" days (before Spaniards turned these beasts



## The United Auburn Indian Community and Development in Clover Valley

simple tug on a dead seedling revealed that its root had been removed; the gophers had made their presence known.

The Children of the Great Oak program is now in its third year, but not without familiar problems. Time and patience are required. This year there was plenty of patience but not enough time to harvest the desired number of seeds from the tree. The acorns were allowed to drop to the ground.

The Great Oak has hundreds if not thousands of visitors each year. Unknowingly, these visitors were tramping on the acorns and destroying the seed source. With no time to harvest the seeds from the ground, it appeared that the third year of the program would end without a new crop of seedlings.

Yet although the third year of the program was presumed over, a visit to the Great Oak provided new hope as more than a thousand seedlings had sprouted beneath the tree's great canopy. Closer inspection revealed that the squirrels had hidden the seeds beneath the ground that was gently tilled by God's little tractor, known as the gopher.

From those single seedlings to clusters of six or seven, it became obvious that the squirrel is a major player in the oak's procreation. More than just trashing a seed in the ground, the squirrel revisits each of the seedlings and removes the nut from the new sprout. Some of the seedlings are also consumed by the squirrels, and the gophers take their share as well. The fact is that we would not have a third year program if it were not for the squirrel and his assistant, the gopher.

With this small success, we eagerly wait to see how the seedlings grow. ☼

than six hundred homes, five acres of commercial buildings, and a major road to this historical village of the Native peoples of Placer County and a sacred burial place of our ancestors. While I recognize that the issues surrounding the future of Clover Valley are complex, the United Auburn Indian Community urges the council to preserve and protect this pristine jewel of the city.

One of the top priorities for the tribe is preserving cultural sites. The tribe recently committed \$25,000 to Placer Legacy, the county's Open Space Preservation Program, to support the program's first year, with additional monies for future years. The United Auburn Indian Community has gone so far as to offer developer Buzz Oates \$20 million for the site, but he was not willing to accept this sum. They are hoping to save Clover Valley; if they cannot maybe they can help save another of California's oak valleys. ☼

Sara-Larus Tolley



Martens in Clover Valley, Placer County. Photo by Elaine O'Deegan.

Justin Farmer (top) is a retired staff engineer and self-described "unreliable collector (and maker) of Mission Indian baskets." He is the author and collector of books and articles on craft, bowls, deer hunting, and Indian baskets.

Stellen Ocean frequently cooks with acorns and is the author of "Acorns and Eat 'Em and The Acorn Mouse."

William Pink (Cupeno/Latino) is an artist who makes yucca-fiber skirts, bows and arrows, turtle-shell and clam-shell rattles, clay dolls, and abalone-inlaid Cupeno Poiwits, among other things.

Sarah Supphan is the director of the Indian Education Program for the Klamath-Trinity

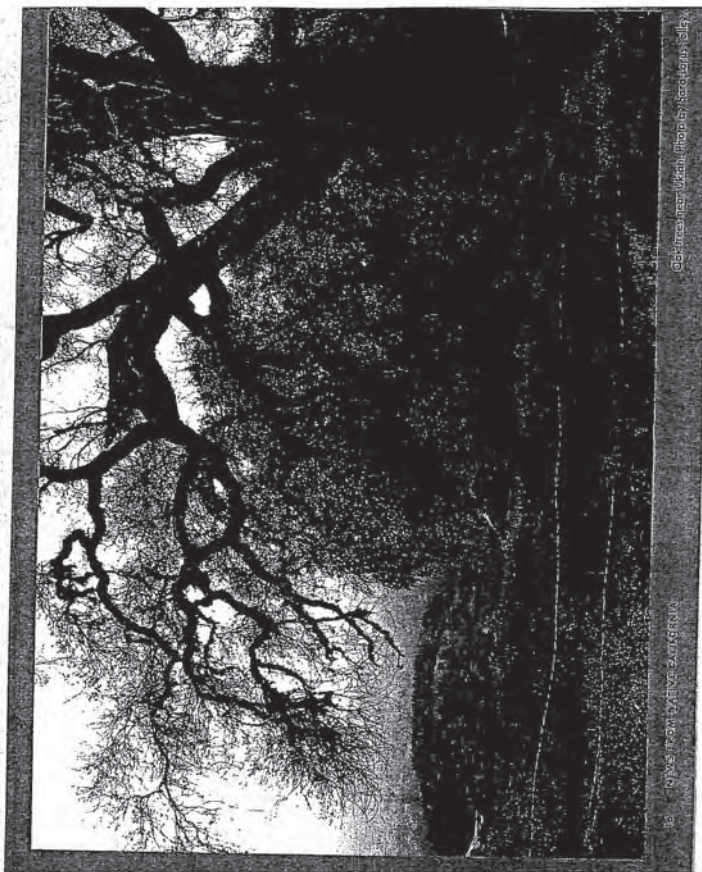
Joint Unified School District and the acting principal of the Yurok Magnet Program at Weitchpec Elementary School.

Bari Gayle Morehead Talley (Kamuk/Yurok) is the mother of three girls living on the Klamath River in Orleans. She teaches at the Yurok Magnet Program in Weitchpec.

Sara-Larus Tolley has a Ph.D. in anthropology and has worked on the federal recognition petitions of several California tribes.

New from Native California is published quarterly by the Heyday Institute and can be reached at P.O. Box 9145, Berkeley, CA 94709, (510) 549-2802, [info@heydaybooks.com](mailto:info@heydaybooks.com).

This special supplement was published with the support of the California Oak Foundation, 1212 Broadway, Suite 842, Oakland, CA 94612, [www.californiaoaks.org](http://www.californiaoaks.org), and is dedicated to Dr. Sam Assam for his support of oak conservation.



Old-growth oak in Placer County. Photo by Elaine O'Deegan.

**LETTER B2**

**California Oaks Foundation  
Janet Santos Cobb, President  
August 3, 2007**

Response B2-1: The comment asks that the City consider the impact on global warming of removing trees. The removal and replacement of trees is described for all project elements in Section III of the Draft EIR, and the potential impacts of the tree removals are evaluated in the Draft EIR in Sections IV.F, Biological Resources. Supporting documentation in the form of an arborist's report is included as Appendix I of the Draft EIR. The project would result in a net increase in trees as described on page 218 of the Draft EIR. The increase in trees would have a positive, albeit very small effect on the global carbon balance by increasing the amount of carbon-fixing vegetation. This positive effect is identified on page 219 of the Draft EIR.

Response B2-2: The City acknowledges the documents attached to the comment letter. The attachments include a summary of a recent lawsuit settlement that addressed global climate change and, in particular, the impact of converting oak woodland habitat to urban land on climate change. However, the Measure DD Implementation Project would not convert oak woodlands to urban land. The project would create additional park land within an urbanized area, which would have a beneficial, albeit very small effect on the global carbon balance by increasing the amount of carbon-fixing vegetation. This positive effect is identified on page 219 of the Draft EIR. The other attachments to the comment letter provide information about the role of trees in natural, cultural, and recently modified landscapes, the Foundation's plan for managing oak woodlands, and the importance of oaks in California's natural and cultural history. These documents do not provide specific comments on the environmental document and the information contained therein does not affect the analysis or conclusions of the Draft EIR.

From: matt [matt@gaффneylegal.com]  
Sent: Friday, September 07, 2007 5:34 PM  
To: Thornton, Elois  
Cc: briangaf@aol.com  
Subject: Measure DD Implementation Project DEIR Comments

Dear Ms. Thornton,

Please find attached one pdf copy of Friends of the Lake's public comments regarding the Measure DD Implementation Project DEIR. This office has also faxed a copy of these comments to the City of Oakland's Community and Economic Development Agency at 510-238-6538.

Please do not hesitate to contact me if you have any questions regarding these comments.

very truly yours,

Matt McFarland

Matt McFarland  
LAW OFFICES OF BRIAN GAFFNEY  
605 Market Street, Suite 505  
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September 7, 2007

*Via Facsimile and Electronic Mail*

Eloise Thornton, Planner IV  
Community and Economic Development Agency  
250 Frank H. Ogawa Plaza, Suite 3315  
Oakland, CA. 94612  
facsimile: 510-238-6538  
eathornton@oaklandnet.com

RE: Measure DD Implementation Project Draft EIR

Dear Ms. Thornton,

This office represents Friends of the Lake, Nancy Reiser and Ken Pratt (collectively "Friends of the Lake") regarding the City of Oakland's Measure DD Implementation Project Draft Environmental Impact Report ("DEIR.")

1

In summary, this DEIR fails to comply with CEQA because it (1) fails to adequately analyze aesthetic impacts resulting from tree removal; (2) fails to adequately analyze wildlife and biological resources impacts resulting from tree removal; (3) fails to adequately explain how proposed mitigations will reduce project impacts to a less-than-significant level; and (4) fails to adequately analyze cumulative impacts. Further, there is substantial evidence of potentially significant environmental impacts resulting from the proposed project's tree removal. For these reasons, the Draft EIR fails to fulfill the purpose of California Environmental Quality Act ("CEQA") to provide informed public participation and informed decision making.

2

Please continue to include both this office and Friends of the Lake, in any further communications to the public on this proposed project.

Sincerely,



Matt McFarland

cc: Friends of the Lake

**I. THE DEIR FAILS TO ADEQUATELY ANALYZE AESTHETIC IMPACTS RESULTING FROM TREE REMOVAL.**

The DEIR fails to adequately analyze aesthetic impacts resulting from tree removal. A project will have a significant aesthetic impacts if the project will (1) have a substantial adverse effect on a scenic vista; (2) substantially damage scenic resources, including trees; or (3) substantially degrade the existing visual character or quality of the site and its surroundings. (CEQA Guideline, Appendix G; DEIR at 335.) Here, the proposed project will result in the removal of 259 trees, including the removal of 129 protected trees and 8 protected oak trees, around Lake Merritt and the Lake Merritt Channel. (DEIR at 218.) Nevertheless, the DEIR fails to adequately analyze whether the proposed tree removal will result in significant aesthetic impacts.

3

First, the DEIR fails to adequately analyze whether the removal of 259 trees, including 129 protected trees, will adversely affect a scenic vista. The DEIR determines that Lake Merritt and the Lake Merritt Channel are resources that are part of scenic views seen from numerous locations in Oakland. (DEIR at 336.) The DEIR then states that “[t]he project would result in the removal of certain *diseased trees* from the vicinity of the Lake; however, the removal of these trees would not substantially change scenic vistas [because] [n]ew trees would be planted to replace the trees that are removed.” (*Ibid.*, emphasis added.) Yet, the DEIR fails to explain why the planting of new trees automatically leads to the conclusion that the project will have a less-than-significant impact on a scenic vista. Given that the DEIR’s Arborist Report determines that the trees slated for removal are “generally mature in development,” the DEIR’s failure to proffer any explanation is a glaring omission. (See Appendix I to the DEIR, Executive Summary.) In addition, an EIR must (1) analyze impacts, (2) determine if the impacts are significant, and (3) discuss mitigations. By combining the discussion of mitigations (*i.e.*, the planting of new trees) with the analysis of impacts (*i.e.*, the removal of trees), the DEIR fails to engage in the analysis determination of significance required by CEQA.

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Further, although some of the trees proposed for removal are diseased, the majority of the trees are not. The City’s own April 11, 2006 “Tree Permit CEQA Explanation” says that only 31 of the 224 trees proposed for removal in conjunction with the Lakeside Drive (CT05-004), Lakeshore Avenue and El Embarcadero (CT05-005), and 12<sup>th</sup> Street Reconstruction Project (CT05-006) are dead, severely damaged or represented a significant hazard. (See April 11, 2006 Tree Permit CEQA Explanation at 5,

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attached hereto.) Likewise, the Hortscience Arborist Report included as Appendix I to the DEIR concludes in its Executive Summary that, among 269 trees slated for removal, only 6 are dead but 78 are in good or excellent condition. The Arborist concludes that 84 are in “poor condition” but not that they are diseased. Neither the DEIR nor the Executive Summary discusses the remaining 91 trees. Nevertheless, the DEIR limits its discussion to the removal of “diseased trees” and fails to analyze the impact to scenic resources resulting from the removal of healthy trees or trees in good or excellent condition.

**6**  
**cont.**

Second, the DEIR fails to adequately explain why the removal of 259 trees, including 129 protected trees, will have a less-than-significant impact on scenic resources. Again, the DEIR states that “[m]any of the trees that would be removed are diseased, short-lived, or are not stable,” but fails to mention that over half the trees proposed for removal are healthy. (DEIR at 341.) The DEIR then summarily concludes that “[a]lthough some of the trees that would be removed contribute to the scenic quality of the Lake, this contribution is not significant. Therefore, the removal of select trees and the replacement with new individuals would not be considered a significant impact to scenic resources.” (DEIR at 341.) The DEIR violates CEQA by failing to explain how it reached the conclusion that the trees slated for removal do not significantly contribute to the scenic quality of Lake Merritt and its surroundings.

**7**

Third, the DEIR fails to analyze the visual quality impacts to Lake Merritt and its surroundings resulting from the removal of 259 trees, including over 150 healthy trees. The DEIR determines that tree removal will have a less-than-significant impact on visual quality because “landscaping and trees in poor condition would be removed and replaced with new plants that would enhance the visual environment.” (DEIR at 342.) Again, the DEIR fails to analyze why it reaches the conclusion that removal of large and mature trees surrounding Lake Merritt and replacement with smaller and younger trees will not adversely impact visual quality.

**8**

Fourth, numerous commentors have previously stated that the removal of over 200 mature trees around Lake Merritt and the Lake Merritt will result in significant visual quality impacts, and the planting of new trees will not mitigate the impacts. (*See, e.g.*, Public Comments on Channel EIR and on Tree Permits CT05-004, CT05-005 & CT05-006, attached hereto.)

**9**



**II. THE DEIR FAILS TO ADEQUATELY ANALYZE PROJECT-SPECIFIC WILDLIFE AND BIOLOGICAL RESOURCE IMPACTS RESULTING FROM THE TREE REMOVAL AUTHORIZED BY THE LAKE MERRITT PROJECTS.**

The DEIR fails to adequately analyze project-specific wildlife and biological resource impacts resulting from the removal of 259 trees, including 129 protected trees and 8 protected oak trees, around Lake Merritt and the Lake Merritt Channel. (DEIR at 218.) A project will have a significant impact on wildlife/biological resources if the project will have a substantial effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special-status species; or (2) interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. (CEQA Guideline, Appendix G; DEIR at 210.)

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Here, the DEIR admits that Lake Merritt and the Lake Merritt Channel support a wide variety of waterbirds, including Barrow's goldeneye, which is considered uncommon in California and is a California Species of special concern. (DEIR at 189.) Likewise, the trees around Lake Merritt provide perch sites and potential nest sites for common raptors such as the red-tailed hawk, red-shouldered hawk, American kestrel, great horned owl, and barn owl. (*Ibid.*) Such trees could also support Cooper's hawk. (*Ibid.*) In addition to Barrow's goldeneye and Cooper's hawk, four other special-status bird species have been observed at or near Lake Merritt and/or the Lake Merritt Channel, including the California Brown Pelican, the Double-crested Cormorant, the American Peregrine Falcon, and the Alameda Song Sparrow. (DEIR at 195-96.)

11

The DEIR fails to adequately analyze impacts to each special-status bird species potentially occurring in the Lake Merritt area. The DEIR admits that "numerous tall trees throughout the Measure DD Implementation Project area provide nesting habitat for a variety of native bird species, potentially including Cooper's hawk," and "[p]roposed tree removal within the Lake Merritt and the Lake Merritt Channel group area and potential tree removal within other group sites could directly impact nesting Cooper's and sharp-skinned hawks by removing trees that *support active nests*." (DEIR at 211, emphasis added.) However, the DEIR summarily concludes that "[i]mplementation of the City's Standard Conditions of Approval (Condition 32) will reduce potential impacts to nesting Cooper's and sharp-

skinned hawks to a less-than significant level.” (DEIR at 212.)<sup>1</sup> An EIR must (1) analyze impacts, (2) determine if the impacts are significant, and (3) discuss mitigations. Again, the DEIR improperly combines the discussion of mitigations (*i.e.*, implementation of Condition of Approval 32) with a cursory analysis of impacts to the Cooper’s and sharp-skinned hawks. By relying on Standard Condition of Approval 32 the DEIR fails to follow the procedure proscribed by CEQA and avoids determining the significance of impacts to special-status bird species resulting from the proposed tree removal.

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Further, there is no analysis addressing the impacts of proposed tree removal on the California Brown Pelican, the Double-crested Cormorant, the American Peregrine Falcon, or the Alameda Song Sparrow, despite the DEIR’s admission that these special-status species have been observed at or near Lake Merritt and the Lake Merritt Channel. (DEIR at 195–96.) Thus, the DEIR fails to specifically analyze the impacts to special-status species resulting from tree removal around Lake Merritt.

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Also, the DEIR does not disclose potential adverse impacts to raptors, such as the red-tailed hawk and red-shouldered hawk.

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Finally, the removal of 259 trees around Lake Merritt and the Lake Merritt Channel may violate Fish and Game Code section 3503.5, which makes it unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nest or eggs of any such bird. Birds of prey in the order Falconiformes include hawks, eagles, kites and falcons. Birds of prey in the order Strigiformes include owls. The DEIR admits that the trees around Lake Merritt provide perch sites and potential nest sites for the red-tailed hawk, red-shouldered hawk, American kestrel, great horned owl, barn owl, Cooper’s and sharp-skinned hawks, and American Peregrine Falcon. (DEIR at 189.) Thus, the proposed tree removal may result in take, possession and destruction of birds in the orders Falconiformes or Strigiformes (birds-of-prey), as well as take, possession and destruction of nests and eggs of such birds in violation of Fish and Game Code section 3503.5. At a minimum, prior to EIR certification, the City should survey the trees for nests of raptors and owls and disclose this information in the EIR to allow informed decision-making.

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<sup>1</sup> The DEIR also violates CEQA by failing to identify and analyze such mitigations, including their feasibility. For example, Condition of Approval 32—which the DEIR includes as a mitigation without identifying it as such—will only be implemented “to the extent feasible.” (DEIR at 207.)

16



### III. THE DEIR FAILS TO EXPLAIN HOW COMPLIANCE WITH THE CITY'S TREE PRESERVATION AND REMOVAL ORDINANCE WILL MITIGATE IMPACTS RESULTING FROM TREE REMOVAL.

The DEIR determines that any potentially significant adverse impacts resulting from the removal of 259 trees—including 129 protected trees and 8 protected oak trees—around Lake Merritt and the Lake Merritt Channel will be mitigated through compliance with the City's Tree Preservation and Removal Ordinance. (DEIR at 218–19.)

The DEIR's determination that compliance with the Tree Preservation and Removal Ordinance will—in and of itself—mitigate potentially significant impacts is contradicted by both the City's Estuary Policy Plan ("EPP") EIR and the Land Use and Transportation Element ("LUTE") EIR, which state that "[a]lthough Oakland's tree removal ordinance requires a permit before large trees are removed, adverse impacts are still possible." (LUTE EIR at III.H.19 & EPP EIR at III.H-6, attached hereto.) Thus, the EPP EIR and the LUTE EIR disclose that compliance with the Tree Preservation and Removal Ordinance does not necessarily mitigate potential adverse environmental impacts. The DEIR fails to explain how compliance with the Ordinance will mitigate potentially significant impacts here.

17

### IV. THE DEIR FAILS TO ADEQUATELY ANALYZE CUMULATIVE IMPACTS.

The DEIR violates CEQA because it fails to adequately analyze cumulative impacts. CEQA requires that the DEIR consider past, present and reasonably foreseeable future projects when analyzing cumulative impacts. (*Communities for a Better Environment v. California Resources Agency* (2002) 103 Cal.App.4th 98, 114; *Kings County Farm Bureau v. City of Hanford* (1990) 221 Cal.App.3d 692, 720–721; CEQA Guideline § 15130.) This DEIR's cumulative impacts analysis is inadequate because it (1) uses the wrong standard for cumulative impact analysis; (2) completely excludes any consideration of past or present projects; (3) limits its analysis to project-specific impacts; (4) reaches its conclusion of less-than-significant cumulative aesthetic impacts based on the proposed project's "contribution to" cumulative aesthetic impacts; (5) erroneously assumes mitigations for future projects will eliminate potential cumulative impacts; and (6) repeatedly provides conclusions rather than analysis.

18

#### A. The DEIR Utilizes the Wrong Standard When Discussing Cumulative Impacts.

CEQA requires that the DEIR consider past, present and reasonably foreseeable future projects

19



when analyzing cumulative impacts. (CEQA Guideline § 15130.) Conversely, this DEIR states that “CEQA allows the use of *either* a list of past, present or reasonably anticipated relevant projects. . . *or* a summary of projections in an adopted planning document.” (DEIR at 363, emphasis added.)

The plain language of CEQA demonstrates that a “summary of projections” is a not a substitute for an adequate discussion of cumulative impacts. CEQA distinguishes between a “summary of projections” and an actual analysis of the cumulative impacts of the project together with past, present and future projects. The CEQA Guidelines state that an EIR must include *both* a summary of projections (Guideline 15130, subd. (b)(1)) and an analysis of the cumulative impacts of the relevant projects. (Guideline 15130, subd. (b)(5).) Nevertheless, this DEIR only considers a summary of projection. (*See* DEIR at 363.) While a summary of projection is a proper starting point for a cumulative impact analysis, such a summary—in the absence of any analysis of cumulative impacts—does not provide the substantively meaningful cumulative impact discussion CEQA requires.

B. The DEIR Fails to Analyze Past or Present Projects.

The DEIR fails to analyze any past or present projects in considering cumulative impacts. The DEIR states that its cumulative impact analysis “considered development that is likely to occur under the build-out of the City of Oakland General Plan.” (DEIR at 363.) In the areas of Public Services and Recreation, Utilities and Infrastructure, and Aesthetic Resources, the DEIR only considered “buildout of cumulative projects” (Public Services), “other reasonably foreseeable projects in Oakland” (Utilities), and “projects that would be developed as part of General Plan build-out” (Aesthetics). (DEIR at 365–66.) By limiting its analysis to “build-out” and “other foreseeable projects,” the DEIR fails to consider past and present projects as part of its cumulative impacts analysis as required by CEQA.

C. The DEIR Limits Its Cumulative Impacts Analysis to Project-Specific Impacts.

In the areas of cumulative Transportation, Air Quality, Geology, and Hazards and Hazardous Materials impacts, the DEIR impermissibly limits its analysis to project-specific impacts. In the area of cumulative transportation impacts, the DEIR determines that “the project would not fundamentally conflict with adopted policies, plans, or programs supporting transit use and would not have a significant cumulative impacts.” (DEIR at 364.) For cumulative Air Quality impacts, the DEIR states that “the project is consistent with the General Plan; therefore the project would not have a significant cumulative impacts.” (*Ibid.*) For cumulative Noise impacts, the DEIR determines that “site-specific” noise impacts

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would not result in significant cumulative construction or operational noise impacts. (*Ibid.*) For cumulative Geology impacts, the DEIR concludes that there are no cumulative effects because “the proposed development does not influence or degrade conditions in the area, as long as the impacts of the individual components are reduced to a less than significant level.” (DEIR at 365.) For cumulative Hazards impacts, the DEIR concludes that because the “hazards and hazardous materials issues for the proposed project are specific to the individual component sites,” there are no cumulative impacts.” (*Ibid.*)

In each instance, the DEIR fails to comply with CEQA as it limits its analysis to project-specific impacts and fails to consider the cumulative impact of the project together past, present and reasonably foreseeable future projects. This failure is particularly egregious given that the DEIR recognizes that “Section 15130 of the *CEQA Guidelines* requires that an EIR evaluate potential environmental impacts that are individually limited, but cumulatively significant.” (DEIR at 363.) Conversely, this DEIR incorrectly assumes that if project-specific impacts are individually limited, then there is no cumulative impact.

D. For Aesthetics, the DEIR Erroneously Bases Its Conclusion On the Project’s “Contribution to Aesthetic Impacts.”

For cumulative aesthetic impacts, the DEIR erroneously bases its conclusion of less-than-significant cumulative impacts by determining whether the project will “contribute to” adverse aesthetic impacts. (DEIR at 366.) The DEIR concludes that there will be no significant cumulative aesthetic impacts because “the proposed project would not make a significant cumulative contribution to aesthetic impacts in Oakland and the region.” (*Ibid.*) Thus, the DEIR improperly analyzed the significance of the project’s contribution to cumulative effects rather than the collective significance of all closely related projects, as required by CEQA.

E. The DEIR Erroneously Assumes that Mitigations For Undefined Future Projects Will Eliminate Potential Cumulative Impacts.

In the areas of cumulative Biological Resources, Hydrology and Water Quality, and Hazards and Hazardous Materials impacts, the DEIR erroneously assumes that mitigations for undefined future projects will eliminate potential cumulative impacts. In each instance, the DEIR “anticipates” that “other cumulative projects within the City of Oakland” would be required to implement the same mitigation measures proscribed for the Measure DD projects and, therefore, implementation of the proposed project

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would not result in significant cumulative impacts. (See DEIR at 364–66.) Not only does the DEIR fail to define, identify or discuss what constitutes a “cumulative project within the City of Oakland,” but the DEIR also provides no analysis explaining why or how it determined these “cumulative projects” would be required to implement the proposed mitigations nor how these mitigations, if implemented, will reduce cumulative impacts to less-than-significant.

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cont.

F. The DEIR’s Cumulative Impact Discussion Provides Conclusions Rather Than Analysis.

In many of the impact areas contained in the DEIR’s cumulative impact discussion, the DEIR provides conclusions rather than analysis. At no point does the DEIR specifically analyze the impacts of the project together with the impacts of past, present or reasonably foreseeable future projects. For example, in the Land Use section, the DEIR states that site-specific impacts “would not have a cumulative effect when considered with other projects and implementation of Measure DD would not result in any cumulatively significant land use impacts.” (DEIR at 363.) This is a conclusion, not the analysis required by CEQA. In the areas of Public Services and Recreation and Utilities, the DEIR concludes without analysis that because the Measure DD Implementation Project together with future development is anticipated in the General Plan, there will be no significant cumulative impacts. Likewise, in the areas of Transportation, Air Quality, Biological Resources, and Hydrology and Water Quality, the DEIR determines less-than-significant cumulative impacts but either provides no analysis that supports this conclusion, or reaches this conclusion based on cursory, project-specific analysis.

24

V. **THERE IS SUBSTANTIAL EVIDENCE OF POTENTIALLY SIGNIFICANT ENVIRONMENTAL IMPACTS RESULTING FROM THE PROPOSED TREE REMOVAL.**

There is substantial evidence that the proposed tree removal may have a significant effect on the environment. First, there is credible substantial evidence of potentially significant aesthetic impacts resulting from the removal of 259 trees—including 129 protected trees and 8 protected oak trees—around Lake Merritt and the Lake Merritt Channel. The DEIR determines that Lake Merritt and the Lake Merritt Channel qualify as scenic vistas and that the trees slated for removal contribute to the

25



scenic quality of Lake Merritt. (DEIR at 336 & 341.) At least 150 of the trees proposed for removal are healthy trees, and the City's own Arborist Report only identifies 6 trees that are dead. (See Appendix I, Executive Summary.) Given that Lake Merritt and the Lake Merritt Channel qualify as scenic vistas and given that trees slated for removal contribute to the scenic quality of Lake Merritt, there is substantial evidence that the removal of 259 trees around Lake Merritt and the Lake Merritt Channel may result in significant aesthetic impacts.

**25**  
**cont.**

Second, there is substantial evidence that the proposed tree removal may result in significant land use impacts. A project may have a significant land use impact if it conflicts with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project adopted for the purpose of avoiding or mitigating an environmental effect. (Guidelines, Appendix G.) The removal of 129 protected trees, including 8 protected trees, will conflict with OSCAR Policy CO-7.4, which "discourages the removal of large trees." (See OSCAR Neg. Dec. at 20; see also EPP EIR at III.H-6.) Because the proposed removal with conflict with OSCAR Policy CO-7.4, there is substantial evidence of potential land use impacts.

**26**

Third, there is substantial evidence that the proposed tree removal may result in significant impacts to wildlife and biological resources. As previously discussed, the DEIR itself admits that a variety of native and special-status bird species are found in and around Lake Merritt and the Lake Merritt Channel, including the Cooper's and sharp-skinned hawks, the California Brown Pelican, the Double-crested Cormorant, the American Peregrine Falcon, and the Alameda Song Sparrow. (DEIR at 189-96.) Likewise, the Lake Merritt Channel Wetlands and Widening Project Draft EIR—which purports to analyze the effects of tree removal associated with the 12<sup>th</sup> Street project—determined that the removal of only 31 Protected Trees from Lake Merritt would have a significant impact on wildlife

**27**

and biological resources. (Channel EIR at 4.1-27, attached hereto.) The DEIR admits that potential tree removal within Lake Merritt and the Lake Merritt Channel could directly impact nesting Cooper's and sharp-skinned hawks by removing trees that support active nests. (DEIR at 211.)

**27**  
**cont.**

## ATTACHMENT A

### Explanation of Environmental Review Completed for Tree Permits

# CT05-004 Lakeside Drive

# CT05-005 Lakeshore Avenue and El Embarcadero

# CT05-006 12<sup>th</sup> Street Reconstruction Project

Background and Description of Previous Environmental Review: In 2002, an Initial Study for Measure DD (Oakland Clean Water, Safe Waterfront Parks and Recreation Trust Fund Ballot Measure) was completed, with the finding that the identified potential environmental impacts as a result of the project were within the range and scope of the impacts previously studied in the environmental documentation completed for the General Plan Land Use and Transportation Element EIR, the Estuary Policy Plan EIR, the Open Space, Conservation and Recreation Element Mitigated Negative Declaration and the Coliseum Area Redevelopment Plan EIR.

The California Environmental Quality Act (CEQA) Guidelines Section 15162 requires the Lead Agency (the City of Oakland in this case) to determine whether three conditions are present when applying previous environmental documentation:

- 1) *Substantial changes are proposed in the project which will require major revisions of the previous EIR or negative declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects;*
- 2) *Substantial changes occur with respect to the circumstances under which the project is undertaken which will require major revisions to the previous EIR or Negative Declaration due to the involvement of new significant environmental effects or a substantial increase in the severity of previously identified significant effects; or*
- 3) *New information of substantial importance, which was not known and could not have been known with the exercise of reasonable diligence at the time the previous EIR was certified as complete or the Negative Declaration was adopted, shows any of the following:*
  - a) *The project will have one or more significant effects not discussed in the previous EIR or negative declaration;*
  - b) *Significant effects previously examined will be substantially more severe than shown in the previous EIR;*
  - c) *Mitigation measures or alternatives previously found not to be feasible would in fact be feasible, and would substantially reduce one or more significant effects of the project, but the project proponents decline to adopt the mitigation measures or alternative; or*
  - d) *Mitigation measures or alternatives which are considerably different from those analyzed in the previous EIR would substantially reduce one or more significant effects on the environment, but the proponents decline to adopt the mitigation measure or alternative.*

None of these three conditions were present at the time of the June 2002 Initial Study, given the level of general information and project descriptions known at the time for each of the Measure DD projects. The circumstances under which the projects were to be undertaken were the same as in 2002; funding had been allocated and all policies and programs as set forth in the

Tree Permit CEQA Explanation

CT05-004, 005 and 006

April 11, 2006

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Addendum with regard to standard conditions, construction management and best practices were the same. The water quality requirements and standards under the Regional Water Quality Control Board and Alameda County have been updated, and this represents a more stringent set of standards and requirements for water quality protection and erosion control. The design development process accounted for these changed standards and circumstances and they are not considered significant. Therefore, an Addendum to these documents was prepared and approved by the Oakland City Council in June 2002. Both the Lake Merritt Master Plan and the conceptual plans for the Measure DD Projects (12<sup>th</sup> Street reconstruction, realignment and other work for Lakeshore Avenue and Lakeside Drive) included tree removal and re-landscaping due to the age and the poor condition of many trees.

Current Review Process and Comparison of 2002 Projects with the Design Development of Construction Documents for the Projects. In 2004, detailed plans and specifications began to be prepared for restoration and improvement of Lake Merritt Park, the 12<sup>th</sup> Street Reconstruction Project and related access, landscaping and other public improvements. During the next 18 months, three detailed tree surveys were completed, along with a biological assessment (roosting and nesting habitats). Landscaping and revegetation plans were also completed. In addition, public meetings were held and construction plans were revised and altered in order to reduce tree loss. The following table presents a comparison between the 2002 general description and the detailed description for the main components of the three projects under consideration for the tree permit.

<i>Project and Major Components - 2002</i>	<i>2006 Description as the Result of Completion of Analysis and Design Development Drawings</i>
<p><b>12th Street Reconstruction</b></p> <ul style="list-style-type: none"> <li>-Replace 12<sup>th</sup> Street 12-lane viaduct with a new 6-lane boulevard connection to 11<sup>th</sup>, 12<sup>th</sup> Street with 1<sup>st</sup> Avenue, between Oak Street and International Blvd., thereby creating four new intersections - 13<sup>th</sup>-14<sup>th</sup> Streets, 12<sup>th</sup>-14<sup>th</sup> Streets, 12<sup>th</sup> Street with Kaiser Center and 12<sup>th</sup> Street with East 12<sup>th</sup> Street.</li> <li>-Replace 12<sup>th</sup> Street culvert at Lake Merritt Channel with an arched bridge to increase tidal flow into and flushing of Lake Merritt.</li> <li>-Repair or replace Lake Merritt retaining walls</li> <li>-Widen Lake Merritt borders and paths to add bike lanes by reconfiguring perimeter streets</li> <li>-Implement system-wide improvements - including paths, restrooms, landscaping and reforestation and signs</li> </ul>	<p><b>Tree Permit Reference CT05-006</b></p> <ul style="list-style-type: none"> <li>-No substantial changes to those proposed in original project description</li> <li>-Remove approximately 179 trees</li> </ul>
<p><b>Lakeshore - El Embarcadero Modifications</b></p> <ul style="list-style-type: none"> <li>-Modify existing El Embarcadero into one road with two-way operation. The unused portion of the roadway would be converted into more parkland.</li> <li>-Widen the Lake Merritt Park borders and paths to add bike lanes by reconfiguring perimeter streets (Oak Street, Harrison Street, Lakeside Drive and Lakeshore Avenue).</li> </ul>	<p><b>Tree Permit Reference CT05-005</b></p> <ul style="list-style-type: none"> <li>-Lakeshore Avenue modified from four to two lanes plus two bike lanes and a wider park area.</li> <li>-New street section reduces Lakeshore Avenue by approximately 12 feet (similar to what was proposed)</li> <li>-Remove approximately 20 existing trees.</li> </ul>

<p><b>Municipal Boathouse Renovation and adjacent Lakeside Drive Improvements</b></p> <ul style="list-style-type: none"> <li>-Renovation of the Municipal Boathouse with a new accessory building for boat storage, including hazardous materials clean-up. --</li> <li>-Modification of the parking lot for better access and improved shoreline access.</li> <li>-Modify and reconfigure borders to increase park areas; renovate surrounding areas with new sod and irrigation.</li> <li>-Implement system-wide improvements – including paths, restrooms, landscaping and reforestation and signs.</li> <li>-Narrow a portion of one-way Lakeside Drive from 14<sup>th</sup> to 17<sup>th</sup> Streets from four travel lanes to three lanes. Add a northbound bike lane in the segment from 14<sup>th</sup> Street to 17<sup>th</sup> Street.</li> </ul>	<p><b>Tree Permit Reference CT05-004</b></p> <ul style="list-style-type: none"> <li>-Restroom proposed to be outboard of historic structure due to design and public safety reasons.</li> <li>-Remove approximately 25 existing trees.</li> </ul>
<p><b>General Work</b></p> <p>Signs, compliance with Americans with Disabilities Act and State requirements, minor traffic safety and pedestrian safety improvements as appropriate.</p>	<p>These details were incorporated as part of standard design development work and are required by Federal, State and local laws.</p>

CEQA Review as Part of the Tree Permit Process. Per the requirements of OMC Chapter 12.36 – Protected Trees, three tree permit applications were submitted and the Planning Department reviewed the detailed project descriptions, all information and analysis, including detailed tree surveys, a biological assessment and re-planting plans. A review of the 2002 Addendum was also completed, comparing the new information and analysis with the conceptual plans relied upon for the preparation of the Addendum and the current, more detailed project descriptions. In addition, the currently described projects (above) were reviewed for the three criteria under CEQA Guidelines Section 15162. None of the above-described changes constitute new information that necessitates preparation of further environmental review as specified in CEQA Guidelines Section 15162. Specifically, the proposed lane reduction to the segment of Lakeshore Avenue has been reviewed and the operational levels of service will not significantly change. The 2002 project descriptions called for modifications to the configuration of Lakeside Drive, Oak Street, and Harrison Street. The 2006 project descriptions are more specific and have been developed with more detailed geometric information and traffic engineering information to confirm no greater impact will result.

The circumstances under which the project will be constructed remain essentially the same. Other than infill residential development that was previously projected in the 2002 traffic review, the only major change is the elimination of a previously approved 730,000 square foot office tower located at Grand and Harrison (as part of the Kaiser Planned Unit Development). Instead, the Cathedral of Christ the Light is under construction in that location. The difference in these projects from a traffic standpoint is that there will be a significant reduction in weekday a.m. and p.m. peak hour traffic and a slight increase in Sunday traffic counts. The weekday traffic reduction is considered to be a beneficial change and the Sunday traffic increase is not considered to be significant and will fall well within the weekday peak hour traffic counts. No substantial changes in the project or circumstances under which the project will be undertaken were identified except with regard to the following issue:

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*Removal of Protected Trees.* The 2002 Addendum states that no removal of protected trees is anticipated. Upon review of the most recent tree surveys, up to 164 protected trees were proposed to be removed.

The results of the tree survey found that many of the trees were in deep distress, with obvious disease, trunk decay, or other vulnerability due to physical condition or age. The detailed tree surveys also confirmed the information and analysis in the adopted Lake Merritt Master Plan (6/02), page III-29, "Many of the Park's trees are at the end of their life span; the age of most forested sections of Lake Merritt is 87 years. Over-mature trees are susceptible to pests and diseases, wind damage and hazardous weakening effects."

Further public meetings, tree survey work and plan revisions were completed. As a result, the following changes were made to the tree removal and re-landscaping plans:

Project Name (Tree Permit #)	Total Trees proposed to be removed 11/05	Current Tree Removal Estimate 1/05 <u>Protected</u> Unprotected	Existing trees to Remain (protection measures applied)	New trees to be planted	Net gain and percentage increase
Lakeside Drive CT0 5-004	37	<u>20</u>	32	61	41 (79%)
Lakeshore/ Embarcadero CT05-0005	35	<u>8</u> 17	78	119	94 (91%)
12 <sup>th</sup> St Project CT05-006	235	<u>136</u> 43	168	341	162 (47%)
Totals:	307	224	278	521	297 (59%)

The Lake Merritt Master Plan sets forth the goal of a comprehensive re-forestation program with the following components: public information, native plant preservation, specimen tree replacement, reforestation high use areas, adequate tree maintenance and reforestation plant communities. The landscaping plans and replanting plans as part of the three projects serve as a major implementation of these goals. There is a significant increase in the number of new trees planted, with a net gain of 297 compared with 224 proposed for removal. Moreover, through the review process, 83 trees originally scheduled for removal were able to be preserved through revisions to the plans. In particular, a grove of redwoods will be preserved as part of the channel restoration for the 12<sup>th</sup> Street Project. As a result, the new information reviewed in connection with the tree permit application does not yield evidence of new significant impacts associated with the loss of protected trees, nor a substantial increase in the severity of environmental impacts previously studied.

With regard to the potential biological impacts, a survey confirmed that none of the trees proposed to be removed constituted significant habitat value (roosting or nesting). No significant biological impacts will result from removal of the trees.

Given this information and analysis, the Planning Director determined that none of the circumstances necessitating preparation of a subsequent or supplemental EIR are present. Moreover, the three tree permits are exempt from further CEQA review based on the findings set



forth in OMC 12.36.070 E pertaining to total extent of requested removals and the size of the trees proposed to be removed:

- 1) The loss of up to 224 total trees (168 protected, 60 unprotected) represents approximately 44 percent of the total trees within the defined project areas for the three tree permits, and approximately 9 percent of the total trees in Lake Merritt Park. Through changes to the plans and the institution of tree protection measures, the number of trees to be removed was reduced by approximately 27 percent or 83 trees.
- 2) Sufficient preservation efforts have been taken to preserve large trees.
- 3) Of the 224 total trees proposed for removal, 31 were dead, severely damaged or represented a significant hazard. The remaining 195 trees were identified for removal in order to achieve better drainage and to accommodate foundation work and construction of new stairways and other access features according to federal, state and local standards. In addition, tree removal was also required for retaining wall repair and the realignment of 12<sup>th</sup> Street.

Reference documents:      2002 Oakland Clean Water, Safe Waterfront Parks and  
Recreation Trust Fund Addendum

Tree Permit Surveys dated 1/24/06

Picture files of damaged trees and trees near significant park  
improvements (retaining walls, building foundations)

Plans for the 12<sup>th</sup> Street Reconstruction Project, El Embarcadero,  
Lake Merritt Park Improvements, and Lakeshore and Lakeside  
Drive

Wildlife Habitat Value Assessment, by LSA Associates, dated  
January 27, 2006

Garcia, Cecilia

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From: Toni Veglia [toni@usenix.org]  
Sent: Sunday, January 22, 2006 10:58 AM  
To: cgarcia@oaklandnet.com  
Subject: Lake Merritt Tree Removal

As a resident and property taxpayer in Oakland, I was shocked to hear about the proposed removal of trees that are not deemed "valuable" to the small group of decision makers. I go by the lake at least three times a week, and I appreciate all of the trees. That a small group of non-elected people can make this decision that negatively affects the quality of life for so many others is absurd. I am not pleased that my taxes are going towards making my city LESS livable instead of more inviting. There needs to be more rather than less greenery in this town. Do NOT cut down the beautiful old healthy trees.

-Toni Veglia  
3308 Birdsall Ave  
Oakland, CA 94619

**Garcia, Cecilia**

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**From:** James Burks [takodi@earthlink.net]  
**Sent:** Saturday, January 21, 2006 8:08 AM  
**To:** CGarcia@Oaklandnet.com  
**Subject:** Destruction of Lake Merritt Trees

Members and Staff

I am in total disagreement with your plans to destroy over 260 trees in the Lake Merritt area. What is the real rational or gain from this action. Many citizens, as you are aware, think the use of funds for this purpose is absurd and not necessary.

Lake Merritt is a beautiful place. Do the right thing by it. Plant more trees and attractions. This city could certainly use. Divert your energy and expertise towards a project more viable. There are so many other major issues and concerns to keep you busy other than destroying a natural and wonderful surrounding.

For instance, in my community near Concordia Park, there are many plans to upgrade, build structures (ie Girls, Inc.) and more. However, I called 615-5566 recently to make you aware of the blight associated with the new tennis and basketball facilities there. I use those facilities and would hate to see them destroyed by vandals. As I travel throughout the city, there are many, many other areas that require your attention, funding and caring to make them better, especially for the kids.

I urge you to redirect and or abort your plans to remove these trees. Have a little love in your heart versus political gain, career advancement, bureaucratic notification. Let them be.

Thank you for your consideration.

James Burks  
Citizen

James Burks  
[takodi@earthlink.net](mailto:takodi@earthlink.net)  
Why Wait? Move to EarthLink.



Message

Page 1 of 1

Garcia, Cecilia

From: Kirkwood, Earla, LPRD [EKirkwood810@Worldsavings.com]  
Sent: Monday, January 23, 2006 8:11 AM  
To: CGarcia@Oaklandnet.com  
Subject: TREES AT LAKE MERRITT

My husband and I are sending this e-mail to protest the mass cutting of trees around Lake Merritt. While some trees may require attention, the cutting of so many mature trees will impact both the look and feel of Lake Merritt. As city residents, tax payers, voters and active people who walk around the Lake on a daily basis, we have noticed the red markers on so many trees. Surely, there is a better way to improve Lake Merritt than the mass cutting of so many mature trees.

We agree with the planting of new trees but feel strongly they can exist with the mature trees. Besides changing the look of the Lake it will seriously impact the eco system in place that provides shade, is a haven for birds and squirrels and in general makes up a part of the "jewel" of Oakland. A win - win situation for Oakland.

Thank you.

Michael J. and Earla D. Kirkwood  
2751 Maxwell Avenue  
Oakland, Ca 94619

\*\*\*\*\*  
If you are not the intended recipient of this e-mail, please notify  
the sender immediately. The contents of this e-mail do not amend  
any existing disclosures or agreements unless expressly stated.  
\*\*\*\*\*

Garcia, Cecilia

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From: Betsy Milligan [betsyjr@sbcglobal.net]  
Sent: Saturday, January 21, 2006 2:16 PM  
To: CGarcia@Oaklandnet.com  
Subject: Concerning Lake Merritt tree cutting

Hello,

I have lived in Oakland since 1975. Of the many reasons I chose this city, one was the beautiful trees. I bought a home here in 1983... that's how much I love this place.

I sadly heard about the plan to cut down trees around Lake Merritt for a variety of reasons. I was horrified at some of the reasons. Some may have merit, however... many of the reasons are just downright stupid.

We live in a disposable society. Most of these trees are older than the people on the City Payroll. What right do you have to cut down a 100 year old tree cause it's in the wrong spot or perhaps... we "plan to put a path there"... ??? New trees can still be planted. But existing ones should be allowed their natural cycles. They create the unique and lovely environment that makes Lake Merritt a jewel of our City.

After all, the very SYMBOL for Oakland is a LARGE OLD TREE!

Staggering the planned cuts is also smarter and healthier.

Obviously... the people planning this have no clue as to the value old trees bring to city.

Betsy Milligan  
(510) 531-4409

*Opposed*

Honora Hunter  
310 Lee Street  
Oakland, CA 94610

Dan Gallagher, Tree Supervisor  
Public Works Agency Administration  
City of Oakland  
250 Frank H. Ogawa Plaza, Suite 4314  
Oakland, CA 94612

1/12/2006

Dear Mr Gallagher:

I would like to express my concern that certain trees around Lake Merritt are due for removal when there is no biological reason for doing so. I do not think that convenience or "tight landscaping" are adequate reasons to remove otherwise healthy mature trees. I understand that the vast majority of the trees slated for removal are diseased or do not have the lifespan to warrant keeping them, however others are perfectly healthy and appropriate for the environment.

The trees that I feel should NOT be removed are as follows:

*Tea Trees* (Reconstruction of the retaining wall should be engineered AROUND these trees that undoubtedly contribute to the integrity of the soil. I am a local artist, and one of my subjects is the Tea Trees around Lake Merritt.)

**LD-26 through LD-28**

**LD-31 through LD-41**

*Pines and Poplar* (Healthy but not perfectly pruned. I'd rather ugly and natural to perfectly pruned and anal-retentive landscaping.)

**LS-65**

**LS-89**

**LS-95**

**LS-101**

Two more comments...I was wondering if it might be possible to move the Magnolias from in front of the Kaiser Convention Center to a location somewhere around the lake, rather than paying to store them or just killing them; also, I was wondering if it would be possible to construct simple (or elegant and artistic) benches from the stumps of trees that are slated for removal. Even one bench made from a stump would be a destination for lake-folk and would be appreciated as a way to preserve some of the history encapsulated by the older trees. The plans otherwise look pretty good. I'm especially excited about the 12<sup>th</sup> Street Project. Thank you for considering my requests, and I wish you good luck with your work.

Sincerely,



Honora Hunter  
10 year Lake Merritt resident

cc Councilmember Pat Kernighan  
Councilmember Nancy J Nadel  
Mayor Jerry Brown



1555 Lakeside Drive #167  
Oakland, CA 94612-4547  
(510) 834-2282

January 16, 2006

City of Oakland  
7101 Edgewater Drive  
Building #4  
Oakland, CA 94621

Attention: Tree Services Section

Tree Services Section Staff:

I moved to Oakland, CA in June 1962 and saw the Australian Tea Trees for the first time which captured my attention and appreciation of their beauty.

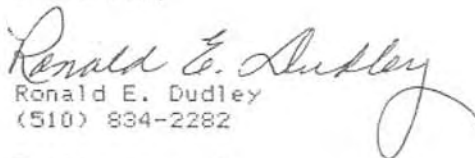
These particular tea trees have appeared in many of our photographs over the years and are still special to us.

The 15 trees red tagged along the driveway from 17th street to the former headquarter of the Park and Recreation are all mature and healthy trees.

I was not able to make the lake tour on Saturday, January 7, 2006 but my friend said the explanation for removing the trees is because the equipment used to replace the retaining wall is too large for the space with the trees present.

Please consider removing only every other tree on the ones that cannot be worked around.

Sincerely,

  
Ronald E. Dudley  
(510) 834-2282

Enclosures: 4  
3 photos  
Sunset Garden Book - Page 428

January 6, 2006

Dan Gallagher, Tree Supervisor  
Public Works Agency Administration  
City of Oakland  
250 Frank H. Ogawa Plaza, Suite 4314  
Oakland, CA 94612

JAN 10 2006

Dear Mr. Gallagher,

I am writing you as a concerned citizen and Oakland homeowner. In particular, I am asking you to only remove the trees from Lake Merritt that are certifiably diseased and must be taken out as part of the Measure DD Lake Merritt revitalization project.

The most compelling attraction that kept us in Oakland as we searched for our first home was Lake Merritt. The lake itself can range from extremely grimy to clear and inviting, but the old trees, especially the ones near the boathouse, lend a beauty that never wavers. The shade, history, and grandeur of the trees around the lake create an ecological and aesthetic refuge for both humans and wild animals that cannot be recreated with new saplings. I understand that Measure DD is a positive initiative, and current residents must bite the bullet in some cases to make way for future improvements. But I would hate to see valuable trees removed because they are simply in the way of construction. Might plans be altered to accommodate the existence of some of our historic trees?

Please take a measured approach to the tree removal plan and ONLY remove the trees that must be removed because of disease. Oakland residents value these trees and don't want to see something good created at the expense of something else. Please don't turn our lush lake into a barren park that could be Anywhere, USA. Keep the heritage and character of Lake Merritt intact.

Sincerely,



Chris and Laura Norlander  
612 Jean Street  
Oakland, CA 94610  
510-268-1606

cc: Councilmember Pat Kernighan

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III. ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES

H. VEGETATION AND WILDLIFE

OSCAR Action CO-8.1.3:

Limit public access within the Emeryville Crescent, Damon Marsh, Arrowhead Marsh, and Fan Marsh.

OSCAR Action CO-9.1.3:

Support a collaborative effort between Oakland, County, state and federal agencies, adjacent cities, the East Bay Regional Park District, and local environmental groups to develop a long-term multi-species habitat conservation plan (HCP) for the East Bay Hills.

Mitigation Measure H.2: None required.

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**Special Status Species**

**Impact H.3:** Development consistent with the Land Use and Transportation Element could affect the habitat of certain special status plants and result in the loss of special status plant species, and could result in the loss of mature trees on new development sites. This is a less-than-significant impact due to existing policies in the OSCAR Element.

A small number of undeveloped sites in the Oakland Hills contain Alameda Manzanita, Western Leatherwood, Presidio Clarkia, Uncommon Jewelflower, Tiburon Buckwheat, and Oakland Star Tulip. All of these species are identified as rare, endangered, or threatened by the California Native Plant Society. Although they typically occur on land that is publicly owned, some of these plants may be present on private sites designated for Hillside Residential development. Development consistent with the Proposed Land Use Diagram could result in the direct loss of these plants, or the destruction of habitat suitable for their presence. In all cases, these sites were designated for residential development in the prior General Plan.

The loss of large trees could occur in both hill and flatland neighborhoods as development consistent with the Plan takes place. These could include coast live oak, some of which are very old. Although Oakland's tree removal ordinance requires a permit before large trees are removed, and includes more stringent requirements for the removal of coast live oak trees, adverse impacts are still possible. Impacts to trees could either be direct, through tree cutting, or indirect, through construction, grading, or irrigation changes in their vicinity.

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

OSCAR Policy CO-7.1:

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.



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III. ENVIRONMENTAL SETTING, IMPACTS AND MITIGATION MEASURES  
H. VEGETATION AND WILDLIFE

OSCAR Policy CO-6.5:

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

OSCAR Policy CO-8.1:

Work with federal, state, and regional agencies on an on-going basis to determine mitigation measures for development which could potentially impact wetlands. Strongly discourage development with unmitigatable adverse impacts.

OSCAR Action CO-8.1.2:

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

**Mitigation Measure H.2:** None required.

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**SPECIAL STATUS SPECIES**

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

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

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

OSCAR Policy CO-7.4:

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

**Mitigation Measure H.3:** None required.

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 12<sup>th</sup> Street, 10<sup>th</sup> Street, or 7<sup>th</sup> 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.

## LETTER B3

Law Offices of Brian Gaffney

Matt McFarland

September 7, 2007

Response B3-1: The City also received comments on the Draft EIR from Nancy Rieser and Ken Pratt, who are identified in this introductory paragraph of the comment letter. Refer to responses to comment letters B14, B15, and B16.

Response B3-2: The Draft EIR fulfills the requirements and purposes of the California Environmental Quality Act ("CEQA") to provide informed public participation and informed decision making. The Draft EIR describes the Measure DD Implementation Project in Section III, Project Description, including the tree removals associated with each project element. The impacts associated with the project are evaluated in Section IV, Setting, Impacts and Mitigation, where mitigation is recommended, as appropriate. Other CEQA-required analyses, for example cumulative impacts, are included in Section V. Thus, the analysis fulfills the requirements of CEQA and the *CEQA Guidelines*. The specific issues raised by the comment in the introductory statements are addressed below as follows:

- Analysis of aesthetic impacts resulting from tree removal (Refer to Responses to Comments B3-3 to B3-9)
- Analysis of wildlife and biological resources impacts resulting from tree removal (Refer to Responses to Comments B3-10 to B3-16)
- Explanation of how proposed mitigations will reduce project impacts to less-than-significant level (Refer to Response to Comment B3-17)
- Analysis of cumulative impacts (Refer to Responses to Comments B3-18 to B3-24)
- Impact analysis for tree removal (Refer to Responses to Comments B3-25 to B3-27)

Response B3-3: The comment introduces points made in comments B3-4 through B3-9. The specific points raised in those comments are addressed in the associated responses. Refer also to Master Response M-1.

As discussed in the Draft EIR the removal of trees will not result in significant impacts to scenic views and resources, or the overall visual character of the project site. The Draft EIR's analysis includes among others the impact discussion in Section IV.M, Aesthetics, of the Draft EIR, as well as: 1) visual simulations of the project from key viewpoints that show the visual effects of tree removal/planting (Figures IV.M-1 through IV.M-4 of the Draft EIR); and 2) a Tree Assessment prepared by HortScience, Inc. (included in the Draft EIR as Appendix I), which evaluates the economic/environmental costs and benefits of tree removal and



replacement around Lake Merritt, taking into account the aesthetic value of existing and proposed trees. The discussion in Section IV.M, the visual simulations, and the HortScience study lead to the conclusion that tree removal will not result in a significant impact to visual resources.

The analysis in the Draft EIR of the visual effects of tree removal/replacement fulfills the requirements of *CEQA Guidelines* Section 15151, which requires an EIR “to be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. . . . An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible.” The analysis and discussion in the Draft EIR of the potential effects of tree removal provide decision-makers with adequate information to enable them to reasonably understand the project’s impacts.

Response B3-4: The comment claims that the Draft EIR “fails to explain why the planting of new trees automatically leads to the conclusion that the project will have a less-than-significant impact on a scenic vista.” The stated conclusion—that the planting of new trees would reduce impacts to scenic vistas—is incorrect, and misinterprets the analysis in the Draft EIR. Although the removal and planting of trees has much to do with a site’s visual character, it will not have a significant adverse effect on scenic vistas (unless new trees would substantially block scenic views). Visual character is the physical appearance or look of a particular location, including the visual cues that provide a sense of place. Elements that affect visual character in urban locations include the location and coverage of trees, street width, building height and mass, pedestrian activity, the type and size of retail establishments, and amount and configuration of open space. A scenic vista is a notable view of a landmark (such as the view of the Golden Gate Bridge from the Berkeley Marina) or a significant landscape feature (such as views of the East Bay Hills from Lake Merritt).

A significant impact to a scenic vista typically involves the construction or installation of a structure that substantially blocks or changes a scenic view. A prototypical example of such a structure is a freeway that obstructs views of a scenic feature such as San Francisco Bay or the East Bay Hills. Although the planting and removal of trees in the project site will change the visual character of the area, it will not block or substantially adversely change scenic views (including views of Lake Merritt, the East Bay Hills, and other important East Bay landmarks). As noted on page 336 of the Draft EIR, the Group 1 project components would “result in small but beneficial improvements to scenic vistas encompassing” Lake Merritt and the Lake Merritt Channel.

Page 336 of the Draft EIR is revised, for clarification. Refer to Master Response M-1 for revisions made to the text.

Response B3-5: The planting of new trees to replace removed trees is not a mitigation measure, but a part of the proposed project (as described or graphically depicted on pages 30, 35,

38, 41, 42, 43, 47, and 49 of Chapter III, Project Description). Further, the plantings of new trees are conditions of the tree permits. Therefore, discussion of the project's impacts and proposed mitigation is not inappropriately combined.

Response B3-6: The impact analysis in the Draft EIR is not limited to a discussion of diseased trees but also addresses impacts associated with the removal of healthy trees. As noted on page 341 of the Draft EIR, "As part of the project, certain trees would be removed (and replaced with healthy individuals). Many of the trees that would be removed are diseased, short-lived, or are not stable." The Draft EIR analyzes impacts associated with the removal of healthy trees, but notes that many of the trees that would be removed are unhealthy or unstable. According to the Tree Assessment prepared by HortScience, over 70 percent of the trees to be removed are dead, or in "poor" or "fair" condition.

Response B3-7: Page 341 of the Draft EIR is revised to further discuss why the removal of trees will have a less-than-significant effect on scenic resources (and visual character). This supplemental text provides additional details about the analysis that was performed to support the conclusions of the Draft EIR, which are unchanged. Refer to Master Response M-1 for text revisions.

The project also includes the rehabilitation of three historic structures around Lake Merritt: the Pergola, Cleveland Cascade, and the Boathouse. This rehabilitation would be undertaken in a way that avoids significant impacts on the historic qualities of the building facades and would enhance these scenic resources. Therefore, this group of project components would have a less-than-significant effect on scenic resources.

Response B3-8: In the case of the Group 1 projects, which would all be located around Lake Merritt and Lake Merritt Channel, impacts to "scenic resources" (the Lake, Channel, and adjacent lands) are essentially the same as impacts to "visual character" (the visual perception of the Lake Channel, and adjacent lands). Refer to Response to Comment B3-7 and Master Response M-1 for an explanation of why the removal of trees from around Lake Merritt and the replacement of these trees with new trees will not result in a significant impact to visual character (or scenic resources).

Response B3-9: The comments submitted by other individuals regarding impacts associated with tree removal are noted. As discussed in Response to Comment B3-7, the removal of trees will have a relatively small visual impact when considered in the context of trees to be preserved within the site and the 521 new trees that will be planted as part of the project. This conclusion is supported by a tree economic/environmental valuation study conducted by HortScience, which determined that within 5 years of planting, the replacement trees will be more valuable in terms of aesthetics and other environmental/economic benefits than the existing trees that will be removed as part of the project. Refer also to Master Response M-1.

Response B3-10: See responses B3-11 through B3-16, which respond to comments raised regarding the Draft EIR's analysis of wildlife and biological resource impacts associated with tree removal. Refer also to Master Response M-1.

Response B3-11: Based on a review of pertinent information (e.g., the California Natural Diversity Database for the area and communications with a local birder) the Draft EIR finds that the only special-status species with potential to nest in the taller trees at Lake Merritt is Cooper's hawk (sharp-shinned hawks are not known to nest in urban areas; they were included in the Draft EIR because suitable nesting habitat is present in the Oakland Hills, where several Measure DD-funded creek restoration projects are proposed). The Draft EIR identifies this *potential* impact at the bottom of page 211. It should be noted that to date, no Cooper's hawks have been observed nesting in any of the trees to be removed. Likewise, no other raptors or owls, including the five species identified by the comment (red-tailed hawk, red-shouldered hawk, American kestrel, great horned owl, and barn owl) have been observed nesting in any of the trees.

For the purposes of the environmental analysis, an impact to Cooper's hawks or other raptor would be considered "significant" if a nest were destroyed during tree removal activities or a pair of raptors abandoned a nest due to human-caused disturbance (e.g., excessive construction noise). As discussed below (Response to Comment B3-16), the City's Conditions of Approval are considered part of the project when determining whether a given impact is significant. The potential impact to nesting Cooper's hawks (and any other birds) would be avoided through the implementation of Condition 32 (i.e., preconstruction surveys and establishment of nest buffers), which has been incorporated as part of the project. Thus, the potential impact is not considered significant.

There are no potential impacts associated with tree removal on Barrow's goldeneye, California brown pelican, double-crested cormorant, American peregrine falcon, or Alameda song sparrow. The trees that will be removed as part of the project, and trees in general, are not an important habitat component for the species as explained in the following paragraphs.

Barrow's goldeneye is a species of diving duck that winters in the Bay Area in small numbers. The species spends all of its time in open water while foraging and resting. Trees are not an important habitat component for this species.

California brown pelicans at Lake Merritt spend nearly all their time resting on or foraging over open water, and are not known to roost in trees. Double-crested cormorants may occasionally roost in trees near the water's edge, but prefer to roost along the shoreline, on docks, or on pilings. None of the trees around the southern end of Lake Merritt represent important roost sites for the lake's cormorant population, which is concentrated more towards the northern end of the lake near the islands adjacent to the Rotary Nature Center. Furthermore, the Species of Special Concern designation for double-crested cormorant only applies to known rookeries, one of which is present at the above-mentioned islands. None



of the trees to be removed support a cormorant rookery.

Trees are not an important habitat component for urban peregrine falcons, which perch almost exclusively on human-made structures (e.g., tall buildings, bridges, transmission towers). Furthermore, peregrines are not a regularly occurring species at Lake Merritt (see Draft EIR page 195). Because peregrines (1) do not perch or nest on trees in urban landscapes and (2) only occur sporadically at Lake Merritt, they will be unaffected by tree removals.

Similarly, Alameda song sparrows do not roost or nest in trees. They are adapted to the open tidal marshes that surround San Francisco Bay, and are thus dependent on low-growing pickleweed and other dense vegetation for nest sites rather than open-branched ornamental trees such as those around Lake Merritt. As such, tree removals will not impact this species.

Response B3-12: The City's Uniformly Applied Development Standard Conditions of Approval are incorporated into projects as explained on pages 64-65 of the Draft EIR and are considered part of the project when determining the significance of a given impact. As such, the City's Conditions of Approval are not mitigation measures. If an impact is less than significant with the Conditions of Approval that are incorporated into the project, no mitigation is proposed. Because the Conditions of Approval are not mitigation measures, consideration of the Conditions of Approval in the impacts analysis of the Draft EIR does not inappropriately combine the analysis of impacts with the discussion of mitigation.

The Draft EIR follows CEQA procedures by analyzing the impacts of the project. Preconstruction surveys for and avoidance of, active nest sites are part of the project and ensure that the impact is less than significant. Thus, no mitigation is proposed.

Response B3-13: Refer to Response to Comment B3-11.

Response B3-14: Potential impacts to the nests of common birds, including red-tailed and red-shouldered hawk, are identified on page 213 (third paragraph) of the Draft EIR. Because preconstruction surveys are incorporated into the project (Condition 32 of the City's Conditions of Approval, included on page 207 of the Draft EIR) the tree removals will not result in significant impacts to nesting birds. The impact would be less than significant with the implementation of Condition 32 because tree removals will occur outside of the breeding season when nesting birds are not present (as was the case for the trees removed in November along Lakeside Drive and Lakeshore Avenue), or if tree removals occur within the breeding season, the trees will be surveyed for nests and if any are found steps will be taken to ensure that the nest(s) are not disturbed until the young have successfully fledged.

Response B3-15: Implementation of Condition 32 from the City's Conditions of Approval (which is incorporated as part of the project) will ensure that tree removals will not violate the Fish and Game Code. The EIR team's ornithologist disagrees with the

comment's assertion that the City should survey the trees for nests of raptors and owls prior to EIR certification. To avoid impacts to nesting raptors and owls, it is essential to survey the trees *at the time of the proposed activity* (i.e., within 15 or 30 days during the breeding season, as per Condition 32) to ensure that no nests are present. Surveying the trees a year or more in advance may provide information as to which trees are being used by raptors and/or owls, if any, but would be of little help in avoiding impacts since most birds vary in their nest placement from year to year. The practice of conducting preconstruction surveys immediately prior to tree removal is a standard avoidance and protection measure that has been implemented on many other similar public works projects, as well as in General Plans, and is regularly accepted by the CDFG as an appropriate mechanism for the protection of nesting raptors, owls, and other native birds.

Response B3-16: Refer to Response to Comment B3-12 for additional information regarding the City's use of its Uniformly Applied Development Standard Conditions of Approval.

The phrase, "to the extent feasible," which is cited in a footnote to comment B3-12, qualifies only a portion of Condition 32 cited by the comment. The relevant section of Condition 32 reads: "To the extent feasible, removal of the trees and other vegetation suitable for nesting or raptors shall not occur during the breeding season of March 15 through August 15. *If tree removal must occur during the breeding season* [emphasis added], all sites shall be surveyed by a qualified biologist to verify the presence or absence of nesting raptors or other birds. ..." The measure provides more than one way to reduce adverse effects to nesting birds—either remove trees outside of the nesting season or, survey and avoid active nests if the work must be conducted during the nesting season. As either approach required by Condition 32 avoids adverse effects to nesting birds, no mitigation is required.

Response B3-17: The comment incorrectly states that the EIR determines that compliance with the Tree Preservation and Removal Ordinance will—in and of itself—mitigate potentially significant impacts..." This statement confuses the evaluation of an impact with mitigation. The impact that is being evaluated on pages 218-219 of the Draft EIR is whether the project would fundamentally conflict with the City of Oakland Tree Preservation and Removal Ordinance (see page 210 of the Draft EIR for the complete text of the criterion of significance used to evaluate the impact). For the reasons presented in the first paragraph at the top of page 219, the EIR concludes that the project would not conflict with the ordinance and thus no mitigation is required. Note that other potential impacts associated with tree removal are addressed on pages 211-212, 336, and 341 of the Draft EIR. Refer to Master Response M-1 and Responses to Comments B3-3 to B3-16 for additional discussion of impacts and mitigation associated with tree removal.

Response B3-18: The EIR's analysis of cumulative impacts is adequate. Please see Responses to Comments B3-19 through B3-24. The specific points raised in those comments are addressed there and in the associated responses that follow.

Response B3-19: The Draft EIR first identified the method for estimating the universe of cumulative development (i.e., past, present and probable future projects) and then analyzed that development's potential cumulative impacts.

CEQA allows lead agencies to choose the method for establishing the cumulative projects or projected levels of cumulative development that is best suited to the situation at hand. As the comment notes, the City considered a summary of projections to establish past, present and probable future development. Because the proposed project implements many of the open space, recreation and land use policies described in the City's General Plan and analyzed in previous planning level documents, the City finds the method selected is the one best suited to the situation. The projections account for past and present projects as well as future probable development. In addition, the cumulative analysis considered specific projects, including the Oakland Whole Foods Market, the Jack London Square Redevelopment, and the Oak to Ninth Avenue Projects (page 133 of the Draft EIR).

Having established the cumulative development scenario to be examined for a project of the scale and type proposed here, the City analyzed that development's potential compound impacts. While the comment states that "... 'a summary of projections' is not a substitute for an adequate discussion of cumulative impacts", suggesting that the summary of projections is claimed by the EIR to be the equivalent of the analysis of potential cumulative impacts, nowhere does the EIR suggest such a substitution. In fact, following the subsection on Methodology (revised below) the cumulative analysis is conducted over the next three pages (Draft EIR, pp. 363-366) for each of the topics evaluated in the main Setting, Impacts and Mitigation Measures chapter of the Draft EIR. It is in that text – a paragraph or two for each topic – that the cumulative analysis required by CEQA is conducted and presented.

Refer to Response to Comment B3-24 for additional response to the comment on the analysis of cumulative impacts. The text on page 363 of the Draft EIR is revised as follows to clarify the EIR's choice of the summary of projections and approved projects:

## 1. Methodology

When evaluating cumulative impacts, CEQA allows the use of either a list of past, present and reasonably foreseeable future projects ~~or reasonably anticipated relevant projects~~ (including projects outside the control of the lead agency) or a summary of the projections in an adopted General Plan or related planning document. This cumulative impacts analysis considered development projections that are contained in ~~is likely to occur under the build-out of the~~ various elements of the City of Oakland General Plan, including the Land Use and Transportation Element (LUTE), and the Open Space, Conservation, and Recreation Element (OSCAR), and their related environmental review documentation. The projections account for past and present projects as well as reasonably foreseeable future development. In addition, the cumulative analysis considered specific projects, including the Oakland Whole Foods Market, the Jack London Square Redevelopment, and the Oak to



Ninth Avenue Projects. As a result, the analysis is based on a projections approach, which has been refined by including additional information regarding specific existing and anticipated future projects.

Response B3-20: The cumulative analysis of the Draft EIR included consideration of past, present and probable future projects. Past and present projects are included in the term “build-out” in the context used on page 363 of the Draft EIR and thus were considered in the cumulative impacts analysis. Refer also to Response to Comment B3-19 for revisions to the text to clarify the methodology of the cumulative analysis and to Response to Comment B3-22 for a discussion of the cumulative analysis for aesthetics. The text beginning at the bottom of page 365 of the Draft EIR is revised as follows to clarify the discussions of Public Service and Recreation and Utilities and Infrastructure.

**j. Public Services and Recreation.** ~~Development of the proposed Measure DD Implementation Project, in conjunction with planned future development as anticipated by the City's General Plan, would incrementally increase demand for police and fire services as noted in Section IV.K, which finds that the project sites are currently adequately served and the impacts on demand would be less than significant. For recreation, the analysis finds that service is currently inadequate, as the City does not meet its goals of 10 acres of total and 4 acres of urban parkland per 1,000 residents. However, the project would improve recreational facilities and increase the current ratios by constructing new facilities in East Oakland and by increasing the acres of parkland around the south end of Lake Merritt. Thus the project would have a beneficial effect on recreation. Therefore, the cumulative analysis focuses on police and fire services. public facilities and services. However, none of the public facilities or services analyzed would experience significant impacts or create demand beyond that anticipated in the General Plan.~~

There is no evidence that the demand for police and fire services would be cumulatively significant because adequate fire and police service is provided to the project area and development under cumulative conditions would be addressed by the service providers prior to completion of development to ensure that service demand can be reasonably be accommodated at that time. Build-out of the cumulative projects would not result in cumulative impacts related to physical capacities, service levels or funding availability, particularly because the increased demand for services has, in many cases, been anticipated in planning and policy documents and would be shared across service areas within the City. In addition, given the acceptable levels of service as described in Section IV.K, the demand by the project when combined with past, present, and reasonably foreseeable future projects would not be cumulatively considerable because the facilities that are part of the project, such as new trails, new landscaping, creek restoration activities, renovations of buildings and other historic structures, creation of bike lanes, and water quality improvements do not create demand for services, have a demand for services that is the same as the existing project sites, or have very low demand for services. As a result, no significant cumulative impacts would result.

**k. Utilities and Infrastructure.** The proposed Measure DD Implementation Project is located in areas already served by utilities and the incremental increase in demand for services would not require the expansion or construction of new facilities. The cumulative increase in demand on the utility providers and infrastructure in the City resulting from implementation of Measure DD, in combination with past, present and other reasonably foreseeable projects in Oakland, is anticipated

within the General Plan as well as within plans prepared by each of the utility providers to address projected growth.

There is no evidence that the demand for utilities and infrastructure would be cumulatively significant because adequate service is provided to the project area and development under cumulative conditions would be addressed by the utility providers prior to completion of development to ensure that service demand can be reasonably be accommodated at that time. In addition, given the acceptable levels of service as described in Section IV.L, the demand by the project when combined with past, present and reasonably future projects would not be cumulatively considerable because the facilities that are part of the project, such as new trails, new landscaping, creek restoration activities, renovations of buildings and other historic structures, creation of bike lanes, and water quality improvements do not create demand for services, have a demand for services that is the same as the existing project sites, or have very low demand for services. Therefore, no significant cumulative impacts would result.

Response B3-21: The cumulative impacts discussion focuses on effects that could cause cumulatively considerable impacts when combined with the effects of past, present, and probable future projects. The analyses are not site-specific but encompass a geographic area appropriate to the area of potential cumulative effect, such as the air basin for air quality but appropriately smaller areas for other topical areas, such as noise, geology and hazards. Refer to Response to Comment B3-23 for revisions to the Hazards and Hazardous Materials analysis. Refer to the end of Chapter IV of this Response to Comments document for additional revisions to the cumulative impacts analysis in Section IV.C, Transportation, Circulation, and Parking, of the Draft EIR. The cumulative analyses for Transportation, Circulation, and Parking, Air Quality, Noise, and Geology, Soils and Seismicity found on pages 363-365 of the Draft EIR are revised as follows:

**b. Transportation, Circulation and Parking.** A detailed analysis was conducted for the purposes of assessing cumulative environmental impacts to the transportation system as described in Section IV.C. As described therein (see pages 133 to 134), the cumulative analysis analyzed the project in combination with past, present and reasonably foreseeable future projects. The cumulative analysis identified five significant cumulative impacts related to transportation (TRAF-5 through TRAF-9), three of which are identified as significant and unavoidable because they may not be reduced to less-than-significant levels. The impacts and mitigation are discussed in detail in Section IV.C. No significant impacts were identified for alternative modes of transportation. The project would not fundamentally conflict with adopted policies, plans, or programs supporting pedestrian and bicycle transportation or transit use. The project would improve both pedestrian mobility and bicycle transportation. Although travel times would increase as a result of the project and affect some transit routes, travel times for other motor vehicles would increase by a similar amount, and travelers would not be discouraged from using transit as a result of the project. Thus, the project would not fundamentally conflict with adopted policies, plans, or programs supporting transit use and would not have a significant cumulative impact.

**c. Air Quality.** As noted in the air quality impact analysis in Section IV.D, the air basin within which the City of Oakland and the project components lie is non-attainment for ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>. As such, the project and other past, present and reasonably foreseeable future projects could

result in an impact that is cumulatively significant for air quality related to these pollutants. However, the City finds that the project's contribution to the impact would not be cumulatively considerable and thus the impact is less than significant. According to the Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines, any proposed project that would individually have a less-than-significant air quality impact and is consistent with the General Plan, where the General Plan is consistent with the Clean Air Plan, would be considered to have a less-than-significant cumulative air quality impact. The Measure DD components would not have significant operational air quality impacts, therefore a determination of the cumulative impacts would be based on an evaluation of the consistency of the project with the City of Oakland's General Plan and of the General Plan with the regional air quality plan. As discussed in Section IV.D, the City of Oakland's General Plan is consistent with the 2005 Ozone Attainment Plan, the fourth triennial update of the Clean Air Plan, and the project is consistent with the General Plan. In addition, the project would not generate objectionable odors, expose sensitive receptors to substantial air pollutant concentrations, or emit toxics that would contribute to a cumulative impact. Likewise, the project would not contribute to an impact associated with CO concentrations because CO concentrations would not increase as a result of the project. Therefore the project would not have a significant cumulative impact.

**d. Noise.** As noted in the noise analysis in Section IV.E, the project components are primarily recreational facilities and water quality improvements that would not produce substantial noise during their operation and would not contribute substantially to the cumulative noise environment, which would generally include the project site and surrounding properties. Further, the noise impact analysis in Section IV.E notes that the primary source of noise in the project area is and would be motor vehicle noise. The analysis of cumulative traffic noise impacts for all project components, as shown in Tables IV.E-12 and IV.E-13 and in the discussion under Section IV.E.2.b, was based on the cumulative traffic volumes (i.e., cumulative plus project scenario) generated for the traffic analysis in Section IV.C, which included the project and other past, present, and reasonably foreseeable future planned projects within the City of Oakland. The analysis demonstrates that the cumulative noise impacts from traffic would be less than significant for noise sensitive receptors within the City of Oakland.

There would be temporary construction noise impacts and one of these (i.e., pile driving) that would be significant if noise-reducing measures specified in the City's Standard and Uniformly Applied Development Standard Conditions of Approval are not feasible (as noted in Section IV.E). However, if they occur, these impacts would be limited to sites around Lake Merritt, namely the E. 18<sup>th</sup> Street Pier, the 12<sup>th</sup> Street reconstruction area and Lake Merritt Channel, and a few segments of the Waterfront Trail site-specific and limited to the duration of construction period. Except as noted with respect to pile driving, there is no evidence that noise levels would be cumulatively significant. The noise levels in the project area are within the City's standards for noise and because construction projects in the cumulative scenario within the City of Oakland are required to comply with the City's Noise Ordinance and Conditions of Approval. Thus, the requirements will render cumulative construction noise and operational noise impacts would be less than significant.

**h. Geology, Soils and Seismicity.** The area of cumulative effects for geology, soils and seismicity issues, such as liquefaction, landslides, lateral spreading, expansive soils, landfills, and septic systems, is the project site. The geologic, seismicity, and soils conditions of this site are specific to the individual component sites. Other sites in the vicinity may have similar issues and concerns regarding geological conditions and hazards. For geologic, seismicity, and soils issues, the proposed



development does not influence or degrade conditions in the area of cumulative effects, because among other reasons, as long as the impacts of the individual components are reduced to a less than significant level by the California Building Standards Code and the City's Uniformly Applied Development Standard Conditions of Approval with which the project will be required to comply. In addition, many features of the project, such as improvements to trails, creeks, landscaping, and water quality, do not create any hazards. Others, such as renovations of the Studio One Art Center, the Municipal Boathouse and the Pergola, would reduce existing hazards by strengthening existing structures. These actions would not contribute to a cumulative impact and, in the case of renovations would have net beneficial effects. New structures associated with past, present and reasonably foreseeable future projects as well as the current project, such as the East Oakland Sports Complex, would be built to current seismic codes ensuring that potential seismic hazards are less than significant. Thus, the project would not make a cumulatively considerable contribution to a cumulative significant impact related to geology, soils or seismicity.

Response B3-22: The cumulative analysis for aesthetic resources in the Draft EIR is consistent with CEQA and the *CEQA Guidelines*. The analysis considers both whether there is a significant impact to which both the proposed project and other projects contribute and whether the project's incremental contribution is cumulatively considerable. *CEQA Guidelines* Section 15130(a) states that: "An EIR may determine that a project's contribution to a significant cumulative impact will be rendered less than cumulatively considerable and thus is not significant." The project's contribution to the cumulative aesthetic impact of past, present and probable future projects is clearly less than significant in light of the City's finding of the project's many benefits on visual resources. As discussed on page 366 of the Draft EIR, the proposed project would have beneficial effects on the visual quality of Oakland by renovating open space around Lake Merritt, restoring historic landmarks, improving water quality, constructing trails in shoreline areas, and restoring creeks. Therefore, the project's contribution to adverse impacts to visual resources associated with the implementation of other projects in Oakland is less than cumulatively considerable and thus not significant.

Response B3-23: The Draft EIR does not rely on mitigation of future projects to "eliminate potential cumulative impacts." The analysis considers both whether there is a significant impact to which both the proposed project and other projects contribute and whether the project's incremental contribution is cumulatively considerable. Further, for Biological Resources, Hydrology and Water Quality, and Hazards and Hazardous Materials, which are cited in the comment, the project would not have significant cumulative effects because generally the project's effects are beneficial. Indeed, it is among the project's objectives to improve water quality and habitat for fish and wildlife (page 24 of the Draft EIR).

For Hydrology and Water Quality, the Draft EIR finds that the project would reduce flooding, improve water infiltration and groundwater recharge, and improve water quality. In addition, the project includes measures to protect water quality during construction and project operation as described in Section IV.H.2.b of the Draft EIR. Nevertheless, as noted on page 260 of the Draft EIR, Lake Merritt is an impaired water body due to organic enrichment, low dissolved oxygen, and trash

and the Estuary and San Francisco Bay, to which Oakland's creeks flow, are impaired for pesticides, dioxins, furans, PCBs, selenium, mercury, and exotic species. Thus, the contribution of the project and other past, present and probable future projects could result in an impact that is cumulatively significant for water quality. However, the project's contribution to the impact would not be cumulatively considerable for two reasons: 1) with the exception of organic nutrients, the project would not generate the contaminants for which the water bodies are impaired and 2) the project would likely reduce organic nutrients due to the net decrease in impervious surface around Lake Merritt and the Best Management Practices (BMPs) that are included in the project (e.g., grassy swales, porous pavements, and stormwater planters). Thus, the cumulative impact of the project is less than significant, as stated in the Draft EIR. The text on page 365 of the Draft EIR is revised to clarify the explanation of the cumulative impacts analysis as follows:

**g. Hydrology and Water Quality.** The majority of Measure DD components would be constructed in an urbanized area of Oakland and would not significantly increase impervious surface coverage or result in flood hazards within the component sites. In fact, several Measure DD Project components would include measures to improve water quality.

Construction and operational-period impacts to stormwater that would result from implementation of the Measure DD Project would be minimized through compliance with the Water Board's regulations and implementation of the City's Standard Conditions of Approval. Nevertheless, as noted on page 260 of the Draft EIR, Lake Merritt is an impaired water body due to organic enrichment, low dissolved oxygen, and trash and the Estuary and San Francisco Bay, to which Oakland's creeks flow, are impaired for pesticides, dioxins, furans, PCBs, selenium, mercury, and exotic species. However, the EIR analysis shows that the project's contribution to the impact would not be cumulatively considerable for two reasons: 1) the project would not generate the chemical contaminants for which the water bodies are impaired and 2) the project would likely reduce organic nutrients due to the net decrease in impervious surface around Lake Merritt and the Best Management Practices (BMPs) that are included in the project (e.g., grassy swales, porous pavements, and stormwater planters). Thus, the cumulative impact of the project is less than significant. ~~It is anticipated that other cumulative projects within the City of Oakland would be required to undergo the same water quality maintenance measures and would not result in cumulative adverse impacts to water quality. Therefore, implementation of the proposed project would not result in significant cumulative hydrology and water quality impacts.~~

For Hazards and Hazardous Materials, the Draft EIR finds that the East Oakland Sports Complex would store a hazardous material, sodium hypochlorite (i.e., bleach); that commonly used hazardous materials, such as paint, fuels and adhesives, would be transported and used during project construction; and that the reconstruction of 12<sup>th</sup> Street would temporarily close a designated emergency evacuation route. None of these would result in a significant cumulative impact when the project is considered with past, present and probable future projects as explained below.

Hazardous materials transport, storage and use would be cumulatively significant if the project and cumulative projects created a significant hazard to the public or the environment within the area of cumulative effect (i.e., the project construction sites, the East Oakland Sports Complex site, or roadways to these sites). The cumulative effect would create a significant hazard to the public if the hazardous materials in the cumulative scenario exceeded regulated quantities or resulted in the improper use or storage of hazardous materials. The storage of common hazardous materials in accordance with State and federal regulations and the City's Best Management Practices by the project in combination with past, present, and probable future projects would not create a significant cumulative hazard to the public or the environment. Thus, the cumulative impact would be less than significant.

For emergency evacuation routes, the area of impact would be the areas served by 12<sup>th</sup> Street, the evacuation route that would be temporarily closed during construction. During the period of project construction, other projects in the cumulative scenario could have street closures that would affect the same areas, which could constitute a cumulative impact. However, the proposed mitigation requires the review and approval of the temporary detour plans by the City's Office of Emergency Services, which would be aware of all closures in the City, and would ensure that the project's contribution is less than cumulatively considerable because it requires that alternative routes are identified and available during project construction. Because the project's contribution to the cumulative impact is not cumulatively considerable the impact is less than significant. The text on page 365 of the Draft EIR is revised to clarify the explanation of the cumulative impacts analysis as follows:

**i. Hazards and Hazardous Materials.** The hazards and hazardous materials issues for the proposed project are specific to the individual component sites and would not lead to any cumulative impacts related to hazards. Most components of Measure DD would not store or use substantial quantities of hazardous materials and would, at some sites, help ensure that potential chemical hazards in soil or groundwater are remediated and the risk from these hazards is reduced. ~~Some hazardous materials would be stored for maintenance and disinfection purposes at the proposed East Oakland Sport Complex. As all such storage and use in the City of Oakland must comply with State and local regulations for hazardous materials, this would not have a significant cumulative impact.~~

Hazardous materials transport, storage and use would be cumulatively significant if the project and cumulative projects created a significant hazard to the public or the environment within the area of cumulative effect (i.e., the project construction sites, the East Oakland Sports Complex site, or roadways to these sites). The cumulative effect would create a significant hazard to the public if the hazardous materials in the cumulative scenario exceeded regulated quantities or resulted in the improper use or storage of hazardous materials. The City finds that storage of common hazardous materials in accordance with State and federal regulations and the City's Best Management Practices by the project in combination with past, present, and reasonably foreseeable future projects would not create a significant cumulative hazard to the public or the environment. Thus, the impact would be less than significant.



For emergency evacuation routes, the area of impact would be the areas served by 12<sup>th</sup> Street, the evacuation route that would be temporarily closed during construction. During the period of project construction, other projects in the cumulative scenario could have street closures that would affect the same areas, which could constitute a cumulative impact. However, the proposed mitigation requires the review and approval of the temporary detour plans by the City's Office of Emergency Services, which would be aware of other closures in the City, and would ensure that the project's contribution is less than cumulatively considerable because it requires that alternative routes are identified and available during project construction. Because the project's contribution to the cumulative impact is not cumulatively considerable the impact is less than significant.

For Biological Resources the project's contribution to the cumulative impact of past, present and probable future projects is less than significant in light of the finding of the project's many benefits to wildlife, habitat quality, and water quality. As discussed on page 364 of the Draft EIR, the proposed project would have beneficial effects on the biological resources of Oakland by increasing open space and improving water quality. Other benefits are identified in the project description and therefore, the project's contribution to adverse impacts to biological resources associated with the implementation of other projects in Oakland is less than cumulatively considerable and thus less than significant. The text of the Biological Resources section on page 364 of the Draft EIR is revised as follows to clarify the explanation of the cumulative impacts analysis:

**e. Biological Resources.** Project activities are not anticipated to make a cumulatively considerable contribution to have a cumulative significant impact on biological resources. The project would generally be conducted in an urbanized area and would increase open space and improve water quality, which would benefit wildlife. Other benefits include establishing foraging and refuge areas by restoring native vegetation, restoring wetlands, and removing exotic invasive vegetation, providing greater diversity of habitat, and improving connectivity between Lake Merritt and similar habitat areas within the area. Potential temporary impacts to wildlife, such as nesting raptors and songbirds; during construction, injury to fish during pile driving, or disturbance of wildlife in the Channel by small boats, and impacts to waters of the U.S. and State ~~of some project components were identified, but these would be mitigated~~ would be avoided (impacts to wildlife and fish) or fully compensated for (impacts to waters of the U.S. and State) by the City's Conditions of Approval or by the mitigation measures recommended in this EIR. ~~It is anticipated that other cumulative projects within the City of Oakland would be required to undergo the same protective measures for biological resources and would not result in cumulative adverse impacts to wildlife. With implementation of the mitigation measures~~ Because the potential impacts to biological resources would be beneficial, avoided, or fully compensated for, the project's incremental contribution would not be cumulatively considerable and the impact would be less than significant. ~~fully mitigated and no cumulative effects to biological resources would result from this project.~~

Refer to Response to Comment B3-19 for additional discussion of cumulative projects used in the analysis.

Response B3-24: The EIR provides analysis as well as conclusions in the discussion of cumulative impacts. The example provided in the comment for Land Use cites the conclusion of the impact analysis but excludes the preceding text that provides the analysis and

rationale for the conclusion. As stated in the cumulative impact analysis for Land Use, the proposed land uses associated with the project are compatible with surrounding land use. They are also compatible with uses proposed in the General Plan. The only potential land use conflict (and significant impact) is a site-specific safety issue associated with one property along the Waterfront Trail. This would not have a cumulative impact when considered with past, present, and future probable projects. To clarify the City's basis for its findings page 363 of the Draft EIR is revised as follows:

a. **Land Use.** The majority of the Measure DD components would renovate or improve existing structures, recreational facilities, roadways, and creeks within the City of Oakland and would not change land use. New land uses would include roadway and park changes associated with Lake Merritt, and the creation of new parks and installation of the new trail connections associated with the Waterfront Trail, and the construction of the East Oakland Sports Complex. With one exception, (the proposed land uses associated with the project would be compatible with the surrounding land use and zoning of the project site and surrounding neighborhood, which is the geographic area of potential cumulative effect for land use impacts. One The potential land use conflict, a potential safety hazard that would be created by constructing the trail across an operating industrial facility, was identified for the Waterfront Trail group, which This impact would be reduced to a less-than-significant level with implementation of the identified mitigation measure. The EIR analysis shows that the impact would not be cumulatively considerable for two reasons: 1) there are no other similar safety impacts to which the impact would contribute and 2) the residual effect would be eliminated by the proposed mitigation measure. Thus, the project This site-specific impact would not have a cumulative effect when considered with other projects and implementation of Measure DD would not result in any cumulatively significant land use impacts.

Analysis is provided on pages 363-364 of the Draft EIR for the other topical areas cited in the comment. The Transportation, Circulation, and Parking section, for example, includes a detailed analysis of cumulative impacts (Section IV.C), which is cross-referenced in Chapter VI. Refer also to Responses to Comments B3-20 (Public Services and Utilities and Utilities and Infrastructure), B3-21 (Transportation, Circulation, and Parking), and B3-23 (Biological Resources and Hydrology and Water Quality).

Response B3-25: The comment claims that there is substantial evidence that tree removal would have a significant effect on the environment. In the case of the Measure DD Projects, recognizing a divergence of public opinion on this matter, the City determined that tree removal associated with the project could result in significant impacts to visual resources. Therefore, the City decided that this issue (among others) would be addressed in an EIR. Subsequent to the publication of the Draft EIR the Alameda County Superior Court confirmed the City's prior analysis of no significant impacts (see Master Response M-1). Moreover, as discussed in the Draft EIR and in Response to Comment B3-7, tree removal will not result in a significant aesthetic impact. The evidence supporting the conclusion in the Draft EIR that tree removal will not result in a significant impact on aesthetic resources includes the following items:

- Many of the trees that would be removed are diseased, short-lived, or are not stable (i.e., they are dead, or in poor to fair condition), and detract from the visual environment of Lake Merritt and Lake Merritt Channel;
- Approximately 510 trees would be retained within the project area.
- Trees would be planted as part of the project (521 in total, creating a replacement ratio of almost two trees for every removed tree) and these new trees would enhance the visual character of the site;
- Visual simulations prepared for the project (refer to Figures IV.M-1 through IV.M-4 in the Draft EIR) show that tree removal would have a less-than-significant impact on visual character and scenic resources; and
- A tree economic/environmental valuation study conducted by HortScience determined that within 5 years of planting, the replacement trees would be more valuable in terms of aesthetics and other environmental/economic benefits than the existing trees that would be removed as part of the project.

The claim that tree removal will result in significant effects to the visual quality of Lake Merritt and its surroundings fails to give due consideration to both short-term and long-term environmental impacts as mandated by *CEQA Guidelines* Section 15126.2. As shown in the HortScience tree valuation study in Appendix I of the Draft EIR and the visual simulations, the project would result in positive aesthetic, environmental, and economic effects in the long-term. Refer also to Master Response M-1.

Response B3-26: The policy cited in the comment discourages (but does not prohibit) the removal of large trees. The project would preserve many more existing large trees than will be removed, replacing each removed tree with approximately two new trees. The flexibility of the policy cited by the comment (indicated by the word “discourage”) suggests that the policy be interpreted in the context of other, competing General Plan policies, including Policy OS-6.4, which directs that Oakland’s lakes be managed to take advantage of their recreational and aesthetic potential while conserving their ecological functions and resource value. The project would accomplish these objectives and it is consistent with the City’s General Plan policies for improving recreation and open space areas and creating new recreational opportunities for residents of Oakland. In the context of other, competing General Plan policies, the project would not directly conflict with the policy referenced in the comment and the impact would be less than significant.

Refer to Response to Comment A1-14 for additional discussion of conformance with the City’s General Plan.

Response B3-27: See Response to Comment B3-11 for a discussion of potential impacts of tree removals on individual species of birds.

The analysis and conclusions of this EIR are consistent with the Lake Merritt Channel Wetlands and Widening Project EIR. The Lake Merritt Channel Wetlands



and Widening Project *did not include* preconstruction surveys or other requirements to avoid impacts to active nests that are found. Thus, the Lake Merritt Channel Wetlands and Widening Project EIR identified the impact on nesting raptors and other migratory birds as significant and prescribed preconstruction surveys and nest buffers as mitigation to avoid or reduce the impact to a level that is less than significant. The Measure DD Implementation Project *includes* preconstruction surveys and nest buffers as part of the project. Thus, impacts to nesting raptors and other birds will be avoided and were found to be less-than-significant in the Draft EIR. The surveys and buffers that reduced the impact to less than significant for the Lake Merritt Channel Wetlands and Widening Project (via mitigation) have been incorporated into the Lake Merritt Implementation Project. After the surveys are conducted and the nest buffers are implemented, as needed, the outcome with regards to the level of significance is the same for both projects; the impact would be less than significant.

**From:** RBishop747@aol.com  
**Sent:** Tuesday, September 11, 2007 3:17 PM  
**To:** Thornton, Elois  
**Cc:** RBishop747@aol.com  
**Subject:** Measure DD Draft EIR Responses  
Dear Ms. Thornton:

I went to City Hall yesterday to deliver the document and meet with Mr. Lindheim of the Mayor's Office. He informed me that any documents due on Monday were postponed until today.

Attached you will find a short list of concerns that should be addressed in the Measure DD Draft EIR. I was unable to review the entire document with the time constraints and my own work load.

Thank you for the opportunity to participate in the way Oakland will move forward.

Sincerely,

Ron Bishop - Architect - AIA  
Bishop Architecture  
Bicycle Safety Instructor - LCI  
[510] 652-4667

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**RON BISHOP - ARCHITECT**

409 45th Street - Oakland - CA - 94609 - (510) 652-4667 E-Mail: [rbishop747@aol.com](mailto:rbishop747@aol.com)

Eloise Thornton  
Measure DD Draft EIR  
Case # ER06-0017  
City Of Oakland

Comments:

Overall the allotted time would have been sufficient except that the document was released when many citizens were on vacation. I know personally that many of the Measure DD Committee members were not aware that the document was released or was even in the works. If the Measure DD Committee did not know then there would be many citizens that were not aware.

1

The EIR Document is not a green document [to big and bulky] or user friendly [inadequate wayfinding]. It seems to be assembled in a great hurry, without sufficient thought. It is difficult to read and lacks wayfinding. It also has a conglomeration of various letters from citizens that are to small to read and many of the elements of the letters have been deleted because of poor placement on the page. There is much extraneous information and it is difficult to ferret out the necessary information.

2

Page 10

**Proposed reconfiguration of El Embarcadero and its potential impacts on nearby Lakeview Library**

The plan did not fully identify the issues early on for Lakeview Library. Though there will be significant improvement over the existing transportation infrastructure for the area, the present solution has not have given sufficient weight to the solitude of Lakeview Library or the safety of pedestrians and cyclist. The visual, physical and acoustical disconnect between Lakeview Library and Lake Merritt remains or worsens. Provide sound mitigation for the Lakeview Library.

3

There will be extra cost incurred to expand the lane width to 12 feet from the existing 11 feet on this one block section adding to the continuing cost overruns. The curb removal and reconstruction will further encroach on Lakeview Library by several more feet. Suggest we maintain the existing curb width.

4

Another issue is the lack of coordination between county and city agencies. The county recently repaved lakeshore Avenue and El Embarcadero and we will pay again to have the city do the job.

5

Page 11

**Significant Unavoidable Impacts:**

**Santa Clara Ave./Grand Ave, MacArthur Blvd./Grand Ave., and Lake Park Ave./Lakeshore Ave.**

The City of Oakland needs to plan these areas for the future and make them all be the best they can be for all modes of transportation. The failure to mention Lakeshore Ave./ MacArthur Blvd. indicates the loss of another chance to do the job right once. The local community is working on several of these intersections, but cannot seem to get Oakland employee engineers to get serious about the pedestrian and bicycle issues. The only determining benchmark considered is LOS, level of service for motor vehicles and not other users. Keep the motorist flowing.

6

Page 15 [not listed]

**Bay Place & Grand Ave. Intersection.**

This intersection is in dire need of improvement for all users. Pedestrians and cyclist are often in peril attempting to cross or use Bay Place from Grand. The slip turn needs to be removed and the intersection should be like a standard ninety-degree intersection. This was discussed over 8 years ago when Grand Avenue was under renovation to add the bike lanes.

7



Page 15 [not listed]

**Bellevue at Grand [entry to Lakeside Park].**

This is one of the worst intersections for pedestrians and cyclist. It is difficult to cross Bellevue as it is extremely wide and has a high speed turn incorporated into the existing design. This intersection should be retimed to allow seniors and mothers with children to cross Grand without running out of walk time. The requirement for a pedestrian to push a button in order to actuate the signal is repugnant and should be addressed. A well-designed intersection could improve the access to Children's Fairyland and improve accessibility by removing the existing steps or by adding an alternate ramp route from the intersection. The existing, well worn, dirt path could provide some insight.

8

Page 25

**Oakland Waterfront Trail and Access Improvements [Group 2] Improve pedestrian and bicycle circulation.**

This topic should include a full analysis of trail paving materials. The analysis should include, recycled content, durability, ease of repair, initial costs, CO2 emissions generated by the product, and the ability to absorb shock as the pedestrian runs or walks on the trail, which will lessen the wear and tear on the body.

9

There is also no mention on the placement of bike racks, benches, refuge containers, toilet facilities, or water replenishment.

**"C" EIR Scope:**

Waterfront trails does not mention pedestrians or bicycles.

10

Page 29

**Remediate Hazardous waste**

Seek ways to use permaculture techniques to remove toxins from the soils, rather than the often-proposed soil removal, haul away to another place, pave over [encapsulate], and bring in new soil. That is not true remediation but instead is an attempt to bury past mistakes.

11

Page 30

**Kaiser Convention Center Parking**

The new configuration of the parking should take into consideration the features of the building and include space to enjoy the wonderful art displayed on the Kaiser Convention Center by Calder's renditions in the niches.

12

The parking lot should be designed to save as many of the existing trees as reasonably feasible, rather than the perfectly linear strip mall approach. Other trees might be moved with the equipment I recently shared with Oakland planners.

13

**Intersections**

The intersections of 12th, 13th and 14th Streets to Oak Street should be carefully analyzed to ensue pedestrian safety, not only the typical LOS approach. Measure DD was passed to improve pedestrian and bicycle accessibility as well as improve Lake Merritt and other waterfront access. Oak Street should be modified to calm traffic rather than enhance speeding opportunities.

14

**Plantings**

The plantings should be natives in general, keeping non-natives to a minimum. Trees that are high in allergens that cause allergies should be kept to a minimum. Species should be easy to maintain and should be adaptable to the environment of Oakland. Avoid the formal garden approach in Lake Merritt designs. Lake Merritt is a naturalized park, with many different species from many places. A formal approach with row upon row of same plantings would not fit in with the existing and would detract from that natural feeling.

15

Existing trees should be properly trimmed, treated and maintained until they have actually reached end of life.

**Figure III-2**

The dead end of Lakeshore with no bicycle access to 12th Street is incomplete. It would be better to allow the cyclist to reach 12th Street rather than force them to use the Pedestrian/Bicycle bridge. This would reduce conflicts and reduce the traffic the pedestrian/bike bridge would have to carry.

16

Page 35

**10th Street Bridge**

No complete drawings for the project have been submitted for review to the Measure DD Committee or the BPAC. Drawings and details must be submitted and agreed upon prior to bridge construction beginning. 7th Street will need new bike lanes to enhance travel for Laney Students and improve access to the various nearby DD areas.

17

Page 41  
**Lakeshore Avenue.**

Pedestrian safety does not score as well as motorist movement. Islands of refuge are only considered if they will not inhibit motorist speed when making a turning movement. The issue is still in debate at the "DD" Committee Meetings and a positive response will improve the plan as it was intended to improve the human experience.

18

The slip turns have been removed from Lake Merritt perimeter except for the intersection at E. 18 St./Lakeshore Ave. This will make Lake Merritt safer for pedestrian crossings. The only remaining slip turn is being held to in a very tenacious manner. Lets remove this slip turn, re-connect the three redwoods with the community and improve pedestrian safety at this intersection.

Page 41  
**3] Cleveland Cascade**

This was not originally part of Measure DD, but was later added.

19

**4] El Embarcadero**

With dwindling resources and insufficient funds allotted overall, we should keep the curbs where they are and save the money for other projects. Eleven foot lanes will fit between the existing curb, be sufficient for the one block of travel distance, and save money in grading and new concrete work.

20

The project has not resolved how to allocate space for cyclist afraid to ride in the roadway with motorist. This needs to be answered.

21

**5] Pergola and Colonnade**

Install bike racks, benches, refuge containers and remove the steps that impede access.

22

Figure – III-8  
**Boathouse Parking**

For the record, there was also a bid to increase parking in Lakeside Park in 1969 that was defeated by the citizens of Oakland. I am still appalled that the park should be turned into a parking lot to provide parking for a vendor.

23

Page 48  
**Cessation of bird feeding at Lake Merritt.**

This was never a part of Measure DD. This is a new attempt to address the fact that Lake Merritt is the home of the worlds first Wild Life Sanctuary and now some of the birds are considered a problem.

24

Figure – III-9  
**Boathouse Grand Staircase**

Do I hear ADA lawsuit looming in the near future. The side paths do not provide equal access. Staircases stop strollers as well as wheelchairs. I am glad we relocated the parking further from the water, but we still have to many and there is not an apparent charge for the parking.

25

Page 52  
**Estuary Park**

This portion of the plan should follow the Estuary Plan created by Oakland citizens over many years, not be sold to the developer of choice.

26

**Many other issues are on this page. General Trails.**

I believe that the city should be open to accepting new pavement materials. Rubber sidewalks is one and SofTrail is another product that would be more appropriate for pedestrian travel. Given the existing two choices I would recommend use of asphalt. It is half the price and is more comfortable [resilient] on the foot. Concrete also releases one ton of CO2 for every one ton of concrete, has an expansion joint every 36 inches, and cost much more to repair.

27



Page 55

**Union Point Park**

We must not only build these facilities, but we must also maintain them. The park has fallen into terrible condition because of lack of maintenance. We need to plan our parks for maintenance too.

28

Page 83

**Land Use and Transportation Element**

Pedestrians and bicycles are not addressed in this section and they should be. Providing access to the waterfront for pedestrians and bicycles is one of the major reasons for Measure DD.

29

Page 107

**Lake Merritt and Lake Merritt Channel [Group I]**

**Reconfiguration of Snow Park intersection is incomplete.**

The section does not mention improved pedestrian or bicycle transportation which are integral to the Measure DD success. Many of the islands need to be removed from the street along with any slip-turns and lakefront park area must be enlarged. Engineering solutions to address motorist negative behavior need to be implemented to make this area more pedestrian/bicycle friendly. Reduce lane width and consider making Lakeside two way. Snow Park Redesign: The design for the street intersection at 20<sup>th</sup> St./ Harrison St./Snow Park has not been presented to, or approved by the Measure DD Committee.

30

Page 109

**LOS Criteria**

Where is the information on how to design quality pedestrian/bicycle infrastructure displayed? I see only vague references to pedestrian/bicycle design, yet it all gets resolved by LOS for motorist. Pedestrians and bicyclist are traffic too and their concerns cannot be an afterthought consideration.

31

Page 110

**slip-turns**

Remove all slip-turns from all intersections on this page. Motorist speed is less important than pedestrian or bicyclist safety. If the LOS drops for motorist during peak travel that is unfortunate, but safety for all modes of travel must hold the highest criteria.

32

**Traffic signals** for pedestrians and cyclist should have sensors so they will not have to find and push a button to cross a street. A push button can be installed as a backup, but the sensor should be the primary operator.

33

Safe, high visibility, and convenient pedestrian/cyclist crosswalks must be installed at locations determined by the public. Safety for pedestrians/cyclists are of the highest order.

Page 116

**LOS< LOS< LOS**

Where is the data for pedestrian travel. There are reams of data on the needs of inanimate motor vehicles, but none for pedestrians/cyclist.

34

Page 121

**Oakland General Plan**

There appear to be some general plan elements that would be appropriate for this section. Lets ensure that all the General Plan pedestrian/cyclist issues in the General Plan are included and implemented.

35

122

**Oakland's Standard and Uniformly Applied Conditions [motor vehicle dominant land use]**

Much of this and past criteria for transportation is based on the mode shift remaining the same. With the progress being made in Oakland the shift in mode split is already happening. We need to ramp up the installation of pedestrian/cyclist infrastructure to further change the mode split. When that is done many of the reasons for the continuation of motor vehicle dominant land use will decrease and make the statements included in this section erroneous. The date submitted in this section of the Draft EIR are based in the past and do not provide a guide to the future.

36



Page 130

**Travel Time in Seconds**

Where is similar data for pedestrians or cyclist? When it is not rush our the times are much different. We can allow motorist to slow down a little when their cubic foot consumption of area is to great for the existing roadway. Safety for all.

37

Page 133

**Pedestrian Timing**

Glad to see that pedestrians showed up on this page, to bad they are seen as an impediment to motorist travel.

38

**Oak to 9<sup>th</sup>** is part of Measure DD. Whole Foods and Jack London Square are not part of Measure DD. Count the votes and less do a good project for Oakland driven by citizens not developers.

39

Page 143

**Trip generation**

The number of trips is determined on the safe methods of arriving and that option for improving non motorized travel have not been fully explored. The project is only planning for more of the same bad motorist city planning we have suffered from for over 50 years.

40

Page 145

**Air Quality**

Yes, motorist has many negative effects on our world. This is an opportunity to push for a better tomorrow. Air and light pollution, depletion of finite resources, noise, water pollution, the list goes on and Measure DD continues to embrace it as a necessary.

41

Page 311

**Lake Merritt and Lake Merritt Channel [Group One]**

The Edoff Memorial Bandstand built in 1918 is misspelled as the Edhoff Band Stand. I would appreciate the correction.

Since you are mentioning the Edoff Memorial Bandstand in the Draft EIR, I need to bring to your attention that a new project is under design for the Edoff Memorial Bandstand that does not conform to your guidelines as a historic building that you recognize in your document. I support the city negotiating a settlement for the project and making the Edoff Memorial Bandstand more accessible, but the city needs to address the needs of all users and respect the design of the historical Edoff Memorial Bandstand. Suggest that fixing the lift be negotiated and if that fails revise the proposed ramp solution to be less skateboard and bike friendly, more aesthetic to the original design, and less intrusive on band patrons. This Draft EIR is now required to address the issue of access to the Edoff Memorial Bandstand and ensure that the solution conforms to the 1979 guidelines for the building as a historic building.

42

**Sailboat House:**

Remove parking from the lake edge. Remove chain link fencing from the boat docks and other areas near the water.

43

Page -Figure IV.M-3

**El Embarcadero Promenade**

The picture depicts the promenade between Lakeview Library and shows the pedestrian/bicycle path dead-ending at Grand Avenue with no light or crosswalk. The intersection presently has a crosswalk and is used often. The new plan must conform to the needs of the pedestrians and cyclist that will be the future users of the crossing. Measure DD was passed to improve pedestrian and bicycle travel, not hinder it.

44

Page -Figure IV.M-4

**Boathouse Motorist Parking**

This depiction is not as revealing as one from the north side of the building. A perspective from the north would reveal the degradation of the meadow in order to store motor vehicles.

45

**Bicycle parking**

No bicycle parking has been determined and it should be.

46

\*\*\*\*\*

There are other comments below that do not have the proper page numbers.

\*\*\*\*\*

**Bike Parking:**

Locate throughout all the projects and Lake Merritt. Locations to be determined by City of Oakland Bicycle and Pedestrian Advisory Committee-BPAC

**Bike lanes.**

Establish a bike lane route marked and signed all the way around Lake Merritt in both directions.

**Bellevue Avenue redesign:**

Install a bike lane on Bellevue. Per the proposal in the DD EIR, the plan is to add parking to Bellevue making it less safe for other users. It is in the park.

**Lakeshore:**

Bike lanes in each direction and connect to the Lakeshore Shopping District in both directions. Add an advance stop bar for bicycles on Lakeshore Ave. at the intersection of Lakeshore Ave./Lake Park. Decrease the radius of the corner at Lakeshore and MacArthur in front of the Gas Station to slow motorist and improve the pedestrian crossing. Get CalTrans to clean up the area under the freeway.

**Pedestrian Crossings**

Pedestrian Crossings should be high visibility, include a refuge island, and not require the operation of a push button by the pedestrian to cross the street.

**Trees.**

Keep non-natives to a minimum.

Keep trees that produce negative allergens to a minimum

Avoid the formal garden approach; Lake Merritt evolved as a natural type of planting.

Choose easily maintained species and planting scheme for the majority of the selections.

Sincerely,

Ron Bishop - Architect - AIA  
Bishop Architecture  
Bicycle Safety Instructor - LCI  
[510] 652-4667

**46**  
**cont.**

**47**

## **LETTER B4**

**Bishop Architecture**

**Ron Bishop, Architect, AIA**

**September 11, 2007**

Response B4-1: Notice of the availability of the Measure DD Draft EIR was provided on July 20, 2007 for a 52-day comment period that was to conclude on September 10, 2007. The standard 45-day minimum comment period specified by State law was extended to allow for additional public review opportunities after the Labor Day holiday in early September. In addition, because September 10 was a City of Oakland holiday and City offices were closed, public comments were accepted until September 11, 2007.

The Draft EIR and/or the Notice of Availability were distributed to approximately 60 public agencies, 6 newspaper chains, over 60 neighborhood organizations registered on the City of Oakland's neighborhood association data base, and a host of private individuals who had expressed interest in the Measure DD Implementation Project over its history, and elected officials. Also, in accordance with the City of Oakland Planning Department procedures, copies of the September 5, 2007 Planning Commission Agenda, which listed the Measure DD Public Hearing amongst other scheduled items, were distributed in August to the persons indicated above and to other parties who may not have been associated with Measure DD but who would normally receive the Planning Commission agendas. Additionally, a legal ad that advertised the availability of the Draft EIR and public hearing date was placed in the Oakland Tribune newspaper, and posters publicizing the same information were placed in over 70 locations around Lake Merritt and the Lake Merritt Channel area, the northern and southern areas of the Waterfront Trail, and the East Oakland Sports Complex. The Notice of Availability and Draft EIR were posted on the City of Oakland Planning Department's website at the following location:

[www.oaklandnet.com/government/ceda/revised/planningzoning/majorProjectsSection/environmentaldocuments.html](http://www.oaklandnet.com/government/ceda/revised/planningzoning/majorProjectsSection/environmentaldocuments.html)

In addition, the Notice of Availability and a link to the Draft EIR were posted on the Office of Public Works' website at the following location:

[www.oaklandpw.com/measuredd](http://www.oaklandpw.com/measuredd)

Response B4-2: To reduce the number of hard copies of the Draft EIR produced the document was made available in alternative formats. It was posted on the City of Oakland's website and could be provided in an electronic format on compact disc. The Draft EIR was prepared in accordance with Article 9 of the *CEQA Guidelines* and contains all of the necessary information outlined in Sections 15122 through 15132 of those guidelines.



- Response B4-3: Section IV.C, Transportation, Circulation and Parking evaluates potential pedestrian and cyclist safety hazards that could result from the proposed project. No hazardous conditions resulting from the proposed project were identified. Visual and acoustical (noise) impacts were evaluated in their respective sections of the Draft EIR. No significant impacts related to the Lakeview Library were identified; therefore no mitigation is required.
- Response B4-4: The comment, which suggests a modification to the proposed project, is noted. The proposed modification to the curb width does not identify a new impact or reduce the effect of a significant impact identified in the Draft EIR.
- Response B4-5: Agencies were notified of the preparation and availability of the Draft EIR in accordance with Sections 15082, 15085 and 15087 of the *CEQA Guidelines*. The statement concerning the recent repaving of streets does not pertain to the environmental analysis of the Draft EIR.
- Response B4-6: Potential project impacts to the Macarthur Boulevard/Lakeshore Avenue intersection were evaluated in Section IV.C, Transportation, Circulation and Parking of the Draft EIR. Impact TRANS-3 identifies an increase of 13.8 seconds during the PM peak hour where the LOS is rated F without the proposed project. Mitigation Measure TRANS-3 recommends several measures that, if implemented, would reduce the vehicle delay by 39.3 seconds during the PM peak hour, causing the intersection to operate at LOS E, improving over existing conditions. Therefore, this impact would be reduced to a less-than-significant impact and the Draft EIR does not identify a significant unavoidable impact for this intersection.
- Response B4-7: The Bay Place/Grand Avenue intersection was not evaluated in the Draft EIR. LOS analysis was not performed for this intersection as project traffic would not substantially contribute to an increase in congestion at this intersection. Therefore, no significant impacts were identified at this intersection. The remainder of The comment does not relate to the environmental analysis of the Draft EIR so no further response is provided.
- Response B4-8: Proposed improvements to Bellevue Avenue are described on page 47 of the Draft EIR and include sidewalk bulb-outs and narrowing of Bellevue Avenue at its intersection with Grand Avenue. These project elements would improve pedestrian safety conditions by reducing walk time across the intersection, which is identified as a concern in the comment.
- Response B4-9: The Draft EIR does not provide detailed analysis of trail paving materials as such analysis would not benefit the evaluation of environmental impacts. The design detail, such as placement of bicycle racks, benches, refuse containers, and restroom and water facilities are not available at this time. Design plans are currently conceptual in nature, and such details will be more closely examined during the design review process.

- Response B4-10: It is unclear what the comment means by “C” EIR Scope; there is no reference to a page number and no such heading between pages 25 and 29 of the Draft EIR. On page 25 of the Draft EIR, the Oakland Waterfront Trail and Access Improvements (Group 2) Objectives include improving pedestrian and bicycle circulation.
- Response B4-11: The comment, which suggests an alternative method for remediation of site soils, is noted. No significant impacts were identified with regards to site remediation (Section IV.J, Hazards and Hazardous Materials), and thus the proposed alternative method would not affect the analysis or conclusions of the Draft EIR.
- Response B4-12: The comment suggests criteria for the design configuration for the Kaiser Convention Center parking area and is noted. The comment does not pertain to the environmental analysis of the Draft EIR so no additional response is provided.
- Response B4-13: The comment, which also suggests criteria for the design configuration for the Kaiser Convention Center parking area, is noted. The comment does not pertain to the environmental analysis of the Draft EIR so no additional response is provided.
- Response B4-14: Impacts to pedestrian safety throughout the project area are evaluated in Section IV.C, Transportation, Circulation and Parking. Modifications on Oak Street that would calm traffic are described on page 42 of the Draft EIR; Oak Street between 13<sup>th</sup> and 14<sup>th</sup> streets would be reduced from four to three lanes. The fourth lane would be converted to a bike lane and the right lane on Oak Street between 12<sup>th</sup> and 13<sup>th</sup> streets would be converted to a right-turn only onto 13<sup>th</sup> Street.
- Response B4-15: The comment, which suggests landscaping design and maintenance improvements, is noted. The comment does not pertain to the environmental analysis of the Draft EIR. These suggestions will be considered by City of Oakland decision-makers during review of the merits of the project.
- Response B4-16: The comment expresses an opinion on the design of the project and proposes a bicycle connection between the proposed dead-end of Lakeshore Avenue and 12<sup>th</sup> Street. Bicyclists who wish to connect to 12<sup>th</sup> Street from the north could do so along 1<sup>st</sup> Avenue. The suggestion will be considered by City of Oakland decision-makers during review of the merits of the project.
- Response B4-17: The comment, which does not pertain to the environmental analysis of the Draft EIR, is noted.
- Response B4-18: The comment, which pertains to the merits of the proposed project, is noted.
- Response B4-19: As described in Chapter III, Project Description of the Draft EIR, the proposed project evaluated in the Draft EIR is the implementation of Measure DD-funded activities. The Cleveland Cascade improvement is a component of the implementation plan and is therefore evaluated as part of the proposed project.
- Response B4-20: See Response to Comment B4-4.

Response B4-21: The comment, which pertains to the merits of the proposed project, is noted. The comment does not pertain to the environmental analysis of the Draft EIR so no further response is provided.

Response B4-22: The comment suggests variations or additions to the proposed project and is noted. The suggestions will be considered by City of Oakland decision-makers during review of the merits of the project..

Response B4-23: The comment, which pertains to the merits of the proposed project, is noted.

Response B4-24: The comment is correct that Measure DD does not explicitly include cessation of bird feed at Lake Merritt. The text of the bond measure does however include water quality improvements, such as wildlife waste clean-up facilities. The text on page 48 of the Draft EIR includes “activities under the Lake Merritt Water Quality Program that *could* [emphasis added] be funded under Measure DD.” The City is still studying which, if any, of these might be implemented, but they are included in the project description for completeness. The opinions expressed on this element of the project will be considered by the City of Oakland decision-makers when reviewing the merits of the project.

Response B4-25: Access to park facilities will be reviewed for compliance with the Americans with Disabilities Act (ADA) requirement during the design review process.

Response B4-26: The comment, which expresses an opinion on the merits of the proposed project and does not pertain to the environmental analysis of the Draft EIR, is noted. The suggestion will be considered by City of Oakland decision-makers during review of the merits of the project.

Response B4-27: The comment, which suggests alternative paving materials for the trail and sidewalk elements of the proposed project, is noted. Also see Response to Comment B4-9.

Response B4-28: The comment, which pertains to the maintenance of existing and proposed facilities, is noted. The comment does not pertain to the environmental analysis of the Draft EIR so no further response is provided.

Response B4-29: Section IV.B of the Draft EIR (and Appendix D) discusses the project’s consistency with the Land Use and Transportation Element of the City’s General Plan. Impacts of the project on pedestrians and bicyclists are evaluated in Section IV.C, Transportation, Circulation and Parking. Please see pages 93 and 94 of the Draft EIR, which discuss the City’s Bicycle Master Plan and Pedestrian Master Plan.

Response B4-30: The proposed redesign of Snow Park and the Lakeside-Harrison-20<sup>th</sup> Street intersection are described on page 47 of the Draft EIR (Chapter III, Project Description). The project impacts related to pedestrian and bicycle movements are



evaluated in Section IV.C, Transportation, Circulation and Parking. No significant impacts were identified with regards to pedestrian and bicycle movements, and thus the recommended modifications to the project would not reduce a significant effect or otherwise affect the analysis or conclusions of the Draft EIR. The project, in general, would improve the pedestrian and bicycle environments. While additional improvements may be warranted, the project would not create hazards or exacerbate existing hazards to a level that warrants mitigation. The opinion on this element of the project will be considered by the City of Oakland decision-makers when reviewing the merits of the project.

Response B4-31: Safety improvements for pedestrians and bicyclists are described on page 128 of the Draft EIR. Additional design detail is not necessary to complete the environmental analysis. Specific design details will be considered during the design review process.

Response B4-32: Pages 110-113 of the Draft EIR identify roadway intersections that were analyzed in the transportation analysis of the Draft EIR. The impacts to these intersections by the project are analyzed on pages 122-140. Measures are proposed, as appropriate, to mitigate project-related and cumulative impacts. All feasible mitigation needed to reduce significant impacts to less-than-significant levels has been recommended. The recommendations in the comment would not reduce the effect of a significant impact identified in the Draft EIR.

Response B4-33: The comment does not pertain to the environmental analysis of the Draft EIR.

Response B4-34: Large amounts of data are needed for the motor vehicle analysis. However, it should not be construed that the analysis of the project's impacts to pedestrians and bicyclists was inadequate because it relied on fewer data. "Traffic" hazards, that is hazards to pedestrians and bicyclists that are created by motorized vehicles, are discussed and evaluated on pages 128-129 of the Draft EIR.

Response B4-35: The General Plan policies included in the Draft EIR are intended to be illustrative, not exclusive. To further illustrate applicable policies, page 121 of the Draft EIR is revised to include the following text:

**City of Oakland General Plan.** The Land Use and Transportation Element (LUTE) of the General Plan has numerous policies related to transportation issues. The primary LUTE policies relevant to transportation, circulation and parking, including those provided in the City's Bicycle Master Plan and Pedestrian Master Plan (which are part of the LUTE), include the following:

Page 122 of the Draft EIR is revised to include the following text:

- Policy D13.2: An adequate quantity of car, bicycle, and truck parking, which has been designed to enhance the pedestrian environment, should be provided to encourage housing development and the economic vitality of commercial, office, entertainment, and mixed use areas.
- BMP Policy 1: Create, enhance and maintain the recommended bikeway network.
- BMP Policy 2: Establish design and maintenance standards for all streets that recognize the needs of bicyclists.

- BMP Policy 4: Include provisions for safe and direct bicycle access to special development areas and key corridors.
- BMP Policy 8: Ensure that the needs of bicyclists are considered in the design of new development and redevelopment projects.
- PMP Policy 2.1: Route Network: Create and maintain a pedestrian route network that provides direct connections between activity centers.

Response B4-36: The comment, which pertains to the significance criteria used in the Draft EIR for the evaluation of project impacts, is noted. The comment does not pertain to the environmental analysis of the Draft EIR so no further response is provided.

Response B4-37: There are no available data for pedestrian or cyclist travel time. The evaluation of impacts using the City's significance criteria would not benefit from this type of information and is not required for the analysis provided in the Draft EIR.

Response B4-38: The comment is noted. The comment does not pertain to the environmental analysis of the Draft EIR so no further response is provided.

Response B4-39: The comment, which does not pertain to the environmental analysis of the Draft EIR, is noted so no further response is provided.

Response B4-40: The comment, which pertains to the merits of the proposed project, and not the environmental analysis of the Draft EIR, is noted so no further response is provided.

Response B4-41: The comment, which pertains to the merits of the proposed project, and not the environmental analysis of the Draft EIR, is noted. The topics of air quality, sources of new light and glare, use of resources, noise, and water quality are evaluated in the appropriate sections of the Draft EIR.

Response B4-42: The Edoff Memorial Bandstand is not part of the proposed project, and is therefore not evaluated in the Draft EIR. The fourth paragraph on page 311 of the Draft EIR is revised as follows:

Adams Park and the Veterans Memorial Building are located at the northwest corner of Lake Merritt at Harrison Street and Grand Avenue and provide space for private events and senior activities. Lakeside Park at Grand Avenue and Bellevue Avenue includes a Lawn Bowling Clubhouse and Greens, non-programmed open space, Children's Fairyland, McElroy Fountain and Specimen Groves, ~~Edoff Band Stand~~ Edoff Memorial Bandstand, a beach, amphitheater, Garden Center, Junior Center of Art & Science, the Sailboat house, the Rotary Nature Center, OPD horse stables, and wildlife areas.

Response B4-43: The comment, which suggests modifications to elements of the proposed project, is noted. As the suggested modifications do not reduce the effect of a significant impact identified in the EIR and the comment does not otherwise pertain to the environmental analysis of the Draft EIR.

- Response B4-44: The crosswalk is not visible in the proposed view in Figure IV.M-3 because it will be moved about 80 feet to the north to the reconfigured El Embarcadero intersection where pedestrians can safely cross the street at a traffic signal. The relocation of the crosswalk would not create a significant adverse affect as it relates to the City's criteria of significance. The comment, which pertains to the merits of the proposed project, will be considered by the City of Oakland decision-makers.
- Response B4-45: The view depicts one of many changes that would occur around the Boathouse. The analysis in the Draft EIR of the visual effects of the project is consistent with *CEQA Guidelines* Section 15151, which requires an EIR "to be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. . . . An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible." The analysis and discussion in the Draft EIR of the potential effects of tree removal provide decision-makers with adequate information to enable them to reasonably understand the project's impacts.
- Response B4-46: The comment suggests a number of design details (e.g., bicycle parking areas, bike lane signage, crosswalk markings) for pedestrian and bicycle elements of the proposed project. Some of the suggested items, such as connections to Lakeshore Avenue are not part of the project; none would affect the analysis or conclusions of the EIR. The comment's suggestions will be considered during the design review process for the project.
- Response B4-47: Refer to Response to Comment B4-15.



MEASURE 'DD' 10:30 PM 9/5/07

- 1 THE DOCUMENT IS NOT GREEN. TO BIG, TO HEAVY,  
NOT WELL ORGANIZED, CONTAINS INCOMPLETE LETTERS
- 2 TREES: KEEP NON-NATIVES TO MINIMUM  
KEEP TREE ALLEGINGS TO MINIMUM.  
RELOCATE TREES, TRIM TREES,  
ONLY REMOVE DANGEROUS TREES.
- 3 BIKE PARKING - DISTRIBUTE AROUND LAKE PER BPAC
- 4 EL ENDEACADIZO - MAINTAIN LANES WITHIN (E) CURBS.  
PROVIDE SOUND MITIGATION @ FOR LIBRARY.
- 5 BANDSTAND - FIX LIFT
- 6 LANTERN BIKE LANES BOTH DIRECTION
- 7 "C" EIR SCOPE WATERFRONT DOES NOT MENTION BIKE ART, LOS LOS LOS HOW ABOUT PEDS & BIKES
- 8 \* CROSSWAYS MUST BE SAFE
- 9 \* NO FEEDING BIRDS?
- 10 \* BELLEVUE AVE. REDESIGN - NO BIKES MENTIONED
- 11 \* MUCH IS UNREADABLE
- 12 MANY "DD" COMMITTEE DID NOT KNOW,
- 13

I AM TIRED

Ciao,

Ron Buehly

**LETTER B5**

**Ron Bishop**

**September 5, 2007**

- Response B5-1: Refer to Response to Comment B4-2. The comment does not indicate which letters are incomplete. Scoping comment letters are included in Appendix C and the City believes that all are complete.
- Response B5-2: Refer to Response to Comment B4-15.
- Response B5-3: Refer to Response to Comment B4-46.
- Response B5-4: Refer to Responses to Comments B4-3 and B4-4.
- Response B5-5: Refer to Response to Comment B4-42.
- Response B5-6: Bike lanes are included in both directions along Lakeshore Avenue under both Variant A and Variant B as described on pages 36 and 41 of the Draft EIR.
- Response B5-7: Refer to Response to Comment B4-10.
- Response B5-8: Refer to Response to Comment B4-34.
- Response B5-9: Improvements that the Measure DD Implementation Project would make to the safety of crosswalks are discussed and evaluated on pages 128-129 of the Draft EIR. The project would not create unsafe pedestrian crosswalks. No further response is necessary.
- Response B5-10: Refer to Response to Comment B4-24.
- Response B5-11: Refer to Response to Comment B4-46.
- Response B5-12: The comment does not specify what in the Draft EIR is unreadable. The comment does not pertain to the environmental analysis of the Draft EIR so no further response is provided.
- Response B5-13: The comment does not indicate what information the Measure DD Committee did not know. Refer to Response to Comment B4-1 regarding notification of the availability of the Draft EIR.

FRIEDERIKE E. DROEGEMUELLER

SEPTEMBER 10, 2007

MS ELOIS THORNTON  
Planner IV, CEDA  
250 Frank Ogawa Plaza # 3315  
OAKLAND CA 94612  
[cathornton@oaklandnet.com](mailto:cathornton@oaklandnet.com)

**Via Fax and e-Mail**

**SUBJECT:** Measure DD Environmental Impact Report  
Negative Impacts resulting from proposed tree removal at Lake Merritt

Dear: Ms Thornton:

I am forwarding my objections to the City of Oakland's proposed removal of 259 trees from three project areas around Lake Merritt as a part of Measure DD. I have lived in Oakland for almost 30 years and have been walking Lake Merritt during all of those years. I am a voter here, too, and have been for almost 30 years.

I am horrified that city staff feels that removing 259 trees will not adversely impact the Lake. The trees around Lake Merritt—even those the city plans to remove—are an aesthetic & environmental asset to the Lake, especially along bleak Lakeshore Avenue, which (over the years) has become essentially denuded of trees.

Large, mature trees help make Lake Merritt beautiful. Contrary to some city staff perceptions, the trees don't block the lake view, they're part of the view of the lake. Removing 259 trees from Lake Merritt is not a 'temporary' measure—Once these trees are cut down, they'll be gone forever. Worse, many of the trees selected for 'replacement'

- will never reach the stature, grandeur and many don't even have the expected life span of the trees that are going to be removed;
- are not, as city staff have stated, representative of native California species, and may not even be particularly suited to this climate without special care;
- are not of replacement value or size: They are vastly smaller and, more fragile: They don't offer a cool, shady canopy or sturdy trunk you can sit against and read. And they won't, not for another 20 to 30 years, because that's how long it takes a tree to mature.

I am deeply angered that the City did not retain Dr Clark's services at the beginning of the project, over two years ago, when his expertise in urban forestry could have been used to integrate Lake Merritt's trees into the Measure DD project. Sadly, Dr Clark's services have been used to justify removing trees based principally on the reason that the trees will be 'impacted by the project,' or to use the words in his closing paragraph "... (trees) that would be impacted beyond their tolerance..." In other words, it's be more expedient for the City to bulldoze hundreds of trees rather than take a pencil and modify some lines on a piece of paper. The City's timing of Dr Clark's report raises some interesting questions:

- If Dr Clark, as an arborist, have recommended removing 259 trees had not been given the construction plans for the Lake Merritt project as a cast-in-stone done deal?
- Would Dr Clark have found some trees with flaws could be mitigated if 'the plan' weren't so rigid?



- What would Dr Clark's recommendations for design, selection, pruning, siting and maintenance have been, had he been called in as an arborist during the planning and design phases
- Why didn't the City call in Dr Clark, or another consulting arborist, at the start of these projects, rather than wait for almost two years after the public outcry against the wholesale removal of trees in a city park?

2  
cont.

Dr Clark reports differ from city staff declarations: He found few trees were diseased or insect infested. In fact, Dr Clark points out that a number of the trees are suffering from diseases of abiotic origin, such as inappropriate watering or injury. Most of all, Dr Clark's analysis shows that over 80% of the 259 trees are in fair or better condition, and the reason given for removing them is that they will be 'impacted by the project'— or put a little less delicately, the city thinks that the trees are in the way.

3

While Dr Clark valued the trees being removed at @\$372K, the city did not provide data indicating the replacement cost of these trees, which is not just the value of the tree, but the cost of its removal and transplantation of an equivalent specimen (or where an equivalent sized tree cannot be transplanted, an equivalent specimen of smaller size is planted and the difference in value is made up in cash). The data in the report cannot be used to determine whether removing Lake Merritt's 259 trees of average 19" diameter [total diameter = 4921"] and replacing them with 521 saplings of average 1" diameter [total diameter = 521] is a break even equivalent, or if it's a net loss, as a simple numeric comparison of the total trunk diameters indicates.

4

Regrettable, too, are the absence of multiple data points which could afford better projections as to when the 'replacement trees' will achieve a 'break even point' with the negative impacts of removing Lake Merritt's 259 trees. Based on Dr Clark's three data points for the following criteria, the estimated the time it will take the 521 saplings to provide the same positive effects that Lake Merritt's 259 doomed trees currently provide is as follows:

Environmental Impact	Equivalence to 2007 effects will occur in	Number of years to reach equivalence
Energy Savings	@ 2020	13 Years
CO2 Savings	@ 2024	17 Years
Storm Water Runoff Reduction	@2030	23 Years

5

There were no figures given that can be used to estimate how long it will take for 1" saplings to reach an equivalent to the 19" average trunk diameter (or canopy size) of the 259 Lake Merritt trees, however it is reasonable to say it will take most 'nursery' trees between 15 to 35 years to reach maturity.

6

Dr Clark's report brushes on 'aesthetics' of the 259 Lake Merritt trees, and asserts that the old, mature trees have an almost equivalent aesthetic value as the saplings. I disagree. It will be years, if not generations, until any sapling possesses the strength, grace, and size of the existing, mature trees.

7

I urge the City of Oakland to redraw its Measure DD plans and allow the Lake Merritt's healthy, mature trees to survive and let those established trees be the foundation plantings that will help nurture the hundreds of new trees that our park needs to keep Lake Merritt clean, beautiful and healthy.

8

Yours truly,

Friederike E. Droegemueller

## LETTER B6

Friederike Droegemueller

September 10, 2007

- Response B6-1: The comment regarding a number of opinions and objections to the removal of trees around Lake Merritt is noted. The aesthetic and environmental (biological) impacts associated with the tree removal are discussed on pages 218-219 in Section IV.F, Biological Resources, and pages 336, 341-343 in Section IV.M, Aesthetics, wherein it is concluded that the impact is less than significant for the reasons provided therein. *CEQA Guidelines* Section 15151 states: "Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure." This Response to Comments Document discusses points of disagreement with the analysis in the Draft EIR (including the analysis of impacts to aesthetic and biological resources) and provides additional information to support the conclusions in the Draft EIR. Refer also to Master Response M-1 and Responses to Comments B3-3 to B3-16 and B3-25 to B3-27.
- Response B6-2: The comment asks how the arborist's conclusions might have differed if he had been asked to evaluate the trees earlier in the design process or under a different set of circumstances. It would be speculative (even for Dr. Clark, the certified arborist who evaluated the tree removals) to suggest what conclusions might have been drawn earlier or under different circumstances. Dr. Clark was asked to evaluate the health and structural conditions of the trees, the potential to relocate trees, the risk of tree failure, tree values, the economic and environmental benefits of the trees, and the impacts of the project to the trees. Dr. Clark's report is provided in Appendix I and was considered in the impact evaluation for the project, as indicated on pages 218-219 of the Draft EIR. Dr. Clark's recommendations were also considered during the design of the project. He recommended four trees for preservation and these recommendations are included as part of the project as noted on page 30 of the Draft EIR. Refer also to Master Response M-1 and Responses to Comments B3-3 to B3-16 and B3-25 to B3-27.
- Response B6-3: Refer to Master Response M-1 and Responses to Comments B3-6 and B3-7, which address comments on the health status of trees to be removed as part of the project.
- Response B6-4: Replacement costs for the trees to be removed as part of the project do not fall under the definition of environmental impacts in CEQA and therefore are not discussed in detail in the Draft EIR. The Draft EIR correctly focuses on the physical effects of the project, which include impacts to biological and aesthetic resources associated with the removal of trees. These affects were found to be less than significant as described in Section IV.F, Biological Resources and Section IV.M, Aesthetics.

Response B6-5: The comment expresses regret that additional data points are not provided to identify when the “break even point” would be achieved for the various costs/benefits of tree removal or replacement that are assigned monetary values by HortScience in Appendix I. The additional data are not required to evaluate the impacts of the tree removal for purposes of CEQA. The bases for determining significance are the significance criteria presented in the Draft EIR. Applicable criteria for tree removal are presented in Section IV.F, Biological Resources and IV.M, Aesthetics. The information in Appendix I informs the evaluation of compliance with the City’s Tree Preservation and Removal Ordinance, one of the criteria for determining the significance of impacts to biological resources, by assigning monetary values to resource benefits like energy conservation, sequestration of carbon dioxide, aesthetics and other factors as explained on pages 218-219 of the Draft EIR. Although there are limitations with assigning monetary values to resources like trees (i.e., resource valuation generally lacks a reliable way to estimate the value of ecological damage), the data produced by HortScience suggest that the costs of tree removal do not outweigh the benefits of tree replacement.

The analysis in the Draft EIR of the effects of tree removal/replacement is consistent with *CEQA Guidelines* Section 15151, which requires an EIR “to be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. . . . An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible.” The analysis and discussion in the Draft EIR of the potential effects of tree removal provide decision-makers with adequate information to enable them to reasonably understand the project’s impacts.

Response B6-6: Estimates of the amount of time required for a 1-inch diameter sapling to reach 19 inches in diameter are not provided because this information is not needed for the environmental analysis. The factors used in the determination of significance are provided in Section IV.F, Biological Resource and Section IV.M, Aesthetics, with supporting documentation provided in Appendix I. The analysis in the Draft EIR of the effects of tree removal/replacement is consistent with *CEQA Guidelines* Section 15151, which requires an EIR “to be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. . . . An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible.” The analysis and discussion in the Draft EIR of the potential effects of tree removal provide decision-makers with adequate information to enable them to reasonably understand the project’s impacts.

Response B6-7: Refer to Response to Comment B6-1.



Response B6-8: The comment urges the City to withdraw its Measure DD plans. The opinions expressed in the comment will be considered by the City of Oakland decision-makers during review of the merits of the project.

From: machenry@netzero.net  
Sent: Tuesday, September 11, 2007 3:53 PM  
To: Thornton, Elois  
Subject: Please consider these coments for the DD EIR Sept, 11 2007. It is rush ed and incomplete but this is the best I can currently do. ps why isnt it oaklandnet.gov?

Hi All,

Reminder:

Today Tuesday 9/11/07 is the final day to submit comments for the Bond measure DD Environmental Impact Report (EIR). One large item is the removal of over 250 mature trees planted around lake Merritt and the lake Merritt Estuary over the last hundred years.. Yes Lake Merritt is an estuary, where streams meet the sea. Lake Merritt would flood where it not for the floodgates. Oaksterdam is literally at sea level especially during flood conditions and would flood where it not for the floodgates. Is Lake Merritt the eldest officially designated wildlife sanctuary in the U.S.; located in the middle of of one of Americas largest port cities? Yes, since 1870.

1

Though DD was passed in November of 2002 the EIR was not started until January of 2007 due to community concern of the lack of not having done an EIR. Six of the trees are actually dead, a few are sick.. This unique Urban forest has not been nurtured or maintained since the early nineteen eighties. The exception is the City sponsored Lake Merritt Institutes efforts to improve the water quality over the last ~ ten years, though this has not included the trees. A few trees are eucalyptus and monterey pines, some consider these species weeds. This still leaves over 200 Elder healthy trees which are now considered a "construction conflict" and a hinderence to the "view corridor" for all the new 20 to 60 story buildings slated to go up on this toxic, muck filled tidal estuary which the trees are helping to heal.. Meanwhile other neglected areas of Oakland are still not made available for people housing..

2

The Bond Measure DD implementation does not follow the Lake Merritt Park Master Plan published by the City of Oakland in July 2002, especially in regards to the trees. All of the development projects where not spelled out in DD. Another issue with bonds is there is nothing to specify that the money actually gets spent on what the bond measure references.

3

We are actually loosing park land including Oak to ninth and the parking lot for the new boathouse restaurant. We almost lost the neglected Oakland school property, of over 6 acres, that borders the lake Merritt channel to other development. Curiously, due to negligence, part of the lake Merritt channel/estuary has reverted back to wilderness.

4

One idea was to clearcut the DD wildlife sanctuary project areas. Now it is only clearcut/2, or one half of the trees in the project areas. If this can happen to this wildlife sanctuary, what about the others?

**4**  
**cont.**

Contact information is:

Elois (think super person, like Lois lane) A. Thornton, Planner 4, City of Oakland , Community and Economic Development Agency, planning Division, 250 Frank H. Ogawa plaza, Suite 3315, Oakland , CA 94612; telephone 510 238 6284; E- Mail eathornton@oaklandnet.com .

“ We have so little to do and so much time to do it in” - Willey Wonka.

“The Earth can no longer be healed on a physical Level. Only a spiritual healing can change the course of the probable futures of mankind”.

- Tom Brown, Jr., from the quest

Peace,

John

Oakland Ca in the year of our lord 2007, Sept 11.

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**LETTER B7**

**John MacHenry**

**September 11, 2007**

Response B7-1: The comment expresses concern over the removal of trees from the project area and also notes that the Lake Merritt area is protected from flooding by the existing floodgates. The comment does not pertain to the environmental analysis of the Draft EIR so no additional response is provided. Refer also to Responses to Comments A2-2 and A2-3 for more information with regard to operation of the existing floodgates.

Response B7-2: The text on page 23 of the Draft EIR provides background on the environmental review process that has occurred since passage of Measure DD. The text on page 24 of the Draft EIR describes the current need for completion of a more comprehensive environmental analysis due to the availability of more defined project components. The comment also notes a lack of maintenance of existing trees and vegetation. The comment does not pertain to the environmental analysis of the Draft EIR so no additional response is provided.

Response B7-3: The comment, which notes that Measure DD Implementation Project does not follow the Lake Merritt Park Master Plan, is noted.

Response B7-4: The Oak to 9<sup>th</sup> Project is not part of the proposed project evaluated in the Draft EIR. The Oak to 9<sup>th</sup> Project is subject to separate environmental review. As noted on page 42 of the Draft EIR, existing parking facilities at the Boathouse are proposed to be relocated and consolidated into a 28-space parking lot in the existing lawn area north of the Boathouse. No net loss of parking would result from renovations at the Boathouse. The remainder of the paragraph contains statements that do not pertain to the environmental analysis of the Draft EIR.

**From:** Joe Matera [materare@yahoo.com]

**Sent:** Tuesday, September 11, 2007 4:50 PM

**To:** Thornton, Elois

**Cc:** gofindnancy@yahoo.com; RBishop747@aol.com; jim@virtualperfection.com; pdow@mindspring.com; anne.symanovich@wellsfargo.com; dgill8848@yahoo.com; gpieretti@sbcglobal.net; yishanchen@yahoo.com

**Subject:** Comments on Draft EIR for Measure DD: Save the Boathouse Meadow, Stop the Grand Staircase

I am a member of the Save Our Meadow citizen group that attempted to save the existing meadow at 17th Street and Lakeside Drive in Lake Merritt Park. With the help of several landscape architects, our group created a plan (Option 2 - see attached) for the Lakeside Drive/Boathouse part of the Prop. DD project that saved more than twice as much meadow space as the plan (Option 1) that the city eventually adopted (see attached drawings). The city council chose Option 1 because our plan (Option 2) was rejected by the restaurateur the city council wanted as the future tenant in the Boathouse.

I'm hoping that the new Planning Commission and City Council will reconsider and choose the Option 2 plan that the Save Our Meadow group developed to save this rare and important downtown park space. Please note also that both Option 1 and Option 2 provide about the same number of parking spaces for whatever use is eventually made of the Boathouse space, but Option 1 permanently eliminates the meadow and turns it into a narrow strip which can no longer reasonably be called a "meadow". Also, the city's own Bicycle and Pedestrian Advisory Committee overwhelmingly favored Option 2 (by a vote of 7 for Option 2, 0 for Option 1). Option 2, with a much simpler and straighter orientation and fewer places where pedestrians or cyclists cross over driveways, is clearly safer for pedestrians and bicyclists.

I have other drawings that I can send showing ways that Option 2 can be reworked in ways that preserve the meadow space while adding more parking (if this is necessary) and/or moving the garbage area for the Boathouse.

The values we thought we were voting for when we approved Prop. DD - preserving, enhancing, and enlarging park space in Lake Merritt Park - should be favored over the desires of a proposed commercial tenant in the Boathouse space. Option 1 contradicts these values; Option 2 supports them.

In addition, on the plans for the Boathouse area please note the

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"Grand Staircase" which extends from the Boathouse to Lakeside Drive. This is not an existing feature and the construction of this staircase will eliminate another large expanse of open green space, replacing it with a paved staircase. This staircase is not handicapped accessible, and was also not included in the original plan for the boathouse area that was presented by the city before the vote on Prop. DD. This destruction of park space, inserted after the Prop. DD vote, serves no useful purpose and should not be allowed under the terms of Prop. DD, which again was supposed to preserve, enhance and enlarge park space.

**4**  
**cont.**

As I look out at this moment at Lake Merritt Park as it stretches from 12th Street to 17th Street along Lakeside Drive, I see a superb uninterrupted green open meadow. Please do not allow this beautiful expanse to be broken up and paved over by an unnecessary parking lot and "Grand Staircase", in direct contradiction to what we voters thought were the goals and intentions of Prop. DD. Choose "Option 2" (attached) and eliminate the "Grand Staircase".

**5**

Joe Matera  
Acting President, Essex Homeowners Association (1 Lakeside Dr.)

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## **LETTER B8**

**Joe Matera**

**Acting President, Essex Homeowners Association**

**September 11, 2007**

Response B8-1: The comment's preference for a variant (Option 2) of the Municipal Boathouse Improvements project element over the variant (Option 1) analyzed in the Draft EIR is noted. During project development Option 2 was considered along with other designs, which included Option 1 and a third option that proposed a larger parking lot and a smaller meadow. The design analyzed in the Draft EIR relocates existing parking facilities provided at the Municipal Boathouse site and creates a meadow of intermediate size compared to the other options. As shown on Figure III-8 in the Project Description, as compared to the drawing provided in the comment for Option 2, the proposed project decreases the massing of parked cars along Lakeside Drive, accommodates approximately 15 additional vehicles, and provides a landscaped buffer between the parking lot and Lakeside Drive.

No significant impacts were identified for the Municipal Boathouse improvements, including safety impacts to pedestrians or bicyclists, which the comment identifies as a concern. Thus, the Option 2 variant would not reduce significant impacts identified in the Draft EIR. The proposed project adds a bike lane along Lakeside Drive and creates bulb-outs and shortened crossing distances of Lakeside Drive, which would improve pedestrian and bicyclist safety. The entry and exit of the parking lot would be properly controlled and would not create an unsafe design hazard. The suggestions made in the comment will be considered by City of Oakland decision-makers during review of the merits of the project.

Response B8-2: The comment offers revised drawings of Option 2 for the City's consideration. The comment does not address the environmental analysis of the Draft EIR so no further response is provided.

Response B8-3: The comment, which pertains to the merits of the project, is noted.

Response B8-4: The comment incorrectly states that provision of a staircase at the entrance to the Boathouse would destroy park space. The area would remain park land, albeit hardscape rather than landscaping. The plans described in the text and shown on Figure III-8 and III-9 accurately depict the proposed project that was evaluated in the environmental analysis. Access (handicapped accessibility) to park facilities will be reviewed for compliance with the requirements of the Americans with Disabilities Act (ADA) during the design review process.

Response B8-5: The comment pertains to the merits of the project and asks that the City not construct the parking lot north of the Boathouse.

**From:** David Gill [dgill8848@yahoo.com]  
**Sent:** Tuesday, September 11, 2007 4:54 PM  
**To:** Thornton, Elois  
**Subject:** Fw: Comments on Draft EIR for Measure DD: Save the Boathouse Meadow, Stop the Grand Staircase  
Corrected address.

----- Forwarded Message -----

From: David Gill <dgill8848@yahoo.com>  
To: Joe Matera <materare@yahoo.com>; ealthornton@oaklandnet.com  
Cc: gofindnancy@yahoo.com; RBishop747@aol.com; jim@virtualperfection.com; pdow@mindspring.com; anne.symanovich@wellsfargo.com; gpieretti@sbcglobal.net; yishanchen@yahoo.com; Sylvia Rampi <srampi2@earthlink.net>; Phyllis Harris <phyllispbh@sbcglobal.net>  
Sent: Tuesday, September 11, 2007 3:49:58 PM  
Subject: Re: Comments on Draft EIR for Measure DD: Save the Boathouse Meadow, Stop the Grand Staircase

Thank you, Joe. More and more it becomes clear that this the selected option is a terrible use of Measure DD funds and absolutely NOT what the voters intended when they voted for the measure. It's not too late to bring a proper perspective to this portion of the lake project as work has begun on only one aspect, the boathouse, and it's obvious that completion is a long, long way off.

1

Sincerely,

David Gill  
Past President, Lakeside Regency Plaza Homeowners Association

1555 Lakeside Drive, #182  
Oakland, CA 94612  
510-452-8848 phone // 484-932-6254 eFax // 510-388-8848 cell  
Map: <http://maps.yahoo.com/beta/#maxp=search&q1=1555+Lakeside+Drive+Oakland%2C+CA+94612-4535>

----- Original Message -----

From: Joe Matera <materare@yahoo.com>  
To: ealthornton@oaklandnet.com  
Cc: gofindnancy@yahoo.com; RBishop747@aol.com; jim@virtualperfection.com; pdow@mindspring.com; anne.symanovich@wellsfargo.com; dgill8848@yahoo.com; gpieretti@sbcglobal.net; yishanchen@yahoo.com  
Sent: Tuesday, September 11, 2007 3:39:11 PM  
Subject: Comments on Draft EIR for Measure DD: Save the Boathouse Meadow, Stop the Grand Staircase

2



I am a member of the Save Our Meadow citizen group that attempted to save the existing meadow at 17th Street and Lakeside Drive in Lake Merritt Park. With the help of several landscape architects, our group created a plan (Option 2 - see attached) for the Lakeside Drive/Boathouse part of the Prop. DD project that saved more than twice as much meadow space as the plan (Option 1) that the city eventually adopted (see attached drawings). The city council chose Option 1 because our plan (Option 2) was rejected by the restaurateur the city council wanted as the future tenant in the Boathouse.

I'm hoping that the new Planning Commission and City Council will reconsider and choose the Option 2 plan that the Save Our Meadow group developed to save this rare and important downtown park space. Please note also that both Option 1 and Option 2 provide about the same number of parking spaces for whatever use is eventually made of the Boathouse space, but Option 1 permanently eliminates the meadow and turns it into a narrow strip which can no longer reasonably be called a "meadow". Also, the city's own Bicycle and Pedestrian Advisory Committee overwhelmingly favored Option 2 (by a vote of 7 for Option 2, 0 for Option 1). Option 2, with a much simpler and straighter orientation and fewer places where pedestrians or cyclists cross over driveways, is clearly safer for pedestrians and bicyclists.

I have other drawings that I can send showing ways that Option 2 can be reworked in ways that preserve the meadow space while adding more parking (if this is necessary) and/or moving the garbage area for the Boathouse.

The values we thought we were voting for when we approved Prop. DD - preserving, enhancing, and enlarging park space in Lake Merritt Park - should be favored over the desires of a proposed commercial tenant in the Boathouse space. Option 1 contradicts these values; Option 2 supports them.

In addition, on the plans for the Boathouse area please note the "Grand Staircase" which extends from the Boathouse to Lakeside Drive. This is not an existing feature and the construction of

this staircase will eliminate another large expanse of open green space, replacing it with a paved staircase. This staircase is not handicapped accessible, and was also not included in the original plan for the boathouse area that was presented by the city before the vote on Prop. DD. This destruction of park space, inserted after the Prop. DD vote, serves no useful purpose and should not be allowed under the terms of Prop. DD, which again was supposed to preserve, enhance and enlarge park space.

As I look out at this moment at Lake Merritt Park as it stretches from 12th Street to 17th Street along Lakeside Drive, I see a superb uninterrupted green open meadow. Please do not allow this beautiful expanse to be broken up and paved over by an unnecessary parking lot and "Grand Staircase", in direct contradiction to what we voters thought were the goals and intentions of Prop. DD. Choose "Option 2" (attached) and eliminate the "Grand Staircase".

Joe Matera  
Acting President, Essex Homeowners Association (1 Lakeside Dr.)

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**LETTER B9**

**David Gill**

**Past President, Lakeside Regency Plaza Homeowners Association**

**September 11, 2007**

Response B9-1: The comment, which pertains to the merits of the proposed project, is noted.

Response B9-2: This portion of the comment letter contains the text of Joe Matera's comment letter (letter B8) to the City. Refer to Responses to Comments B8-1 to B8-5.



Thornton, Elois

**From:** darlinemix@sbcglobal.net  
**Sent:** Wednesday, September 05, 2007 12:29 PM  
**To:** Thornton, Elois  
**Cc:** gofindnancy@yahoo.com; johninoakland@netzero.net  
**Subject:** Measure DD Draft EIR File No. ER06-0017

Ms Thornton

This email and comments are for the "record" and it is requested that it be presented at the public hearing of Sept. 5, 2007, regarding Measure DD Draft EIR, item 4 of the agenda.

1) Considering the size and subject depth of the DEIR the typical 2 or 3 minutes the commission allows speakers to give oral testimony is sorely inadequate. The CEQA laws require public participation, which is a vital part of the democratic process. Drastically limiting speaker time defeats that purpose and violates the law and its intent. A public hearing cannot be construed as having taken place unless an adequate and reasonable amount of time is allocated for testimony and public comment. It is hereby requested that a reasonable amount of time be allowed and that we be provided advanced notice of your determination regarding this matter.

2) The reproduction of materials submitted by interested parties and other agencies, etc., as part of the "scoping" process under CEQA, (Appendix C) is of extremely poor quality. The letters were reduced to a size practically unreadable while the photos are indecipherable with unreadable captions. Additionally, the letters and photos are presented in a hodgepodge, mismatched fashion making it difficult to determine which photos relate to which letters.

CEQA and the public process clearly provides for written comments and accompanying documents. The reproduction of these items in an unreadable form (especially photos) in this public document, (Draft EIR), can only be construed as a blatant violation of the statutes.

It is a despicable tactic to undermine and discredit contrary opinions and comments by reproducing them in a grossly substandard form. Any and all material submitted as part of this public process deserves no less, than to be reproduced in a form, print size, and clarity equal to the document itself, likewise, the photos deserve the same treatment as the photos and illustrations of the DEIR. In this present day of electronics and reproduction techniques there can be absolutely no excuse for the shabby treatment given the submitted material.

By this letter it is hereby requested that an addendum to this DEIR be published and provided for Appendix C in a format (readable) as required by law and that the public comment time be necessarily extended to accommodate same.

David E. Mix

9/5/2007

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**LETTER B10**

**David E. Mix**

**September 5, 2007**

- Response B10-1: The introductory statement to the comment, which requests that the letter be presented at the public hearing meeting on September 5, 2007, is noted. Elois Thornton, City Planner, acknowledged receipt of the letter during the public hearing. Refer to Responses to Comments B10-2 to B10-4.
- Response B10-2: The comment, which pertains to the amount of speaker time available at the public hearing, is noted. The comment does not pertain to the environmental analysis of the Draft EIR so no additional response is provided.
- Response B10-3: Full size copies of the original public comment letters that were received during the EIR scoping period have been and are available for review at: City of Oakland, Community and Economic Development Agency, Planning and Zoning Division, 250 Frank H. Ogawa Plaza, Suite 3315, Oakland, California 94612.
- Response B10-4: The comment, which requests an addendum to the Draft EIR to provide full sized public scoping comment letters as part of Appendix C, is noted. Also see Response to Comment B10-3.

September 13, 2007

City of Oakland  
CEDA  
Elois Thornton

Re: DD DEIR

Elois:

Not knowing what kind of reproduction quality the fax transmitted, enclosed is a clean copy of my comments as forwarded to you earlier along with a couple of photos (a picture is worth a thousand words) and elevations. All from the documents I mentioned in my comment letter and City files except as noted.

Thanks again,

David E. Mix



September 11, 2007

Ms. Elois Thornton, Planner IV  
Community and Economic Development Agency  
250 Frank Ogawa Plaza, Suite 3315  
Oakland, C A 94612

Re: City of Oakland Measure DD Implementation Project  
Environmental Impact Report - Public Review Draft, (DEIR)

Dear Ms Thornton:

Please consider the following comments regarding the above captioned matter.

The DEIR is sorely inadequate. It fails to identify many Environmental Impacts or adverse effects the project will have on the environment and where it does identify an impact it is arbitrarily treated as "less than significant" or claimed to be mediated by an insufficient or inadequate solution.

The Environmental evaluations made by LSA are, in most part, based on inferior and inaccurate reports produced through incomplete and shoddy investigations resulting in misleading and totally false conclusions.

In other areas the detrimental impacts produced by the project are merely ignored or arbitrarily and capriciously rated as *less than significant*.

There are nine primary subjects of vital concern but, by no means are my comments to be considered limited to those particular subjects and my contention that the DEIR is inadequate and fails to identify significant environmental impacts, necessarily covers any and all of the Measure DD projects.

LAKE MERRITT AREA - CHANNEL AREA - EMBARCADERO

- 1) Hydrology of the Lake and the Channel
- 2) Flooding of Lake Merritt area, Channel area and Embarcadero area (Oak to Ninth, etc.)
- 3) Contaminated soils, channel area, and elsewhere.
- 4) Traffic congestion and subsequent pollution.
- 5) Unnecessary removal of trees, lake area, channel area and especially the Auditorium parking lot, but certainly not limited thereto.

- 6) Public safety - Multi-use paths - elimination of traffic "pork chops", endangering pedestrians and bicyclist.
- 7) Engineered degradation of open space parkland (Boathouse/Restaurant parking lot).
- 8) Depriving the public access to public spaces (Boathouse/Restaurant).
- 9) Elimination of public restrooms in vital and needed locations.

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cont.

#### LAKE MERRITT

Lake Merritt has been a subject of controversy for more than a hundred and fifty years. When Doctor Samuel Merritt, then Mayor of Oakland, dammed San Antonio Slough (said to be with a lot of his own money) in 1869 to form a lake he was a large property owner of parcels on the North side. It was rumored to be more of real estate speculation in creating lake front property (and to eliminate the smelly slough) rather than for a civic purpose.

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In 1870 when the Governor signed the bill creating Lake Merritt as the first wildlife refuge and waterfowl sanctuary in North America, the real intent may have been to protect human life from hunters who often used the area for hunting, not to mention the noise impact of gun fire on potential property sales.

#### JUNK SCIENCE

The tidal flows of Lake Merritt and its varied elevations are controlled by gravitational forces and the flood gates and pumps at the 7th street crossing, owned and operated by the County of Alameda, (Flood Control and Water Conservation District).

In June 2002 URS published a Feasibility Study and Greenbelt Plan, for the Lake Merritt Channel (commissioned by the Port of Oakland). The study covered four alternatives in modifying the channel and removal or relocation of utilities within the channel to improve water flow and tidal flushing action. In June 2004 URS prepared an addendum to their 2002 Greenbelt study.

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The 2002 Greenbelt plan in its hydraulic analysis references HEC-RAS River Analysis System software, Version 3.0.1 (March 2001) a one-dimensional hydrodynamic model developed by the U.S. Army Corps of Engineers. Material produced later by PWA (Phillip Williams and Associates) in several reports references a MIKE 11 model and as modified by PWA.

There is no clarification in any of the reports indicating



what MIKE 11 is and there is no indication in the URS 2002 report referencing a MIKE 11 model. This of course begs the questions. What is it? Who created it? And, precisely what information was used in its creation - How can we check the results if the whole thing is treated like a secret. In other words, show us the numbers.

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cont.

Understanding that a tidal flow model must consider all restrictions in the channel including culverts and pipes, etc. and foremost, the County Flood Control Station, the exact dimensions of those openings is of vital importance.

Additionally, the exact elevation of the devise is critical to a projected flow. Unless the devise remains completely submerged at all times, including median low low tides, the full geometric dimension is not utilized.

The PWA Report of October 04 (and others) shows the flow area in square feet of the various culverts and channel restrictions. The culverts at 12th and 10th street are shown at 260 sq. ft. However, the dimensions are, 8, 6x6 cells.  $6 \times 6 = 36$  times  $8 = 288$ , and not 260. The Flood Gates at 7th street are shown at a dimension of  $12 \times 17$  for the box culverts which equals 204 times (2) culverts for a total of 408 and not 554 as listed in the PWA report.

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More critical to the flow however, as noted above, is the elevation of the culverts, As an extreme example, if the elevation of a given culvert were completely above the given flow line (elevation) the flow would be negligible or nonexistent. Likewise, if the culvert were located at an elevation midway of the flow line then only half of the culvert's sq. ft. area would be utilized.

Additionally, the Oakland Inner Harbor has an average tidal range of 6.38 feet, while the Lake has a tidal range of about two feet. In either area, Inner Harbor or the Lake, the elevation of a culvert is critical to the flow. If a culvert's top is at the high tide elevation then the dimensional water flow through the culvert will gradually decrease as the water level drops. As is the case at the Lake opening to the channel, the Lake tidal range is no more than two feet, as the water drops, the flow decreases from the maximum of two feet to zero.

At the pump station, the elevation of the bottom of the culverts is -8.27 ft. (NAVD88) while the rock and dirt guard is at -0.93, and the top of the BART Tunnel is at -0.30. Although the total height of the culvert is 17 ft. the high tide line is at approx. 5.4 (at that location) which leaves only 13.3 feet of the culvert height being utilized. This calculates to 320 sq. ft. ( $13.3 \times 12 = 160$  times two) of water flow and not 554 sq. ft. as shown by PWA.



As the water drops to the low tide line of 3.4 feet, only 11.7 of the culvert height is utilized, which results in only 140.4 sq.ft. of water flow (times two, equals 280.8 - less than the 288 sq. ft. at 12th and 10th streets). That flow however, is negatively impacted by the depth of these culverts which lie 7.4 feet below the elevation of the EBMUD 84" sewer interceptor (El. -0.87') at the mouth of the channel at the Embarcadero Bridge, just below the 54" EBMUD sewer line and the 24' high pressure gas line and where it extends five feet above the channel bottom, acts as a weir restricting flows and at very low tides creates an actual waterfall, clearly visible from the Embarcadero Bridge.

Subsequently, the area between the EBMUD 84" interceptor (El -0.87) and the lowest point of the flood control box culverts (El -8.27) act as a huge channel invert and either restrict flows or are not negligible in making flow calculations. In other words, once the water level drops to the height of the 84" sewer interceptor (-0.87 feet) the lower portion of the 7th street flood gate box culverts (7.4 feet) is then below the flow line and becomes static. At that point the active geometric dimensions of the flood culverts would be zero. As the water rises it would increase from zero to the high tide level at that location of approximately 6.45 feet, producing just under 100 sq. ft. of active geometric flow area, times two culverts, equals less than 200 sq. ft. Please note however, the various tide levels (High and low) at particular locations along the channel are the results of "Hydraulic Modeling" and not actual field measurements, subsequently, they are highly suspect. There is nothing provided in the various engineering reports indicating how these issues are treated.

Understanding that the EBMUD 84" interceptor pipe at the mouth of the channel is the greatest impediment to channel flows, it is bewildering why it hasn't been addressed in this project. Additionally, the BART Tunnel which lies a mere -0.30 in depth just above the 7th street Flood Gates, also has not been addressed. The depth at the lake opening could be increased (dredged) from its present 1.58 feet to match BART's depth at 0.30 and the channel widened to 100 feet and open bridges erected at 12th and 10th streets but it still will not make an appreciable difference in tidal flushing action where the average depth of the lake is approximately -3½ feet, more than three feet lower than the BART Tunnel.

#### FLOODING

At the other end of the spectrum is flooding. The URS Report clearly points out that "extreme tides" are not necessarily that extreme. The higher high elevation for the model used reaches approximately 8.0 feet while the lower low elevation is approximately -0.7 feet. (Note!, all elevations are North American Vertical Datum of 1988, (NAVD88)). From tidal data records from

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January 1996 through May 2002, a higher high tide elevation of 8.0 feet has been reached 17 times.

Under the URS scenario (2002) of alternative No. 3, where both 12th and 10th streets are open with an arch bridge, the 84" sewer interceptor is removed, the channel is widened at the mouth with a new Embarcadero Bridge and the 7th street flood control structure is relocated to the Lake, flooding becomes very likely under existing conditions. Lake tidal elevations would range from a low of 3.6 feet to a high of 6.9 feet and with a tidal range of 3.3 Feet.

Durin existing conditions potential flooding may occur at the Municipal Boathouse main deck and storage room, the Sailboat House and Boat Rental Office, the lower and upper ends of Lakeshore Avenue and the intersection at the veterans memorial Building, Grand and Harrison. And an extreme tidal cycle could push the range to as high as 5.3 and most certainly cause significant flooding in the above areas and far beyond.

It is quite simple, the County flood control station at the 7th street crossing was built in 1968, following the devastating flood of October 13, 1962. It was engineered and designed to protect against adverse weather and alleviate the potential for catastrophic flooding through a sophisticated arrangement of diesel pumps and automatic flood gates.

According to Alameda County documents (Brown and Caldwell, Consulting Engineers) 1966 Flood Control Facilities Study, the pump station may also be used for flushing operations. It is estimated that an average of about 15 pump-hours is used for each lake flushing operation and about 150 pump-hours per year is needed for flushing.

According to the County, starting with a lake water surface elevation of 5.2 (NAVD) (original 2.5 SLD29) feet it is possible to withdraw and back-fill 2.0 feet of water (320 acre-feet) within 12 hours elapsed time. Flushing volume can be increased by extending the time allowed for the flushing operation. Also, the volume of degraded water removed from Lake Merritt can be increased by raising the lake level prior to flushing. For example, operation of the pumps in the backfilling mode for about 2½ hours prior to flushing would raise the lake one foot. In the following 12 hours the lake could then be lowered three feet (480 acre-feet) and raised two feet to restore it to the normal operating level. (see County Report, page 35)

In other words, the County is capable of establishing the Lake at any level, at any time, or on any given day the City may desire. Or, to completely and totally flush the lake, every day, once a week, once a month, or as seldom or as often as the City may desire. The contention that the pumps only operate 1% of the time is, if at all true, by the City's choice.

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None of the above potential flooding issues or preventive measures are addressed in the DEIR - it is totally lacking.

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#### CONTAMINATED SOILS

The DEIR readily admits that it doesn't address possible contaminated soils, especially in the channel area. The investigation falls far short in that there has been no soil samples taken regarding fill or a review of past activities at the various locations which may have contaminated the soil. As known to many Oaklanders the site was the Exposition Building and Oakland's race Way Dirt Track for Auto Racing, and some claim a gas station, among other things.

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#### POLLUTION OF THE LAKE

The DEIR does not address the tons of pollution, commonly referred to as industrial fall out, washing into the lake through the 42 plus, storm sewer inlets. It does not address how the lack of spending the money designated for these improvements is harming the environment. One need only observe the build-up of filth on the bright orange barricades at the South end of the lake to see that we have a major problem - that filth is washing into our waterways and we are breathing it daily.

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#### MARSH LAND and WIND/WAVE ANALYSIS

The creation of the proposed marsh lands or tidal basin has not been adequately addressed in the DEIR. A creation of a marsh habitat is difficult at best and the vegetation does not survive at the low tide levels creating a smelly and unsightly "mud flat" below the anticipated marsh grasses. The colonization of cord-grass is assumed to be 4.5 (NAVD) MTL while the elevation for tidal wetland vegetation growth is assumed to be 6.2 (NAVD) (HHHW). In simple terms, there is a natural span, depending on the degree of slope, at low tide (where nothing grows) and the vegetation - the "mud flat" area. The aesthetics and other issues regarding the potential mud flats has not been addressed by the DEIR.

12

The wind at the South end of the lake and along the channel at times can be horrific. The reconfiguration of the roadways, widening of the channel, Construction of arch bridges, cutting of trees and other vegetation, will without question have an impact on the environment, the wave run up, etc. This has not been adequately addressed in the DEIR .

13

Water quality, wind, flooding, tree removal, traffic congestion creating excess pollution and dangerous multi-use paths (bicycle running into a baby carriage, etc.) are just some

14



of the issues which have not been adequately addressed in the DEIR.

**14**  
**cont.**

As part of my comments I ask that other documents be reviewed and considered to be incorporated therein:

- 1) Lake Merritt Master Plan;
- 2) Port of Oakland Lake Merritt Greenbelt Feasibility Study (June 2002);
- 3) Thesis by Mary A. Travis, "A Historical and Environmental Geographic Analysis of Lake Merritt (1995);
- 4) Alameda County Preliminary Design Study, Lake Merritt Flood Control Facilities (1966).

**15**

Respectfully submitted

David E. Mix

Port of Oakland  
Geomatics Group  
**QUALITY ASSURANCE**  
Bulletin No. 7

From the office of the PORT LAND SURVEYOR

September, 2001  
Clarification

Information Management - Control Systems

**Port of Oakland  
Vertical Control Datum**

**Definition:** Port of Oakland Datum is 3.20 feet below N.G.V.D. '29

N.G.V.D.'29 is the abbreviation for the National Geodetic Vertical Datum of 1929, which is also known as the Sea Level Datum of 1929.

Since the Sea Level Datum of 1929 represents the mean of all of the individual tide stations up and down both coasts that were then projected across the continental United States as of 1929, many people still incorrectly refer to this datum as Mean Sea Level, although it was certainly true through the 1930's and 40's.

Today, on the other hand, Mean Sea Level is actually a site-specific datum that differs in actual elevation from one location to another. This is also true in San Francisco Bay. It takes 18.6 years for the Earth-Moon system to come back to the same mode, or start point in the solar orbit, from an orbital mechanics standpoint. This is known as the Metonic Cycle. This time cycle generates the total length of time, or duration, over which a tide gage has to be read at regular intervals in order to establish a particular tidal datum in any one location. Every 19 years (or thereabouts), the National Geodetic Survey (N.G.S.) re-adjusts and re-publishes tidal data for all of the recording tide gage stations that are maintained by the National Ocean Survey (N.O.S.).

These adjustments have occurred three times since 1929. Each individual tide gage station has a specific published tidal datum relative to N.G.V.D.'29. Although N.G.V.D.'29 remains constant, the datum has not been readjusted since 1929. So Mean Sea Level has been steadily rising since 1929 and now MLLW is up to 0.42 feet higher than Port of Oakland Datum, which was Mean Lower Low Water back in 1929, but not anymore. Nor is N.G.V.D.'29 correctly referred to as Mean Sea Level either. Not just a question of poor practice, the reference is actually a blunder.

We think that N.G.S. will publish new adjustments soon, but they have already abandoned the N.G.V.D.'29 Datum in favor of the North American Vertical Datum of 1988 (N.A.V.D.'88). We are working on a conversion, but we will not be ready to present any credible evidence to the organization this year. There is a sense of urgency, but not a real dramatic one. Senior Engineering Management will make the decision to adopt the new datum or keep the old one. We expect that process to play out in 2002, which is when we expect to present our conversion data.

If Senior Engineering Management elects to adopt the new datum, we will then define Port of Oakland datum in terms of N.A.V.D.'88, instead of N.G.V.D.'29. If or when that happens, we will publish a new Bulletin.

**Additional References:**

Biennial Vertical Control Report, Harbor Areas \*1998\*

**Related Bulletins:**

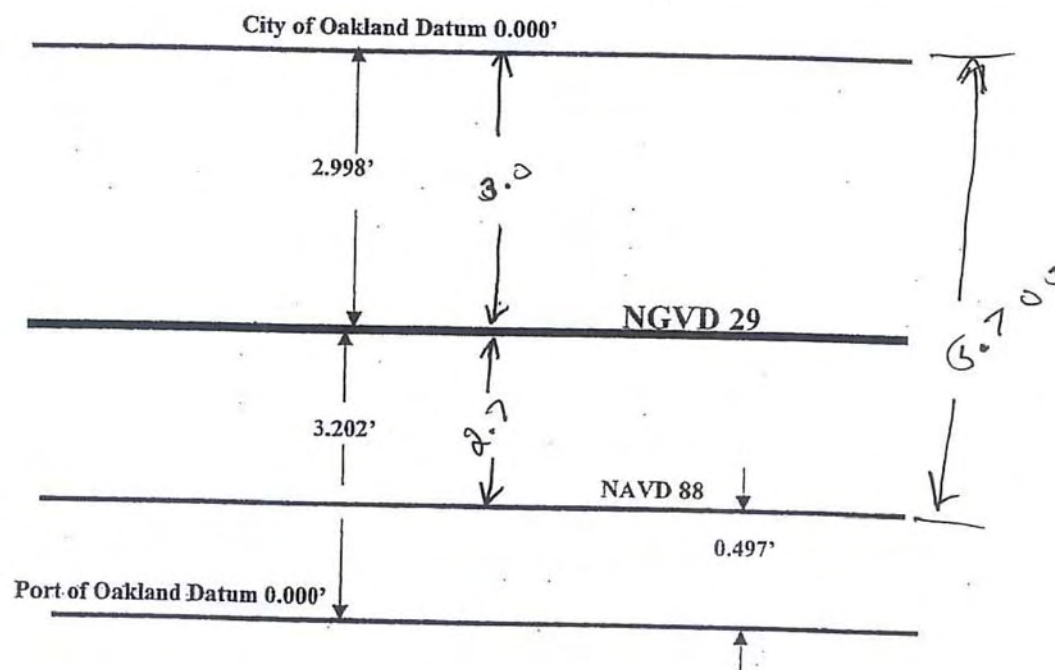
Bulletin No. 6

For general questions regarding Vertical Control issues, contact Daniel Walker at 627-1613.



## VERTICAL DATUM DIAGRAM<sup>1</sup>

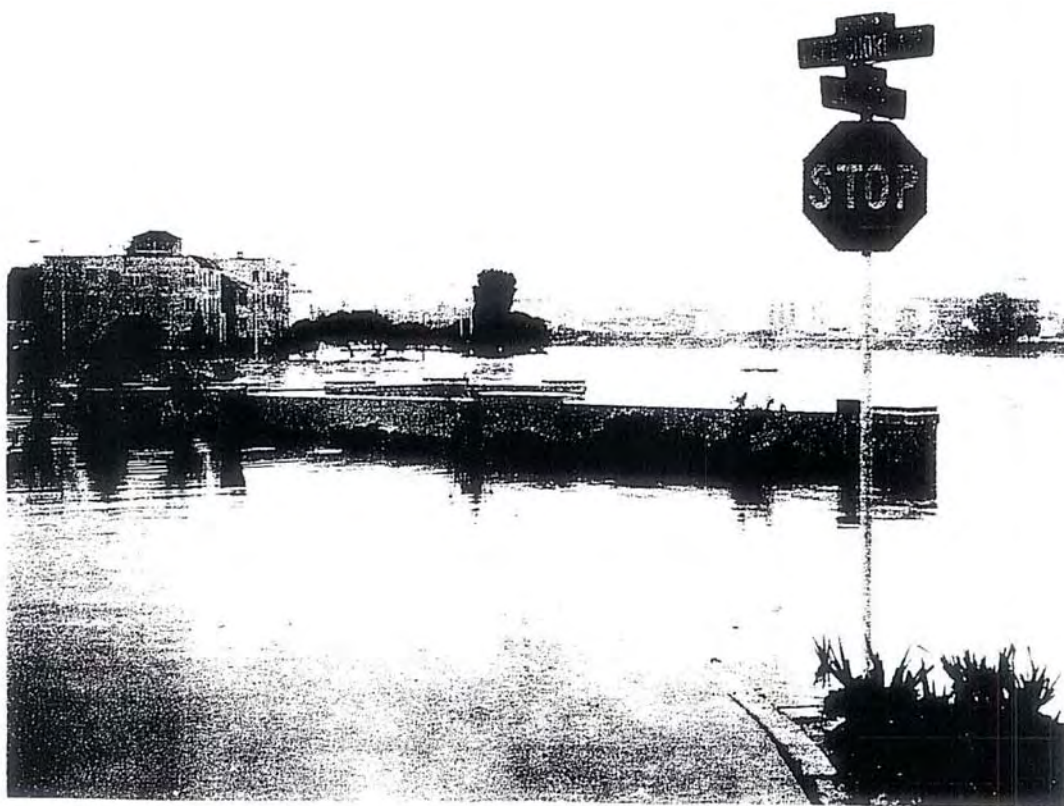
Local Agency sponsored datum of the City of Oakland and the Port of Oakland  
To the old NGVD'29 and to the modern NAVD'88



<sup>1</sup> Units are in U.S. Survey Feet



PHOTOGRAPHS taken during the flood of October 13, 1962  
were used to establish maximum water elevation



PEAK STORMWATER FLOWS sometimes coincide with high tide levels with resulting flooding of areas adjacent to Lake Merritt.  
October 13, 1962



LAKE MERRITT and CHANNEL TIDE ELEVATIONS	City of Oakland Datum	North American Vertical Datum 1988	National Geodetic Vertical Datum 1929
	(COO)	(NAVD88)	(NGVD29)
Highest recorded - Oct. 13, 1962	4.30	10.00	7.30
Turfed area flooded	4.00	9.70	7.00
100 year flood	3.20	8.90	6.20
Lakeshore flooded	3.00	8.70	6.00
25 year flood	2.20	7.90	5.20
	2.00	7.70	5.00
	1.00	6.70	4.00
MHHW (Estuary)	.54	6.11	3.41
Shoreline walkways flooded	-0-	5.70	3.00
Ideal recreation level	-.50	5.20	2.50
MHHW (Lake)	-.90	4.60	2.10
	-1.10	4.70	2.00
	-2.00	3.70	1.00
MLLW (Lake)	-2.20	3.50	1.80
	-3.00	2.70	-0-
	-4.00	1.70	-1.00
	-4.70	1.00	-1.70
	-5.00	.70	-2.00
	-5.70	-0-	-2.70
MLLW (Estuary) and BART tunnel	-6.00	-.30	-3.00
EBMUD 84" Sewer interceptor	-6.57	-.87	-3.57
7th st. Pump Station "rock guard"	-6.63	-.93	-3.63
	-7.00	-1.30	-4.00
	-8.00	-2.30	-5.00
	-9.00	-3.30	-6.00
	-10.00	-4.30	-7.00
Bottom of Lake (at center)	-9.70	-4.00	-6.70
Bottom of floodgate culvert	-13.97	-8.27	-10.97

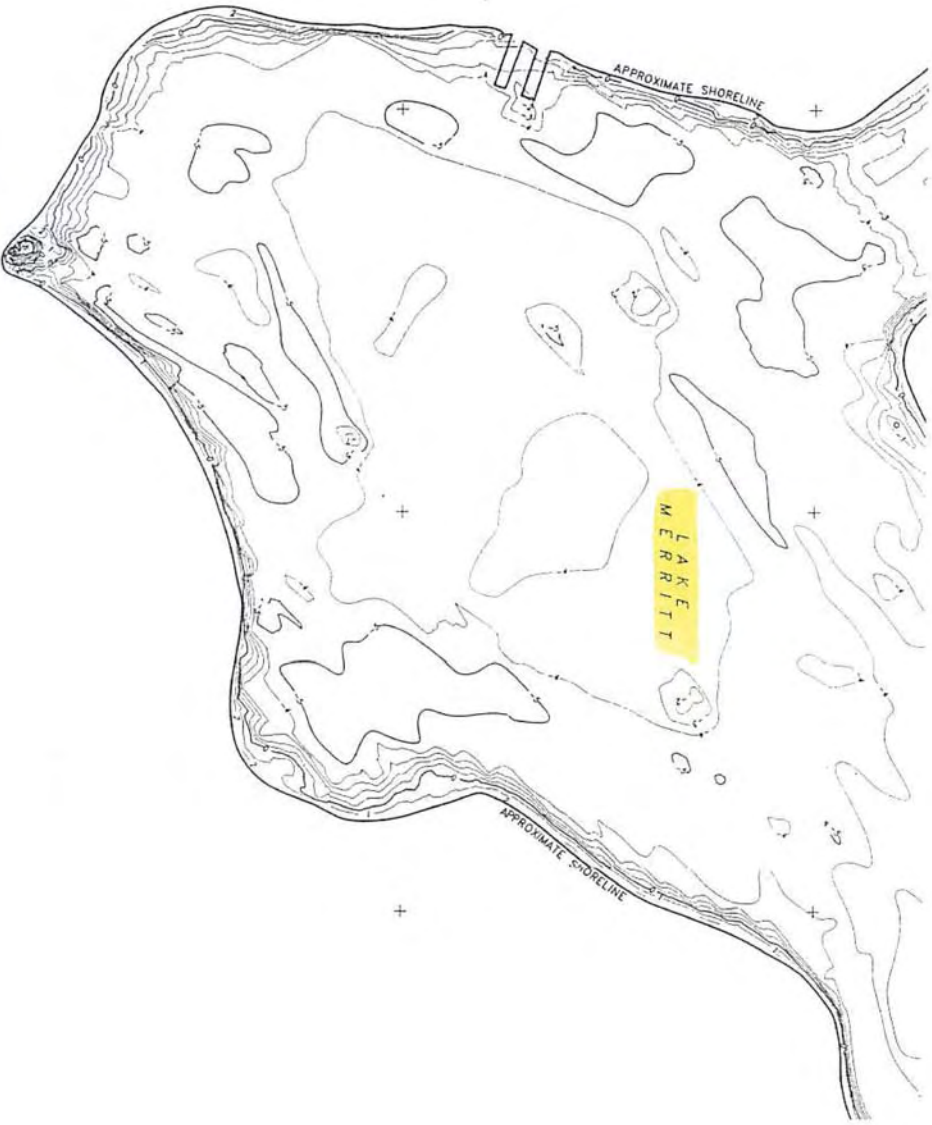
Notes!

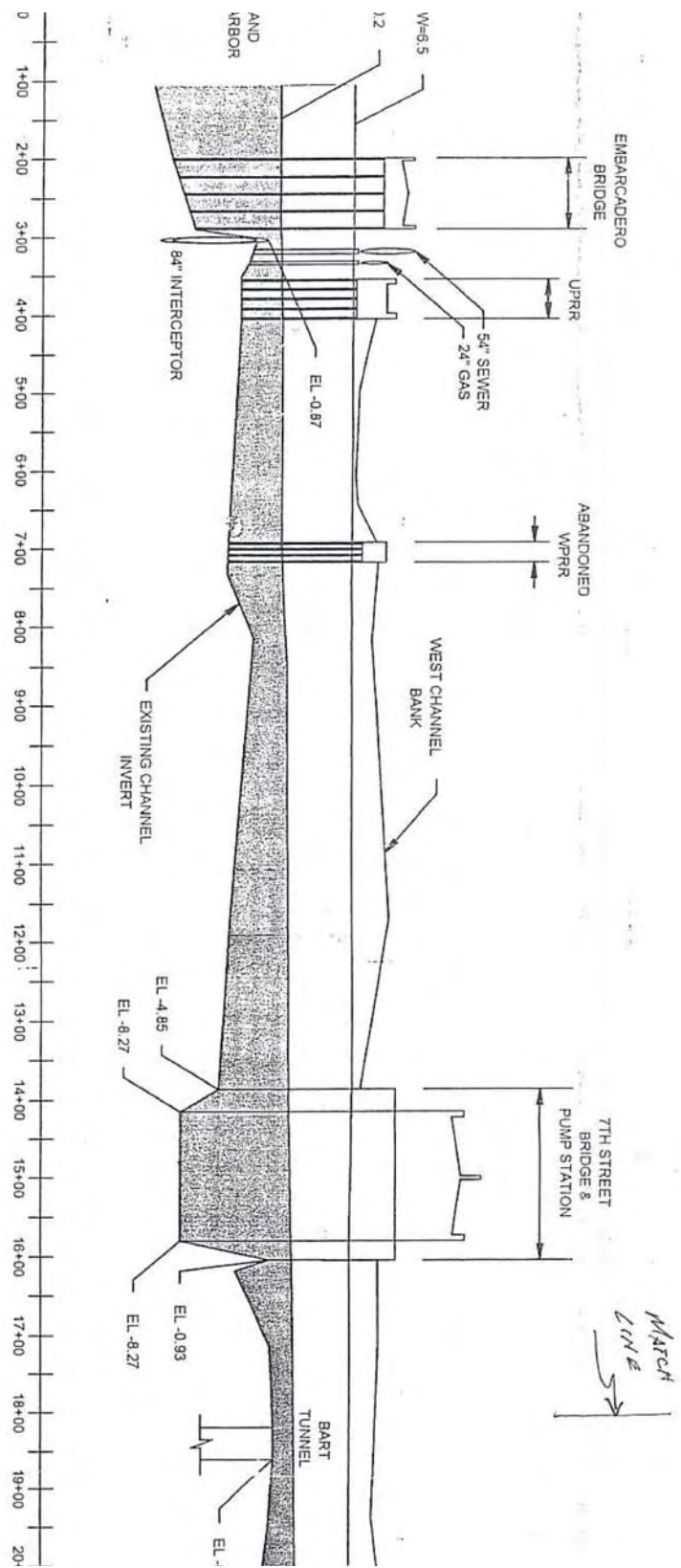
(NGVD) elevations also known as (SLD29) Sea Level Datum  
(MHHWL) Mean High High Water Level  
(MLLWL) Mean Low Low Water Level

LAKE SIDE PARK



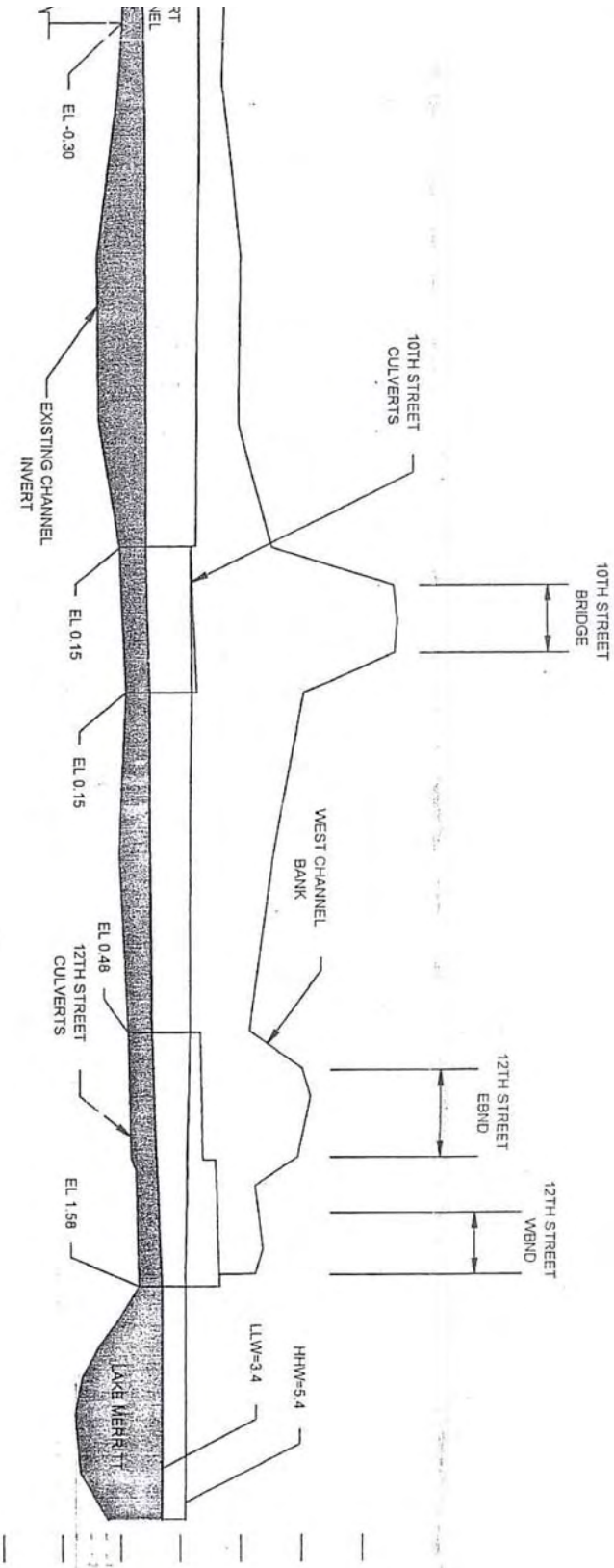
100/F "Sta. 100 Sec. F"  
N=2120523.64  
E=6053876.71  
EL=16.82 NAVD88





PAGE 1





Page 2

Projection:

100

7.

## **LETTER B11**

**David E. Mix**

**September 13, 2007**

Response B11-1: The introductory statements to the comment letter are noted. The specific issues raised in the introductory statements are addressed below as follows:

- Hydrology and flooding (Refer to Responses to Comments B11-3 to B11-9)
- Contaminated soils (Refer to Response to Comment B11-10)

Although the introductory statement indicates that the letter would also raise concerns about traffic, tree removal, safety, open space at the boathouse, public access and public restrooms, no specific comments were provided in the comment letter.

Response B11-2: The comment, which describes some of the history of Lake Merritt and establishment of the wildlife refuge, does not pertain to the environmental analysis of the Draft EIR.

Response B11-3: MIKE 11 is an industry standard software package developed by the Danish Hydraulic Institute. It is used for simulating flow and water level, water quality and sediment transport in rivers, flood plains, irrigation canals, reservoirs and other inland water bodies. The software package is proprietary but additional general information about it and its application are available on various websites, including the United States Geological Survey (<http://smig.usgs.gov/SMIC>). The models and conclusions of the hydraulic studies for the Lake Merritt Channel were reviewed during preparation of the Draft EIR and found to be adequate for the purposes of determining the significance of impacts related to the hydraulics of the Lake Merritt Channel. The hydraulic (flooding) analysis in the Draft EIR is consistent with *CEQA Guidelines* Section 15151, which requires an EIR “to be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. . . . An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible.” The analysis and discussion in the Draft EIR of the potential flooding effects on pages 261-264 of the Draft EIR provide decision-makers with adequate information to enable them to reasonably understand the project’s impacts.

Response B11-4: The Draft EIR relied upon available hydraulic modeling studies and reports for the Lake Merritt Channel (cited in the Draft EIR and available at the City of Oakland, Community and Economic Development Agency, Planning and Zoning Division, 250 Frank H. Ogawa Plaza, Suite 3315) and found them adequate for purposes of analyzing the effects of the project. The information provided by the comment does not affect the analysis or conclusions of the reports upon which the Draft EIR

relied. The reports took into account the relevant parameters needed to run the hydraulic model for its intended purpose, including culvert sizes and elevations (although these are not relevant for project conditions at 10<sup>th</sup> Street and 12<sup>th</sup> Street where the culverts would be removed and the Channel depth lowered). The removal of the culverts at 10<sup>th</sup> and 12<sup>th</sup> Streets and lowering of the Channel at these locations will improve flows (and ameliorate flooding conditions) because these actions will remove a constraint to the flow of water between Lake Merritt and the 7<sup>th</sup> Street Pump Station. Other information cited in the comment applies to areas downstream of the 7<sup>th</sup> Street Pump Station and outside the scope of the project.

Response B11-5: The hydraulic analysis concludes that the EBMUD 84" interceptor and the BART tunnel are not the most critical elements to water flow in the Channel. Modifications to these structures, which might improve tidal flushing very slightly, are not funded by Measure DD and no known projects are being proposed to modify these structures.

Response B11-6: The comment describes a hydraulic study prepared by URS that is cited in the Draft EIR and available at the City of Oakland, Community and Economic Development Agency, Planning and Zoning Division, 250 Frank H. Ogawa Plaza, Suite 3315. The comment states that the study indicates flooding occurs under existing conditions at various locations around the lake and could occur under a variant to the project provided in the comment. The Draft EIR acknowledges that flooding occurs in Lake Merritt and concludes that the project would have the beneficial effect of alleviating flooding conditions (page 261 of the Draft EIR) The variant, which has not been carried forward in the project design process, is not analyzed in the Draft EIR. As no significant impact related to flooding in Lake Merritt was identified in the Draft EIR and the variant would not relieve flooding in any case, the information provided does not change the analysis or conclusions of the Draft EIR.

Response B11-7: The comment, which describes the history and purpose of the 7<sup>th</sup> Street Pump Station and flood control facility, is noted.

Response B11-8: The comment describes some aspects of the operation of the 7<sup>th</sup> Pump Station. It incorrectly states that "...the County is capable of establishing the Lake at any level, at any time, or on any giving [sic] day the City may desire." As the 7<sup>th</sup> Pump Station is a flood control facility, the County is obligated to operate it for that purpose.

Response B11-9: Flooding is addressed in Section IV.H, Hydrology and Water Quality of the Draft EIR on pages 244, 246, 247, 249, 252, and 261.

Response B11-10: The comment incorrectly states that the Draft EIR doesn't address possible contaminated soils and that a review of past activities related to hazardous materials has not been conducted. Such studies have been conducted and are described on pages 287-292 of the Draft EIR. Where historical evidence indicates that sampling and analysis of soils or other environmental media are warranted to



determine if contamination is present, samples have been collected and analyzed or will be prior to construction in accordance with the City's Conditions of Approval 50 and 52 as stated on pages 303-305 of the Draft EIR.

Response B11-11: The project includes many elements that are intended to improve water quality in Lake Merritt. These are listed in the Project Description on pages 48-51 of the Draft EIR. Among these improvements are storm water separators, drain inlet inserts, netting trash traps and booms, all of which would reduce the "filth," presumably debris, sediments and other storm water pollutants, that the comment cites as a concern.

Response B11-12: The comment incorrectly states that aesthetics and other issues regarding the proposed wetlands have not been addressed in the Draft EIR. The created wetlands are described on page 35 and depicted in Figure III-4 of the Project Description. Aesthetics and odor issues associated with the project are identified and evaluated in Sections IV.D, Air Quality and IV.M, Aesthetics. The wetlands would support both vegetated and non-vegetated habitat (mud-flats) as a resource for wildlife. The lack of vegetation in some areas is expected to attract shorebirds and other wildlife, which most observers would not describe as unsightly. The wetlands would have a localized odor, if any, typical of other tidal areas in the vicinity and around the Bay. This would not be considered a significant effect under the City's criteria of significance.

Response B11-13: Wind acceleration is an environmental issue under certain conditions when tall structures are introduced into the environment. For this reason, the City of Oakland has developed a significance criterion for projects that might create winds exceeding 36 mph for more than 1 hour during daylight hours during the year. The wind analysis only needs to be done if the project's height is 100 feet or greater (measured to the roof) and one of the following conditions exist: (a) the project is located adjacent to a substantial water body (i.e., Oakland Estuary, Lake Merritt or San Francisco Bay); or (b) the project is located in Downtown. No analysis is needed for the proposed project because it would not erect a structure 100 feet tall or greater.

Response B11-14: The issues cited by the comment have been addressed in the Draft EIR or would not occur as an effect of the project (i.e., wind, refer to Response to Comment B11-13). Water quality and flooding are addressed in Section IV.H, Hydrology and Water Quality, tree removal is addressed in Section IV.F, Biological Resources and Section IV.M, Aesthetics, traffic, pedestrian and bicycle safety issues are addressed in Section IV.C, Transportation, Circulation and Parking.

Response B11-15: The cited documents were not submitted with the comment letter and the comment does not indicate what specific information in these documents he finds relevant to the environmental analysis. The Lake Merritt Master Plan was considered during the environmental analysis of the Measure DD Implementation Project. It is cited in the Draft EIR and available at the City of Oakland, Community and Economic Development Agency, Planning and Zoning Division,

250 Frank H. Ogawa Plaza, Suite 3315. Several attachments to the comment letter (the Port of Oakland Vertical Datum bulletin, photographs of the 1962 flooding near Lake Merritt, and cross-sections of the Lake Merritt Channel) are noted. The attachments do not contain information pertaining to the environmental analysis of the Draft EIR.

Fax - 8 pages

Dear Elois

The attached is a revised version of what I sent last nite. I started to correct some errors and then got carried away. It is requested that you replace yesterday's version with this one, However, if you can't because admittedly it is late, I understand. I will then submit it later when the issue goes back to the Planning Commission.

1

Thanks again for all of your help

David E. Mix



September 11, 2007

Ms. Elois Thornton, Planner IV  
Community and Economic Development Agency  
250 Frank Ogawa Plaza, Suite 3315  
Oakland, C A 94612

Re: City of Oakland Measure DD Implementation Project  
Environmental Impact Report - Public Review Draft, (DEIR)

Dear Ms Thornton:

Please consider the following comments regarding the above captioned matter.

The DEIR is sorely inadequate. It fails to identify many Environmental Impacts or adverse effects the project will have on the environment and where it does identify an impact it is arbitrarily treated as "less than significant" or claimed to be mediated by an insufficient or inadequate solution.

The Environmental evaluations made by LSA are, in most part, based on inferior and inaccurate reports produced through incomplete and shoddy investigations resulting in misleading and totally false conclusions.

In other areas the detrimental impacts produced by the project are merely ignored or arbitrarily and capriciously rated as *less than significant*.

There are nine primary subjects of vital concern but, by no means are my comments to be considered limited to those particular subjects and my contention that the DEIR is inadequate and fails to identify significant environmental impacts, necessarily covers any and all of the Measure DD projects.

LAKE MERRITT AREA - CHANNEL AREA - EMBARCADERO

- 1) Hydrology of the Lake and the Channel
- 2) Flooding of Lake Merritt area, Channel area and Embarcadero area (Oak to Ninth, etc.)
- 3) Contaminated soils, channel area, and elsewhere.
- 4) Traffic congestion and subsequent pollution.
- 5) Unnecessary removal of trees, lake area, channel area and especially the Auditorium parking lot, but certainly not limited thereto.



- 6) Public safety - Multi-use paths - elimination of traffic "pork chops", endangering pedestrians and bicyclist.
- 7) Engineered degradation of open space parkland (Boathouse/Restaurant parking lot).
- 8) Depriving the public access to public spaces (Boathouse/Restaurant).
- 9) Elimination of public restrooms in vital and needed locations.

#### LAKE MERRITT

Lake Merritt has been a subject of controversy for more than a hundred and fifty years. When Doctor Samuel Merritt, then Mayor of Oakland, dammed San Antonio Slough (said to be with a lot of his own money) in 1869 to form a lake he was a large property owner of parcels on the North side. It was rumored to be more of real estate speculation in creating lake front property (and to eliminate the smelly slough) rather than for a civic purpose.

In 1870 when the Governor signed the bill creating Lake Merritt as the first wildlife refuge and waterfowl sanctuary in North America, the real intent may have been to protect human life from hunters who often used the area for hunting, not to mention the noise impact of gun fire on potential property sales.

#### JUNK SCIENCE

The tidal flows of Lake Merritt and its varied elevations are controlled by gravitational forces and the flood gates and pumps at the 7th street crossing, owned and operated by the County of Alameda, (Flood Control and Water Conservation District).

In June 2002 URS published a Feasibility Study and Greenbelt Plan, for the Lake Merritt Channel (commissioned by the Port of Oakland). The study covered four alternatives in modifying the channel and removal or relocation of utilities within the channel to improve water flow and tidal flushing action. In June 2004 URS prepared an addendum to their 2002 Greenbelt study.

The 2002 Greenbelt plan in its hydraulic analysis references HEC-RAS River Analysis System software, Version 3.0.1 (March 2001) a one-dimensional hydrodynamic model developed by the U.S. Army Corps of Engineers. Material produced later by PWA (Phillip Williams and Associates) in several reports references a MIKE 11 model and as modified by PWA.

There is no clarification in any of the reports indicating



what MIKE 11 is and there is no indication in the URS 2002 report referencing a MIKE 11 model. This of course begs the questions. What is it? Who created it? And, precisely what information was used in its creation - How can we check the results if the whole thing is treated like a secret. In other words, show us the numbers.

Understanding that a tidal flow model must consider all restrictions in the channel including culverts and pipes, etc. and foremost, the County Flood Control Station, the exact dimensions of those openings is of vital importance.

Additionally, the exact elevation of the devise is critical to a projected flow. Unless the devise remains completely submerged at all times, including median low low tides, the full geometric dimension is not utilized.

The PWA Report of October 04 (and others) shows the flow area in square feet of the various culverts and channel restrictions. The culverts at 12th and 10th street are shown at 260 sq. ft. However, the dimensions are, 8, 6x6 cells.  $6 \times 6 = 36$  times 8 = 288, and not 260. The Flood Gates at 7th street are shown at a dimension of 12x17 for the box culverts which equals 204 times (2) culverts for a total of 408 and not 554 as listed in the PWA report.

More critical to the flow however, as noted above, is the elevation of the culverts. As an extreme example, if the elevation of a given culvert were completely above the given flow line (elevation) the flow would be negligible or nonexistent. Likewise, if the culvert were located at an elevation midway of the flow line then only half of the culvert's sq. ft. area would be utilized.

Additionally, the Oakland Inner Harbor has an average tidal range of 6.38 feet, while the Lake has a tidal range of about two feet. In either area, Inner Harbor or the Lake, the elevation of a culvert is critical to the flow. If a culvert's top is at the high tide elevation then the dimensional water flow through the culvert will gradually decrease as the water level drops. As is the case at the Lake opening to the channel, the Lake tidal range is no more than two feet, as the water drops, the flow decreases from the maximum of two feet to zero.

At the pump station, the elevation of the bottom of the culverts is -8.27 ft. (NAVD88) while the rock and dirt guard is at -0.93, and the top of the BART Tunnel is at -0.30. Although the total height of the culvert is 17 ft. the high tide line is at approx. 5.4 (at that location) which leaves only 13.3 feet of the culvert height being utilized. This calculates to 320 sq. ft. ( $13.3 \times 12 = 160$  times two) of water flow and not 554 sq. ft. as shown by PWA.



As the water drops to the low tide line of 3.4 feet, only 11.7 of the culvert height is utilized, which results in only 140.4 sq.ft. of water flow (times two, equals 280.8 - less than the 288 sq. ft. at 12th and 10th streets). That flow however, is negatively impacted by the depth of these culverts which lie 7.4 feet below the elevation of the EBMUD 84" sewer interceptor (El. -0.87') at the mouth of the channel at the Embarcadero Bridge, just below the 54" EBMUD sewer line and the 24' high pressure gas line and where it extends five feet above the channel bottom, acts as a weir restricting flows and at very low tides creates an actual waterfall, clearly visible from the Embarcadero Bridge.

Subsequently, the area between the EBMUD 84" interceptor (El -0.87) and the lowest point of the flood control box culverts (El -8.27) act as a huge channel invert and either restrict flows or are not negligible in making flow calculations. In other words, once the water level drops to the height of the 84" sewer interceptor (-0.87 feet) the lower portion of the 7th street flood gate box culverts (7.4 feet) is then below the flow line and becomes static. At that point the active geometric dimensions of the flood culverts would be zero. As the water rises it would increase from zero to the high tide level at that location of approximately 6.45 feet, producing just under 100 sq. ft. of active geometric flow area, times two culverts, equals less than 200 sq. ft. Please note however, the various tide levels (High and low) at particular locations along the channel are the results of "Hydraulic Modeling" and not actual field measurements, subsequently, they are highly suspect. There is nothing provided in the various engineering reports indicating how these issues are treated.

Understanding that the EBMUD 84" interceptor pipe at the mouth of the channel is the greatest impediment to channel flows, it is bewildering why it hasn't been addressed in this project. Additionally, the BART Tunnel which lies a mere -0.30 in depth just above the 7th street Flood Gates, also has not been addressed. The depth at the lake opening could be increased (dredged) from its present 1.58 feet to match BART's depth at 0.30 and the channel widened to 100 feet and open bridges erected at 12th and 10th streets but it still will not make an appreciable difference in tidal flushing action where the average depth of the lake is approximately -3½ feet, more than three feet lower than the BART Tunnel.

#### FLOODING

At the other end of the spectrum is flooding. The URS Report clearly points out that "extreme tides" are not necessarily that extreme. The higher high elevation for the model used reaches approximately 8.0 feet while the lower low elevation is approximately -0.7 feet. (Note!, all elevations are North American Vertical Datum of 1988, (NAVD88)). From tidal data records from



January 1996 through May 2002, a higher high tide elevation of 8.0 feet has been reached 17 times.

Under the URS scenario (2002) of alternative No. 3, where both 12th and 10th streets are open with an arch bridge, the 84" sewer interceptor is removed, the channel is widened at the mouth with a new Embarcadero Bridge and the 7th street flood control structure is relocated to the Lake, flooding becomes very likely under existing conditions. Lake tidal elevations would range from a low of 3.6 feet to a high of 6.9 feet and with a tidal range of 3.3 Feet.

Under existing conditions potential flooding may occur at the Municipal Boathouse main deck and storage room, the Sailboat House and Boat Rental Office, the lower and upper ends of Lakeshore Avenue and the intersection at the veterans memorial Building, Grand and Harrison. And an extreme tidal cycle could push the range to as high as 5.3 and most certainly cause significant flooding in the above areas and far beyond.

It is quite simple, the County flood control station at the 7th street crossing was built in 1968, following the devastating flood of October 13, 1962. It was engineered and designed to protect against adverse weather and alleviate the potential for catastrophic flooding through a sophisticated arrangement of diesel pumps and automatic flood gates.

According to Alameda County documents (Brown and Caldwell, Consulting Engineers) 1966 Flood Control Facilities Study, the pump station may also be used for flushing operations. It is estimated that an average of about 15 pump-hours is used for each lake flushing operation and about 150 pump-hours per year is needed for flushing.

According to the County, starting with a lake water surface elevation of 5.2 (NAVD) (original 2.5 SLD29) feet it is possible to withdraw and back-fill 2.0 feet of water (320 acre-feet) within 12 hours elapsed time. Flushing volume can be increased by extending the time allowed for the flushing operation. Also, the volume of degraded water removed from Lake Merritt can be increased by raising the lake level prior to flushing. For example, operation of the pumps in the backfilling mode for about 2½ hours prior to flushing would raise the lake one foot. In the following 12 hours the lake could then be lowered three feet (480 acre-feet) and raised two feet to restore it to the normal operating level. (see County Report, page 35)

In other words, the County is capable of establishing the Lake at any level, at any time, or on any given day the City may desire. Or, to completely and totally flush the lake, every day, once a week, once a month, or as seldom or as often as the City may desire. The contention that the pumps only operate 1% of the time is, if at all true, by the City's choice.



None of the above potential flooding issues or preventive measures are addressed in the DEIR - it is totally lacking.

#### CONTAMINATED SOILS

The DEIR readily admits that it doesn't address possible contaminated soils, especially in the channel area. The investigation falls far short in that there has been no soil samples taken regarding fill or a review of past activities at the various locations which may have contaminated the soil. As known to many Oaklanders the site was the Exposition Building and Oakland's race Way Dirt Track for Auto Racing, and some claim a gas station, among other things.

#### POLLUTION OF THE LAKE

The DEIR does not address the tons of pollution, commonly referred to as industrial fall out, washing into the lake through the 42 plus, storm sewer inlets. It does not address how the lack of spending the money designated for these improvements is harming the environment. One need only observe the build-up of filth on the bright orange barricades at the South end of the lake to see that we have a major problem - that filth is washing into our waterways and we are breathing it daily.

#### MARSH LAND and WIND/WAVE ANALYSIS

The creation of the proposed marsh lands or tidal basin has not been adequately addressed in the DEIR. A creation of a marsh habitat is difficult at best and the vegetation does not survive at the low tide levels creating a smelly and unsightly "mud flat" below the anticipated marsh grasses. The colonization of cord-grass is assumed to be 4.5 (NAVD) MTL while the elevation for tidal wetland vegetation growth is assumed to be 6.2 (NAVD) (HHHW). In simple terms, there is a natural span, depending on the degree of slope, at low tide (where nothing grows) and the vegetation - the "mud flat" area. The aesthetics and other issues regarding the potential mud flats has not been addressed by the DEIR.

The wind at the South end of the lake and along the channel at times can be horrific. The reconfiguration of the roadways, widening of the channel, Construction of arch bridges, cutting of trees and other vegetation, will without question have an impact on the environment, the wave run up, etc. This has not been adequately addressed in the DEIR .

Water quality, wind, flooding, tree removal, traffic congestion creating excess pollution and dangerous multi-use paths (bicycle running into a baby carriage, etc.) are just some



of the issues which have not been adequately addressed in the DEIR.

As part of my comments I ask that other documents be reviewed and considered to be incorporated therein:

- 1) Lake Merritt Master Plan;
- 2) Port of Oakland Lake Merritt Greenbelt Feasibility Study (June 2002);
- 3) Thesis by Mary A. Travis, "A Historical and Environmental Geographic Analysis of Lake Merritt (1995);
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Respectfully submitted

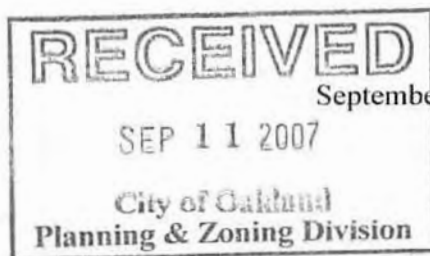
David E. Mix

**LETTER B12**

**David E. Mix**

**September 11, 2007**

Response B12-1: Although the comment states that the attached letter is a revised version of one that was sent previously (namely, letter B11), the text appears to be identical. Refer to Responses to Comments B11-1 to B11-15.



September 10, 2007

Eloise Thornton, Planner IV  
250 Frank Ogawa Plaza, Suite 3315  
Oakland, CA 94612

Dear Ms. Thornton:

If the size of the DEIR were equivalent to its quality, I would give it an A+. Instead it showed a lack of planning with city traffic agencies, state and federal agencies, and even Our Lady of Lourdes Church (nearby), in letters dated 2006-7.

1

In Appendix C, some letters appeared more than once, but I didn't find the letters that I wrote requesting information through Open Government regarding the amount of liability the city had paid out for the last ten years which was less than \$15,000, nor my request for the phone log that Public Works was to have kept indicating the number calls made to them for saving the trees. (Many people complained to me that the line was busy. When they called later the answering machine was full.) The letters sent me, from this request, were overwhelmingly against the city plan.

2

I have lived in Oakland since 1979 and across from the lake since 1980. One reason for buying here was because of the lake's beauty visible from my living room and bedroom. I used to walk the lake at lunch when I worked at PG&E in Oakland, but now with MS I only walk part way. Still I enjoy its beauty from our terrace and garden. Cutting 259 mature trees will take away this beauty and its aesthetic charm. Neither I nor other tax paying citizens and voters deserve this!

3

In reading the Arborist's Report Appendix I, some trees scheduled to become sawdust or wood chips are not diseased, but have trunks that are not perfectly straight. The majority being cut are "impacting the project and construction"! The purpose of an EIR is to explore all avenues of mitigation to protect the trees, environment, and their aesthetic value. I have asked the city arborist why it was not possible to plant new trees in between the more mature trees, but received no answer. Only some replacement trees will reach the same size and not in my life time. The tree plan will do irreparable harm to the "jewel of Oakland."

4

Having grown up in Sacramento, I have a fondness for stately, mature trees and know that it is possible to properly care for and maintain them. Why can Sacramento have trees growing for 75-100 years?

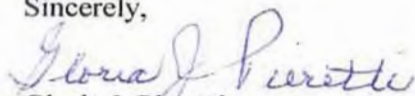
5

Lake Merritt has an urban forest surrounding it. Mountain forests have trees that range in age and sizes of heights and canopies. Why can this not be the same here? I believe that the city's plan will deprive residents of all ages of an interesting, beautiful landscape which is aesthetically pleasing to viewers from windows, walkers, joggers or those driving by.

I urge you to reconsider your plan of removing these beautiful mature trees.

6

Sincerely,

  
Gloria J. Pieretti,  
200 Lakeside Dr. #105,  
Oakland 94612



## **LETTER B13**

**Gloria J. Pieretti**

**September 10, 2007**

Response B13-1: The comment states an opinion on the quality of the Draft EIR but does not identify specific issues that affect the document's quality. The letters referred to in the comment are not provided. Agencies and the public were notified of the availability of the Draft EIR in accordance with CEQA and the City's established procedures. The letters from those agencies, organizations and individuals submitting comments are included in this Response to Comment document. Refer also to Response to Comment B4-1.

Response B13-2: All letters received by the City in response to the Notice of Preparation are included in Appendix C. If the same information appears more than once in the appendix, it is because it was submitted by more than one individual. Letters requesting information through Open Government, unless also submitted as comments on the Notice of Preparation, are not included. CEQA and the *CEQA Guidelines* require that the comments on the Notice of Preparation be considered in determining the scope of the EIR but do not require that they be reproduced in the Draft EIR. The letters are reproduced as a convenience to the readers of the Draft EIR. Hard copies of the letters are available at the City of Oakland Community and Economic Development Agency, Planning and Zoning Division, 250 Frank H. Ogawa Plaza, Suite 3315.

Response B13-3: The aesthetic impacts of the tree removal are evaluated in Section IV.M, Aesthetics. Refer also to Master Response M-1 and Responses to Comments B3-3 to B3-9. The remainder of the comment pertains to the merits of the project and is noted.

Response B13-4: CEQA requires that the effects of a project be evaluated and that significant effects be identified and mitigated, if mitigation is feasible. The aesthetic effects of the project are evaluated in Sections IV.M, Aesthetics. No significant effects were identified and therefore no mitigation is proposed. The comment correctly states that trees are being removed for a variety of reasons, including that they conflict with the proposed plan to reconstruct 12<sup>th</sup> Street and create new parkland along the south shore of Lake Merritt. A comprehensive list of the reasons for removing trees is provided on page 42 of the Project Description. The remainder of the comment pertains to the merits of the project and is noted. Refer also to Master Response M-1.

Response B13-5: A tree species grown in other climate zones, outside of urban areas, and/or under different environmental or soil conditions will vary in ultimate size and stature from specimens of the same species grown in urban areas of the San Francisco Bay Area. The Draft EIR evaluates the aesthetic impacts of the tree removal in Section

IV.M, Aesthetics. Refer also to Master Response M-1 and Responses to Comments B3-3 to B3-9.

Response B13-6: The comment, which pertains to the merits of the proposed project, is noted.

To Elmer A. Thornton  
Plan IV

For Ken Post

My brief comments, as follows:

1) Lake Muratt & Lake Muratt Channel improvements  
12th Prop.

The culvert replacement at last, will  
have a minor effect on water flow &  
lake <sup>water</sup> quality

12th reconfiguration  
The Bid in Feb seemed projected  
cast. It is prob if it was to be built, it  
would be under used because of its location.  
and the inlet at the south end of the lake,  
generally no park maintenance = blight

Lake Muratt Channel

Q. Embarras

not a good idea would cause increased  
Traffic & park issues, at other nearby interchanges





Oakland is older city with narrow streets  
perhaps eliminating parking between certain  
highways like S.F. would help

8  
cont.

Ops Transit system is a joke  
we need more than new or experimental buses?

longer hours of operation serving  
all communities along with security

Bus Rapid Transit will cause more  
gridlock and smog plus it will  
affect small business along the  
Asian corridor

9

Learn from this mess, but as usual  
I have several projects going and  
my support & ed. aren't needed

10

John  
→ Is it OK to re-submit?

## **LETTER B14**

**Ken Pratt**

**September 11, 2007**

- Response B14-1: The comment, which pertains to the merits of the proposed project and not the environmental analysis of the Draft EIR, is noted. Section IV.H, Hydrology and Water Quality of the Draft EIR, evaluates potential impacts of the proposed project on water quality.
- Response B14-2: The comment does not pertain to the environmental analysis of the Draft EIR.
- Response B14-3: The comment, which pertains to the merits of the proposed project and not the environmental analysis of the Draft EIR, is noted.
- Response B14-4: The comment, which pertains to the merits of the proposed project, is noted. Section IV.C, Transportation, Circulation and Parking, of the Draft EIR evaluates traffic and pedestrian safety issues.
- Response B14-5: The comment does not pertain to the environmental analysis of the Draft EIR.
- Response B14-6: The comment does not pertain to the environmental analysis of the Draft EIR.
- Response B14-7: The comment does not pertain to the environmental analysis of the Draft EIR.
- Response B14-8: The comment, which pertains to the merits of the proposed project and not the environmental analysis of the Draft EIR, is noted. Section IV.C, Transportation, Circulation and Parking, of the Draft EIR evaluates transportation, circulation and parking issues.
- Response B14-9: The comment does not pertain to the environmental analysis of the Draft EIR..
- Response B14-10: The comment is noted.



TO: ELOISE THORNTON

DATE: AUGUST 5, 2007

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The Organization, Friends of the Lake (FOTL), of which I am a member, will be submitting a formal written response to the Draft EIR. The FOTL letter will primarily focus on the inadequacies of the EIR as it relates to the massive tree removal plans so I will not repeat those points in this letter I am submitting to you today.

1

I will also be sending comments about the Embarcadero reconfiguration and its potential negative impacts on library staff and patrons to Ms. Thornton in a separate document.

In this particular letter, I will be commenting about the overarching lack of proper planning with regional and state agencies, and the apparent gaps in the problem identification and mitigations in this draft EIR.

At the center of the Lake Merritt projects are:

- The channel deepening and widening project
- The 12<sup>th</sup> street re-construction, and
- Adjacent marshland vegetation

2

This year's DEIR clearly illustrates how, to this day, the project design elements **STILL** have NOT been properly vetted with the multiple regional, state and federal agencies, **FIVE YEARS AFTER** the **passage of the bond measure**.

Back in the late 1990s when the City of Oakland first envisioned its bond measure idea of people "sailing from Lake Merritt all the way to China", voters assumed the planners had involved all the agencies owning multiple right of ways AND the utility and jet fuel pipelines, pump house and railroad trestles that crossed the channel (pictures of sail boat impediments posed by utilities are pictured at the end of this letter.) These utilities either cut through the water (the pump house) or hover just a few inches above the surface water at normal tide (such as the EBMUD sewer trunk line,

Port of Oakland jet fuel lines and the Rail Road trestles.) Or, in the case of BART: the Fremont train passes through a tunnel *submerged* under the channel; the top of the tunnel's outer shell POKES THROUGH THE SAND at low tide.

#### LATE AND CURSORY INVOLVEMENT OF REGIONAL AND STATE AGENCIES

As you can see from the letters contained in Appendix C, many of these agencies were notified in late 2006 or early 2007...**FIVE (!) YEARS AFTER the passage of the bond measure.** When you read the letters, they uniformly state (seemingly through gritted teeth) that they offer thanks for being invited into in the collaborative process and that the discussions have only begun.

Undeterred, the City of Oakland still maintains that a bypass channel should be cut to allow kayakers and large fish to circumvent the pump house, shrugging off the advice of kayakers who said "boaters could simply lift their boats out of the shallow water and walk around the pump house" and use an already existing ADA compliant roadway, thus shaving a million or so off the project.

You will see, however, in Appendix C that no attempt has been made to date, despite citizens requests, to get an opinion from the California Department of Fish and Game regarding whether it would allow the City to substantially change the nature of the food chain in this particular body of water which has been limited to moderate and small fish since the last 150 years or so, and, is an integral part of the Pacific Flyway .

The lack of regional planning is not limited to water way issues. In appendix C there are letters from AC Transit stating clearly the proposed 12<sup>th</sup> street reconfiguration would significantly impact regional transit.

Despite the substantial documentation in Appendix "C" indicating otherwise, it is the opinion of the writers of the DEIR that the designs are NOT going to present significant impacts. However no documents show that **ANY process was entered into, or, that problems were delineated, or were resolved to the satisfaction of the regional and/or state agencies.**

#### NEED FOR TOXIC CLEANUP GLOSSED OVER DESPITE ADMISSION OF PROBLEMS

The most troublesome part for me in this draft EIR was the City of Oakland's peculiar response to the State of California Department of Toxic Substances Control letter (in Appendix C) that states to the

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cont.

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need to address any toxic remediation of bay fill used in the last century for the narrowing the channel. This letter was quite clear about how the possible disturbance of the fill areas could lead to significant toxic remediation that would have to be ultimately monitored by multiple agencies.

It's important to point out that the historical width of the channel, pre-1860, actually matches the width of the lake. Much is known about the general composition of the toxic bay sludge that filled in the channel, because Laney College, the Oakland Museum and the Henry Kaiser Convention Center are sitting right on top of it.

Appendix C contains a December 2006 letter from the State of California Department of Toxic Substances Control Agency which advises the City of Oakland:

1. to do an historical gathering of facts as to what is known about the fill, and
2. do a core sample so the proper agencies would be able to make plans for clean up and remediation.

The City did the first step, (#1) and confirmed the historical content and admitted that records indicated that the type of fill used **exceeded the state's allowable standard for toxicity**. But the City **skipped the important second step (#2)**, clearly outlined in the State's letter, directing the City to take a core sample.

And yet, this EIR states that the toxic problems in the bay fill mud were *less than significant*. How can the City of Oakland presume to make that judgment without taking core samples – especially after it admitted that historical documents noted that: Toxicity levels of the bay fill exceeded acceptable levels for the State of California?

Is it possible that the City of Oakland, in the face of not being able to fund the project due to

- unrealistic budgetary goals and lack of matching grants, and
- the unfeasibility of the proposed waterway design

is fearful of being stuck in an expensive and lengthy toxic clean-up?

7  
cont.

8



Perhaps a formal core sample would “deep six” the City’s plans and, in turn, the public’s enthusiasm for a bond measure project they supported, once upon a time, five years ago...*a plan that left our urban forest... alone.*

Sincerely,

A handwritten signature in cursive script that reads "Nancy Rieser". The signature is fluid and elegant, with the first name "Nancy" and last name "Rieser" clearly distinguishable.

Nancy Rieser



Linda S. Adams  
Superintendent  
Environmental Protection

## Department of Toxic Substances Control

Maureen F. Gorman, Director  
700 Hartz Avenue  
Berkeley, California 94710-2721



Arnold Schwarzenegger  
Governor

December 21, 2005

Ms. Elois Thornton, Planner IV  
Community and Economic Development Agency  
250 Frank H. Ogawa Plaza, Suite 3315  
Oakland, CA 94612

Dear Ms. Thornton:

Thank you for the opportunity to comment on the Notice of Preparation (NOP) for the draft Environmental Impact Report (EIR) for the Measure DD Project (Project) (Case Number ER060017). As you may be aware, the California Department of Toxic Substances Control (DTSC) oversees the cleanup of sites where hazardous substances have been released pursuant to the California Health and Safety Code, Division 20, Chapter 6.8. As a Responsible Agency, DTSC is submitting comments to ensure that the environmental documentation prepared for this project under the California Environmental Quality Act (CEQA) adequately addresses any remediation activities pertaining to releases of hazardous substances.

According to the NOP, the Project would improve or provide new recreational opportunities in the City of Oakland, and improve water quality at Lake Merritt and in creeks located throughout the City. The Project includes the construction of a 6.6 mile segment of the Oakland Waterfront Trail, which will become part of the San Francisco Bay Trail. The proposed trail segment is located between Jack London Square and 66th Avenue. The NOP states that properties along the waterfront designated for parkland development by Measure DD would be acquired and remediated, as needed. A cleanup plan would be developed for each site where soil or groundwater is contaminated above risk-based cleanup standards. These plans would specify measures to be taken to protect workers, the public and the environment during remediation. If residual contamination is left in place a risk management plan would be prepared in accordance with the requirements of the overseeing regulatory agency.

For each waterfront property acquired by the City as part of the Project, DTSC strongly recommends an investigation into each property's current and historical uses, and a site assessment to determine whether hazardous substances may have been released into the soil at the site. Based on this information, sampling should be conducted to determine whether there is an issue that will need to be addressed in the CEQA compliance document.

♻️ Printed on Recycled Paper

Ms. Elois Thornton  
December 21, 2005  
Page 2

If hazardous substances have been released, they will need to be addressed as part of this project. For example, if remediation activities at the Site include the need for soil excavation, the CEQA compliance document should include: (1) an assessment of air impacts and health impacts associated with the excavation activities; (2) identification of any applicable local standards which may be exceeded by the excavation activities, including dust levels and noise; (3) transportation impacts from the removal or remedial activities; and (4) risk of public upset should be there an accident at the Site.

DTSC and the Regional Water Quality Control Boards (Regional Boards) signed a Memorandum of Agreement, March 1, 2005 (MOA) aimed to avoid duplication of efforts among the agencies in the regulatory oversight of investigation and cleanup activities at brownfield sites. Under the MOA, anyone requesting oversight from DTSC or a Regional Board must submit an application to initiate the process to assign the appropriate oversight agency. The completed application and site information may be submitted to either DTSC or Regional Board office in your geographical area. The application is available at <http://www.calepa.ca.gov/brownfields/MOA/application.pdf>.

If you have any questions or would like to schedule a meeting, please contact Allan Fone of my staff at (510)540-3835. Thank you in advance for your cooperation in this matter.

Sincerely,

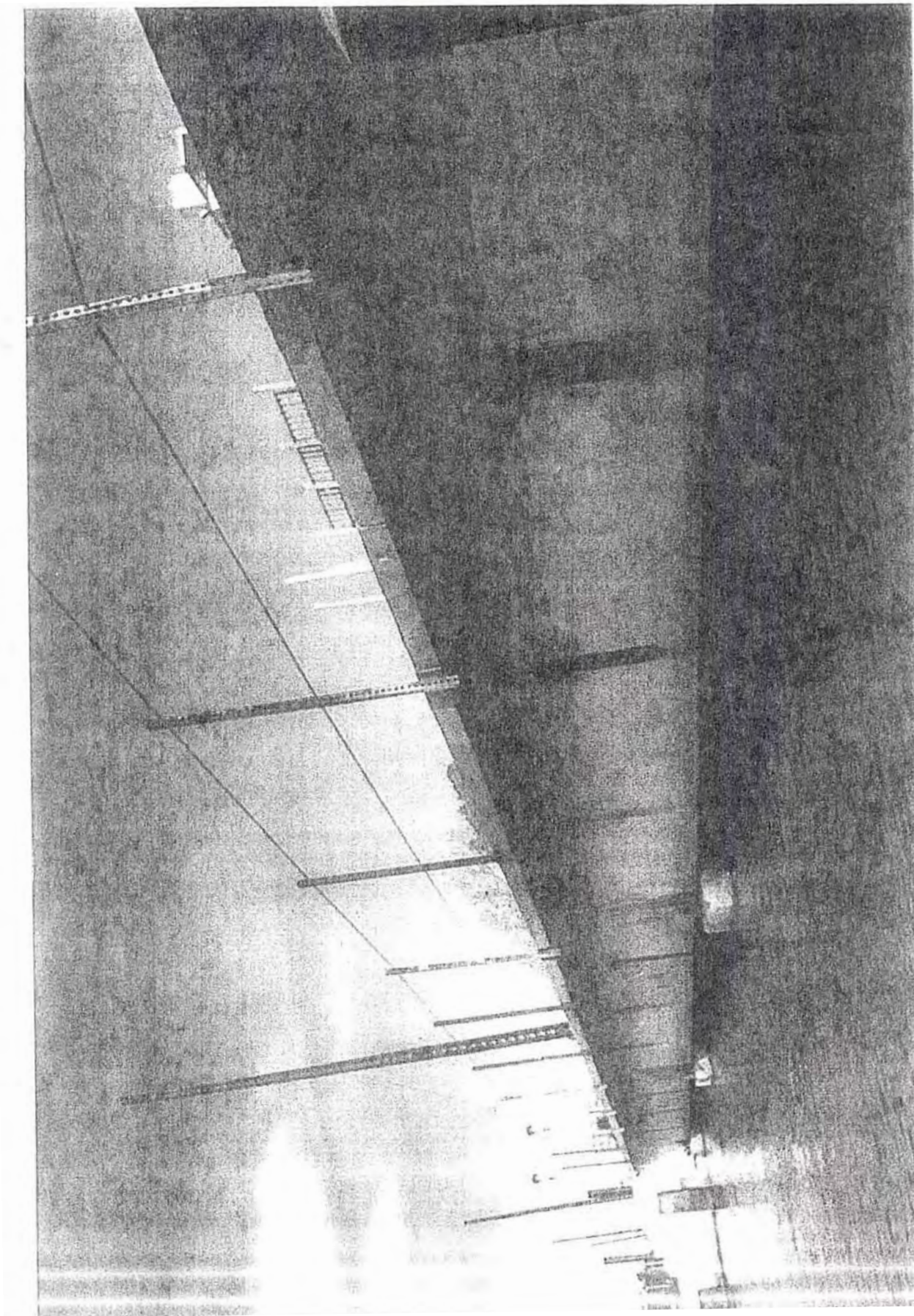
Denise M. Tsuji, Unit Chief  
Northern California - Coastal Cleanup  
Operations Branch

cc: Governor's Office of Planning and Research  
State Clearinghouse  
P. O. Box 3044  
Sacramento, CA 95812-3044

Guenther Moskat  
CEQA Tracking Center  
Department of Toxic Substances Control  
P.O. Box 806  
Sacramento, California 95812-0806

Letter  
B15  
attach.

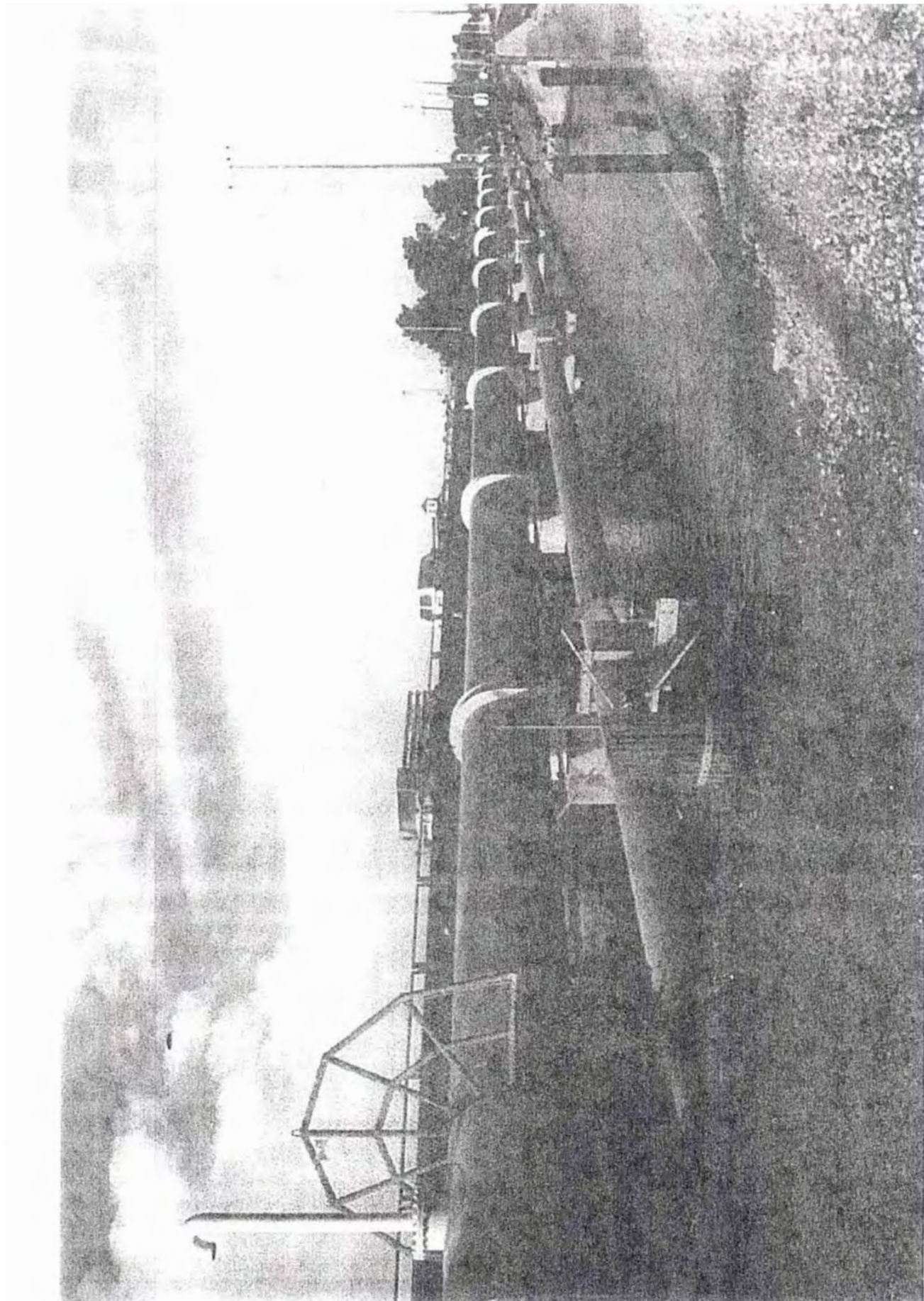




EBMUD high pressure sewer lines, RR tracks...jet fuel lines running from the Port to the Airport are just a foot off the water at high tide and at extreme high tides the water actually reaches the utilities.

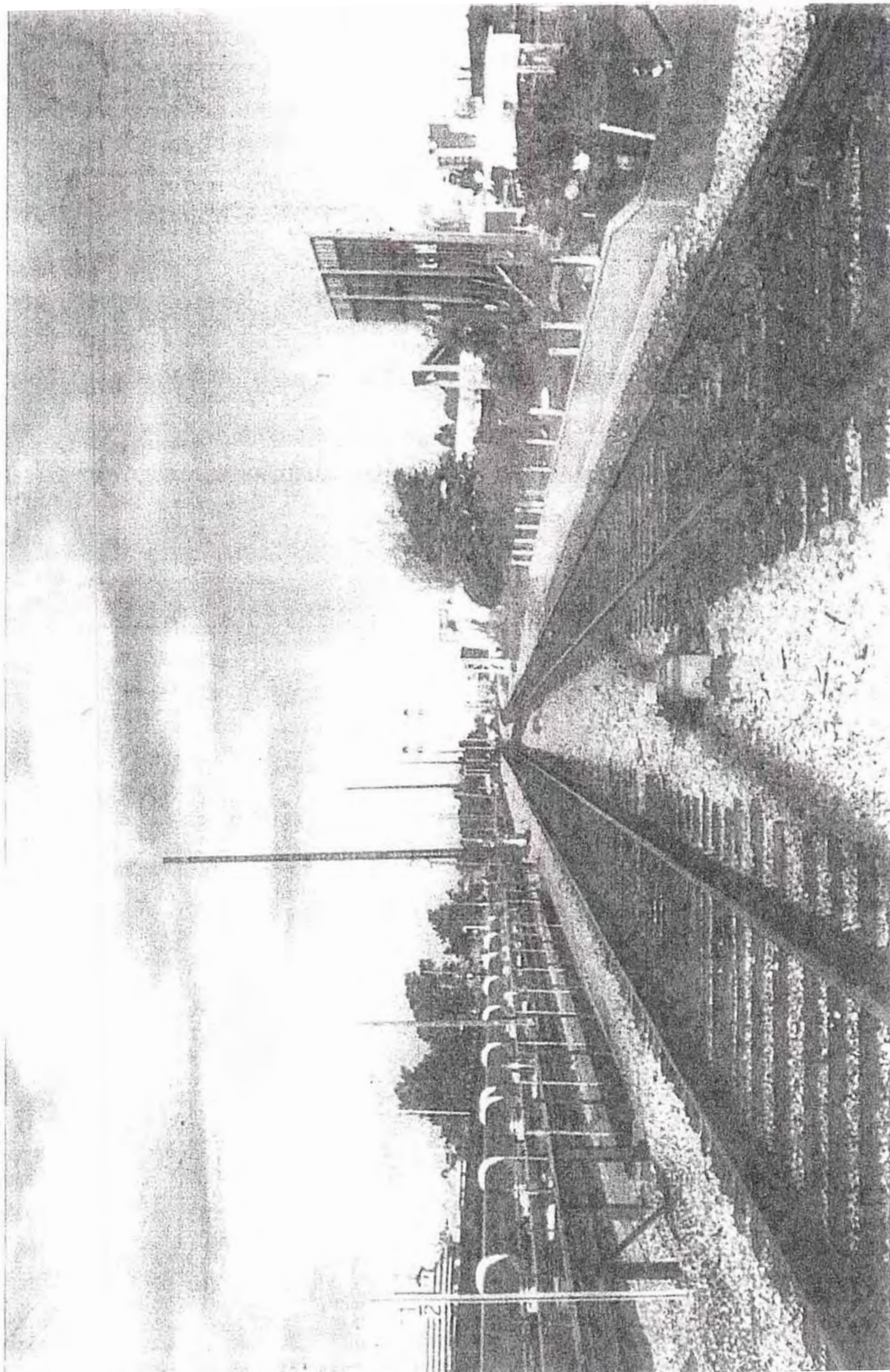


*Letter  
B15  
attach.*



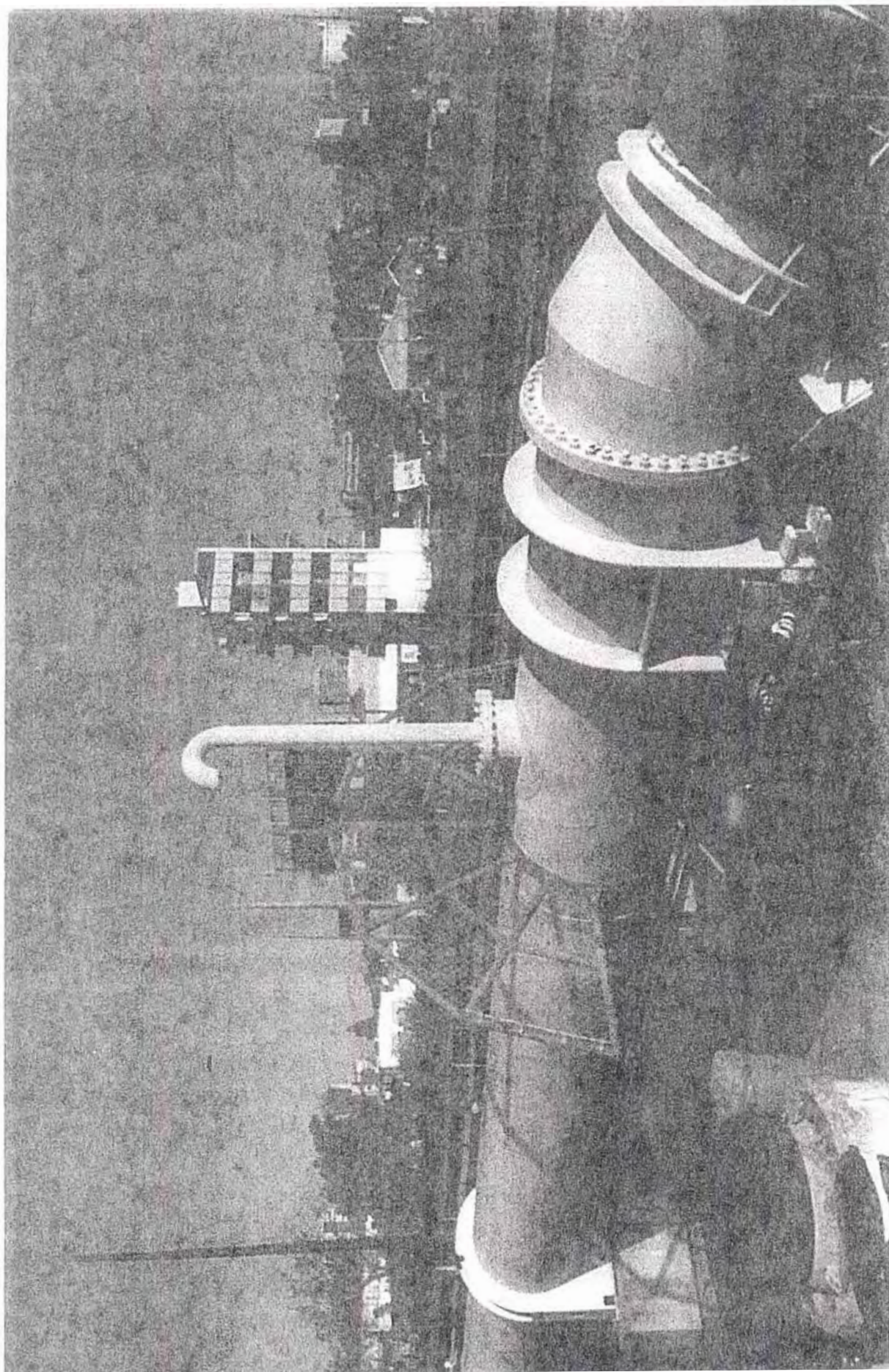


Letter  
**B15**  
attach.



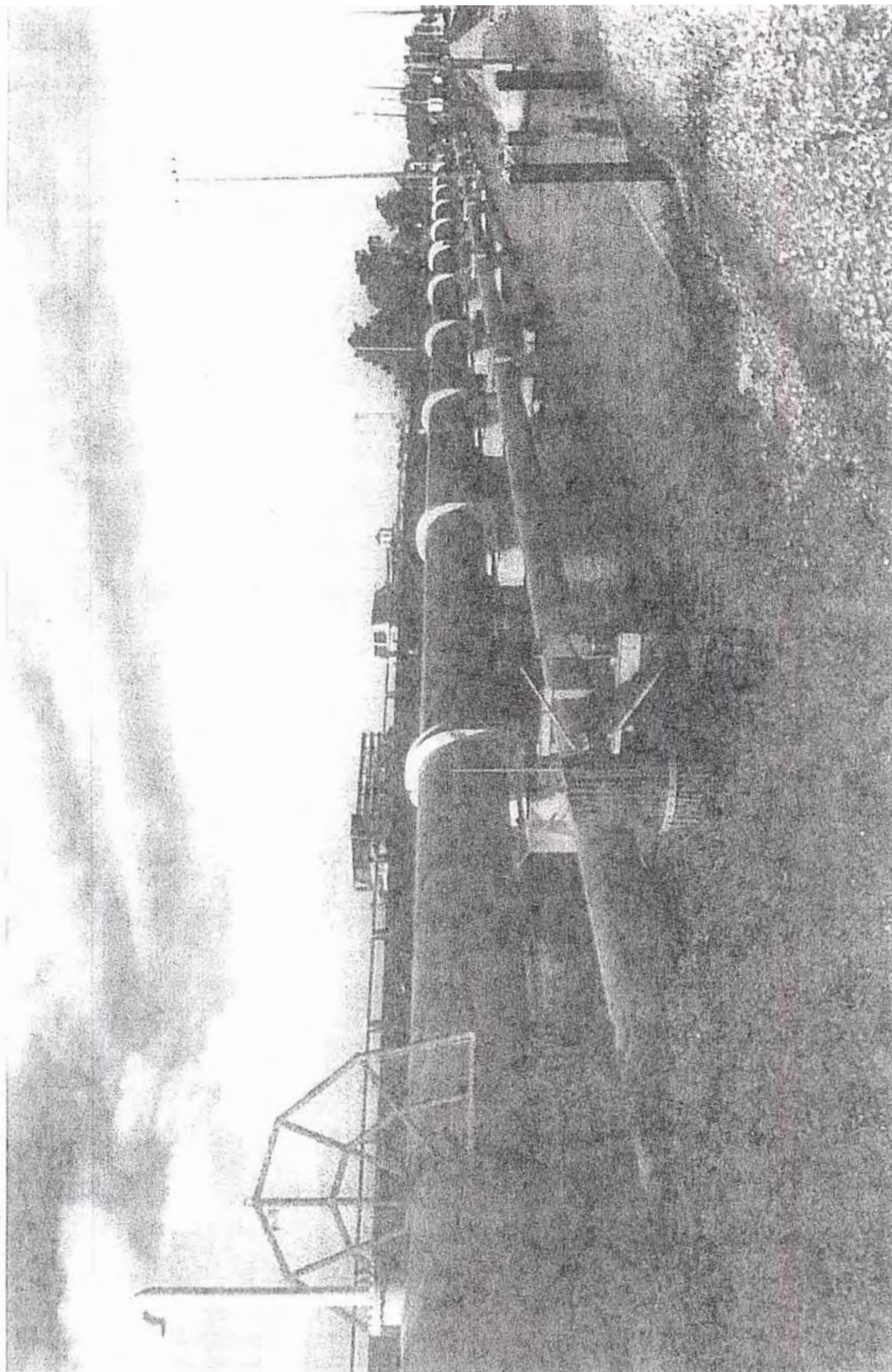


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B15  
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Letter  
**B15**  
attach.



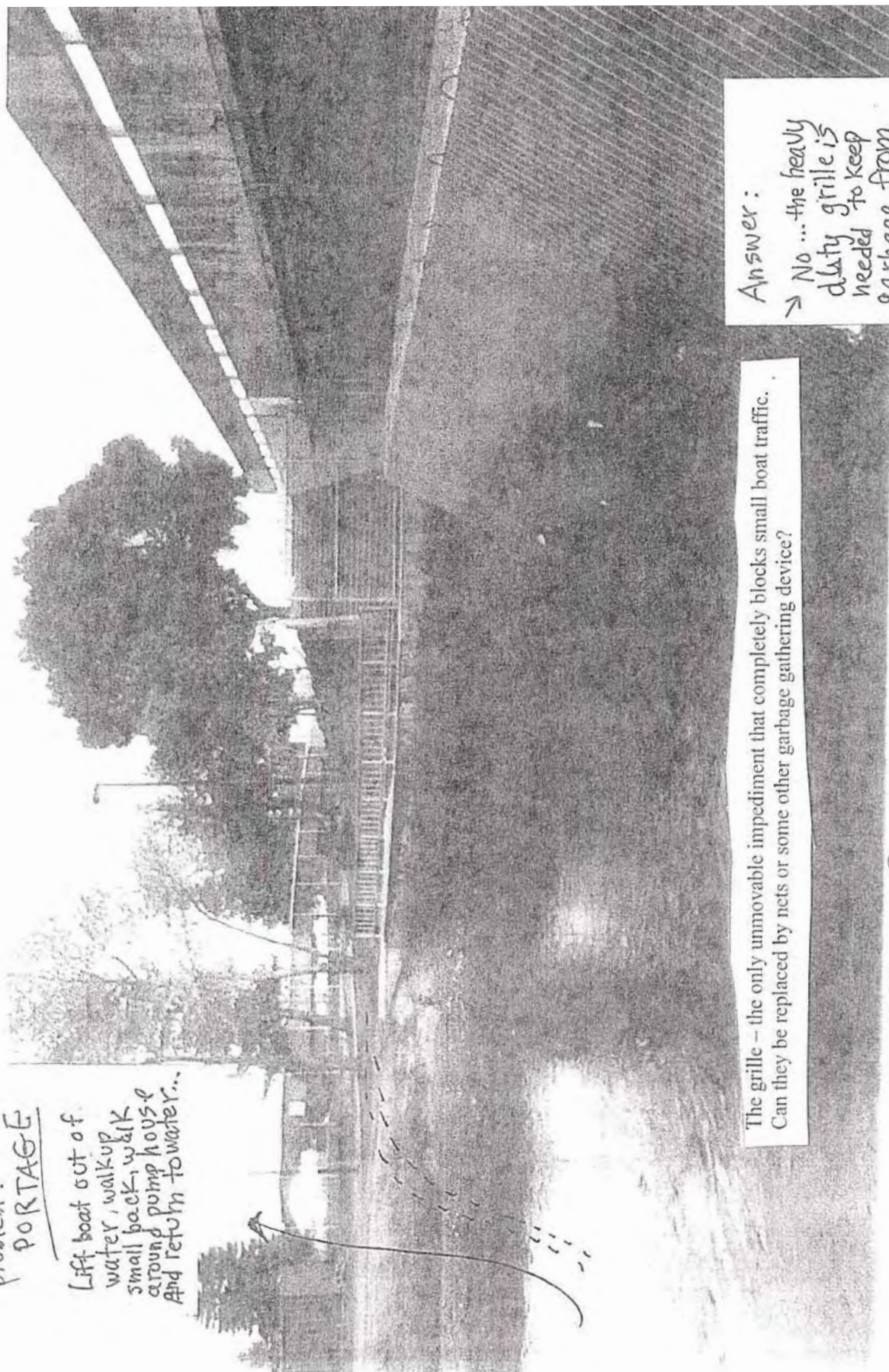


Answer to boat

Problem:

PORTAGE

Lift boat out of  
water, walk up  
small back, walk  
around pump house  
And return to water...



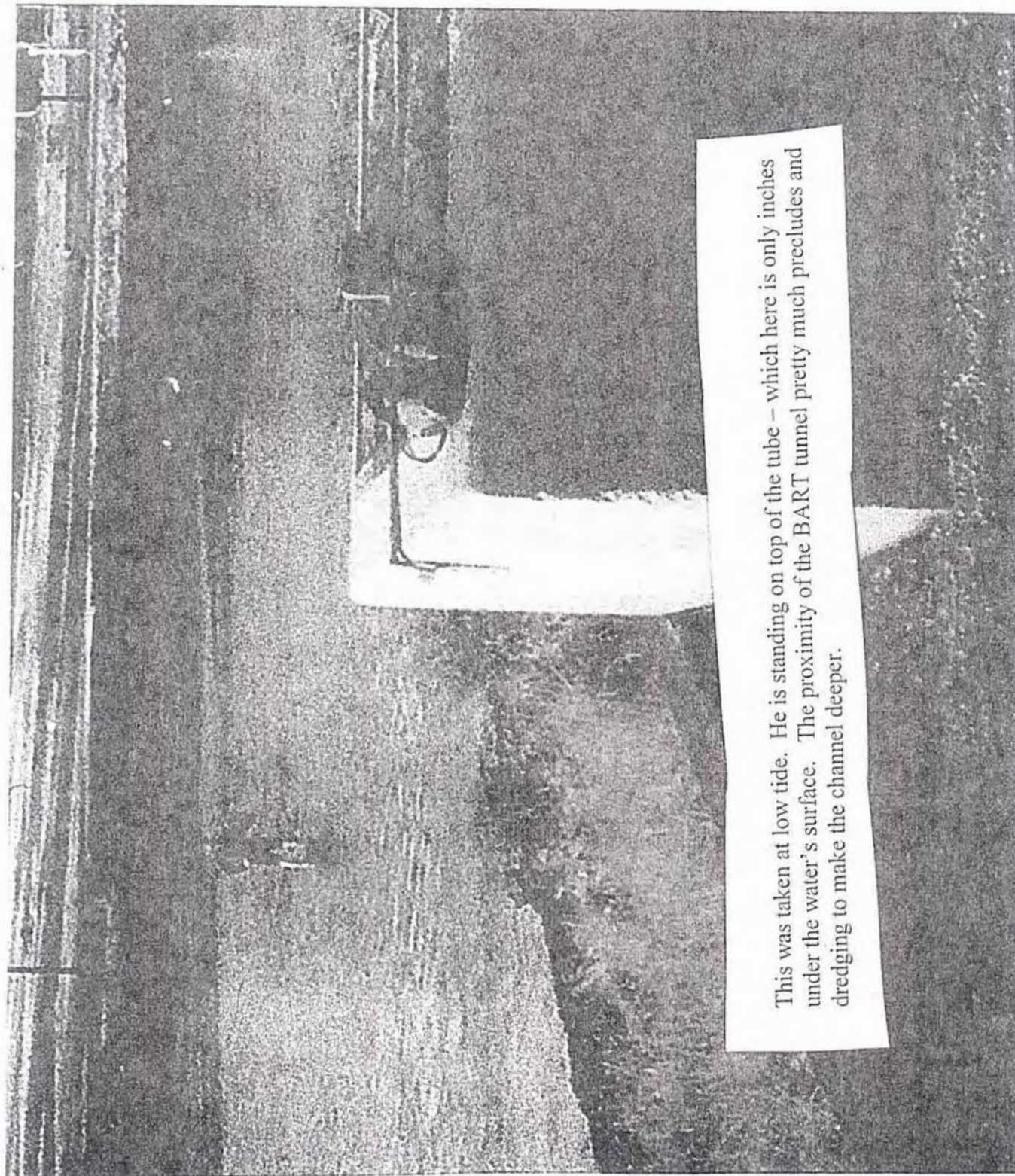
The grille – the only unmovable impediment that completely blocks small boat traffic.  
Can they be replaced by nets or some other garbage gathering device?

Answer:

→ No ... the heavily  
dirty grille is  
needed to keep  
garbage from  
wrecking the  
pumps.

The Pump House





This was taken at low tide. He is standing on top of the tube – which here is only inches under the water's surface. The proximity of the BART tunnel pretty much precludes and dredging to make the channel deeper.



**LETTER B15**

**Nancy Rieser**

**August 5, 2007**

- Response B15-1: This introductory comment is noted.
- Response B15-2: Coordination with regional, State, and federal agencies is an ongoing effort in the design and feasibility analysis of any project. Project planners and designers have coordinated with many agencies on this project, and incorporated their comments into the project design. The Draft EIR evaluates the potential environmental impacts associated with implementation of the proposed project described in Chapter III, Project Description of the Draft EIR. Issuance of the Notice of Preparation was not to notify the agencies or other interested parties of the passage of the bond measure, but rather, of the City's intent to prepare an EIR for the proposed project, which is the implementation Measure DD-funded activities.
- Response B15-3: The comment, which proposes an alternative to the proposed project, is noted. The suggestion will be considered by City of Oakland decision-makers during review of the merits of the project.
- Response B15-4: The Notice of Preparation of a Draft EIR for the Measure DD Project was submitted to the California Department of Fish and Game (CDFG) along with other agencies and interested parties on the City's distribution list. CDFG did not submit a comment letter on the Notice of Preparation. To date, CDFG has not submitted a comment letter on the Draft EIR.
- Response B15-5: AC Transit submitted a comment letter on the Draft EIR. See comment letter A1; the City's responses are included in A1-1 through A1-23.
- Response B15-6: The Draft EIR describes the existing setting of the project area as it relates to each environmental topic, analyzes impacts of the proposed project, and recommends mitigation measures to reduce potential impacts to a less-than-significant level, as appropriate. The evaluation of impacts was carefully evaluated against the City's significance criteria for each environmental topic. Significant impacts are identified in several topic sections of the Draft EIR.
- Response B15-7: The comment incorrectly states that the DTSC's comments on the Notice of Preparation refer to bay fill used for the narrowing of the channel. The agency's comments refer to contaminated industrial properties located along the Waterfront Trail in an area where a shipping channel was created by widening the existing waterway or creation of a new waterway. Refer to page 304 of the Draft EIR for an analysis of the impacts of the proposed project with respect to hazardous waste sites. Implementation of the City's Standard Conditions of Approval as well as compliance with the reporting requirements of the applicable

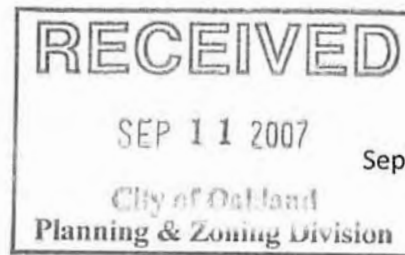
State and/or local regulatory agencies would ensure that potential impacts associated with hazardous materials releases are reduced to a less-than-significant level. The proposed investigations and remediation are in accordance with the recommendations in the DTSC's comments on the Notice of Preparation.

The DTSC's comments on the Notice of Preparation, which are attached to the comment letter, are noted. To date, DTSC has not submitted comments on the environmental analysis of the Draft EIR.

Response B15-8: The comment pertains to the merits of the proposed project and not the environmental analysis of the Draft EIR so no further response is provided.

Response B15-9: The comment, which pertains to the merits of the proposed project, and the attached photos of the railroad tracks, EBMUD pipeline, and other pipelines that cross the Lake Merritt Channel south of 7<sup>th</sup> Street, are noted. The photos do not provide specific comments on the Draft EIR. The photo of the 7<sup>th</sup> Street Pump Station, which includes comments that suggest an alternative to the proposed project, is noted. The comments do not pertain to the environmental analysis of the Draft EIR. The photo of the man purportedly standing in the middle of Lake Merritt Channel on top of the BART tunnel is noted. Dredging in this area is not described in the Project Description because no dredging of the Lake Merritt Channel is proposed in this area as part of the Measure DD Implementation Project.

To: Ms. E. Thornton  
From: Nancy Rieser, 437 Euclid Ave. #10, Oakland



September 10, 2007

RE: NEGATIVE IMPACTS OF THE DRAFT EIR, SPECIFICALLY AT THEY RELATE TO:

- Embarcadero Library re-configuration
- Paving over of Lakeside Drive's meadow (and trees) near the Municipal Restaurant
- No mature tree canopy: How can the negative impact of 30 years be "less than significant"?

1

1. EMBARCADERO RE-CONFIGURATION: LIBRARY PATRONS AND STAFF LEFT OUT OF THE PLANNING PROCESS – NEGATIVE IMPACTS ON USER GROUP CONTINUE TO BE IGNORED

In 2005, three years after the DD Bond Measure passed, a Lake Merritt neighbor showed the DD Embarcadero reconfiguration plans to both The Friends of the Lakeview Library (FOTLL) and the library staff. Imagine the collective shock when FOTLL and staff learned that not only had they been left out of the planning process completely, but that the City planners had created a design that:

- condensed the traffic of both legs of the Embarcadero (and pollution and noise) to the single leg of the Embarcadero closest to the library windows
- proposed a parking lot in the very spot where the Lakeview Library planned to add on a wing

2

City staff admitted that the library users were left out of the loop as they reckoned that the little neighborhood branch would eventually close some day (which was news to both the library staff and the neighborhood they served. The library, of course, never closed.)

When the negative impacts of the increased car exhaust and noise pollution coming through the open windows of the little library were brought to the attention to the DD project planners, the staff remained unmoved and showed a calm lack of remorse over the flawed community planning process. Any alternatives presented by the neighborhood users of the library were dismissed as "too late" ...and the patrons and staff were told that they would just have to accept the added car noise and pollution.

**They told the community that they just should develop a tolerance to increased noise and air pollution. That is NOT a form of mitigation. It is a form of arrogance.**

Sadly, the design rigidity and lack of concern for negative impacts is still reflected today in this 2007 draft EIR. This draft EIR should have fully explored and weighed the benefits of win-win community alternatives.

3

Just one example: a cost effective option that wouldn't increase the concentration of pollution and would **DECREASE it during weekends** : simply block off both lanes during Saturday and Sunday, a la the successful Sunday closure of JFK Drive in SF's Golden Gate Park. Keep both little "short cuts" open M-F, instead of doubling up the traffic on the street closest to the library windows. This allows neighbors to use the little shortcuts during heavy weekday commute periods, yet creates a spot of quietude on the

4



weekends, as NO cars would be between the library and the lake. There already exists a large landscaped area in between the two little Embarcadero streets that already has grass, brick paths and shade trees and could instantly become a mini-town square when the two streets are closed. **This space could be used as a weekend reading garden or outdoor gallery space, idea s which were the part original project goals of the Green Link Task Force.**

4  
cont.

Just as important, the City of Oakland could save 4 million dollars currently slated for street re-paving, striping, tree removals and new street lights and instead, just pay for artful, inexpensive, movable barriers. However, the City of Oakland loathes admitting its mistakes and continues to ignore the negative environmental impacts of the DD plans on the Lakeview Library.

5

## 2. THE PAVING OVER LAKESIDE DRIVE'S MEADOW FOR A PARKING LOT AND THE ADDITION OF A "GRAND STAIRCASE" TO REPLACE EXISTING TREES

In 2005, the same time the public was blind sided by the announcement (at that time) of the loss of over 300 trees, Lakeside Drive neighbors were stunned to learn that the only meadow on their side of the lake was going to be replaced by a parking lot. City staff, exhibiting the same level of rigidity used with the Lakeview Library patrons, maintained its belief that the loss of the meadow was "less than significant" and that the paving over of space was "required" for the restaurant owner and patrons . To put it more simply: The greater perceived good of the restaurateur's project was worth the sacrifice of public open park space and trees, despite the fact that the parking-lot-for-open-space-exchange was concept that was NEVER vetted at ANY community meeting before or after the passage of the DD bond measure.

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The second half of a one-two punch came with the local Rotary Club's announcement of a collaborative building project of a "Grand Staircase" leading down to the restaurant, a staircase that was never in the original bond measure plans, was non-ADA compliant and took out trees to boot.

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As soon as the plans were revealed, the public made it perfectly clear that both the parking lot scheme and the "Grand Staircase" violated both the spirit and the intent of the Lake Merritt Master Plan and DD Bond Measure. The community hired a landscape architect to create an alternative plan which ultimately saved the meadow, added MORE parking spaces than the city's design and saved existing trees. The plans fell on deaf ears of the City staff and were dismissed out of hand.

8

**The Planning Commission must seriously consider alternatives that can protect the existing environment yet achieve project goals of the DD bond measure.**

9

## 3. NO MATURE TREE CANOPY: THE NEGATIVE IMPACT OF "30 YEARS" ON OUR SPIRIT AND HEALTH

In regards to the proposed tree removal, it's hard to know where to begin. The public, of course, was promised in earlier EIR documents that no trees would be cut. It was shocked to learn – after construction RFQs were sent out in October 2005 – that just one month later, the removal of trees were

10

just the “devil in the details” of the Measure DD implementation. The trees were now “in the way” of construction. They conflicted with the design sensibilities of the landscape designers and now – after providing beauty, helping clean air and preventing run off into the lake for years, our elder trees were artistically “inappropriate.”

The city arborist and landscape designers repeatedly told the public during the walking tours that trees would get in the way of the view corridor. The public told the planners – both verbally during the tree tours and in voluminous letters not included in this draft EIR – that the trees ARE a significant part of the view and that’s why people chose to live by the lake.

The response from City staff has remained the same: politely dismissive. We were told that we had “a difference of opinion.” Further, we learned that we would “get used to it” and would soon forget about elder trees when the small ornamental cherry trees (that remain tiny and only have a life span of 25 years) and the comparatively small male ginkos (that will not support the birds of the Pacific flyway) eventually come into maturity.

The City’s opinion that the public will “get used to” decreased beauty, increased air pollution and a loss of habitat in a wildlife sanctuary is patronizing to all Oakland taxpayers.

We were told that the narrowing of streets would necessitate the removal of a part of our urban forest. We were told it was too expensive to protect the trees, and further, it was too much of a bother to do that for trees that -- today -- are imperfect due to poor pruning practices and/or neglect or might only live 30 years or more.

**The planners were told by the public that the trees weren’t growing in the *middle* of the streets and it was the City’s duty to find ways to ways MITIGATE possible construction damage.**

To suggest that imperfect, middle aged trees need to be chopped down rather than being properly attended to by an arborist is like deciding that all older relatives at a family reunion should be set out on ice floes to die instead of going to a doctor to be properly attended to.

The City of Oakland maintains that absence of a tree canopy for thirty years – a canopy that cleans pollutants from the air and provides beauty for humans to see and experience -- is “less than significant.”

Let me be perfectly clear about the significance of the time span of thirty years.

- Thirty years: nearly one half of most people's lifetimes.
- Thirty years: the rest of my life on this planet.
- Thirty years: the entirety of a childhood and well into parenthood for many.
- Thirty years: 8 to 10 generations of wildlife that will be denied a proper habitat when a substantial part mature canopy is cut down

10  
cont.

11

12



To dismiss the impact of 30 years is to dismiss the value of beauty and health benefits that these trees provide Lake Merritt residents of all ages. Sadly, it also underscores the City's complete lack of regard for the important role that nature plays in our urban environment.

12  
cont.

And now the City planners tell us they didn't budget properly back in 2002. They didn't receive matching grants and they low-balled the budget on most of the Lake Merritt projects. Ironically, we are told that the only money they have now to spend out of the 60 million dollars set aside on hold, presumably collecting interest, is just enough money to buy for gas...for the wood chipper.

13

This draft EIR is mean spirited and disturbing and ultimately will cast a long shadow over the outcomes of future Oakland bond measures for many years to the come.

14

A handwritten signature in black ink that reads "Nancy Rieser". The signature is written in a cursive, flowing style.

Nancy Rieser





EBMUD high pressure sewer lines, RR tracks...jet fuel lines running from the Port to the Airport are just a foot off the water at high tide and at extreme high tides the water actually reaches the utilities.



Letter  
**B16**  
attach.





*Letter  
B16  
attach.*





Letter  
**B16**  
attach.





Letter  
**B16**  
attach.

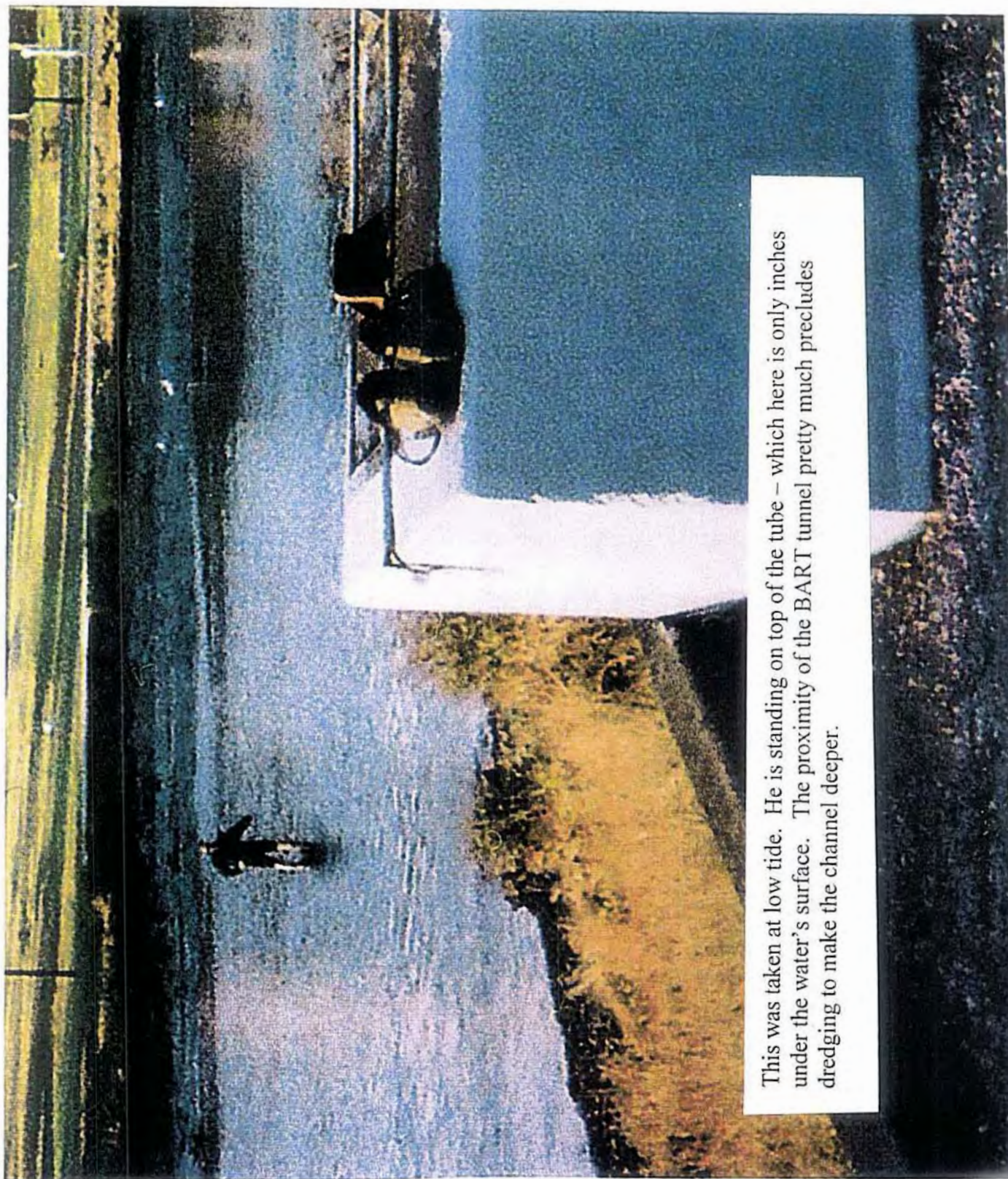




Letter  
**B16**  
attach.







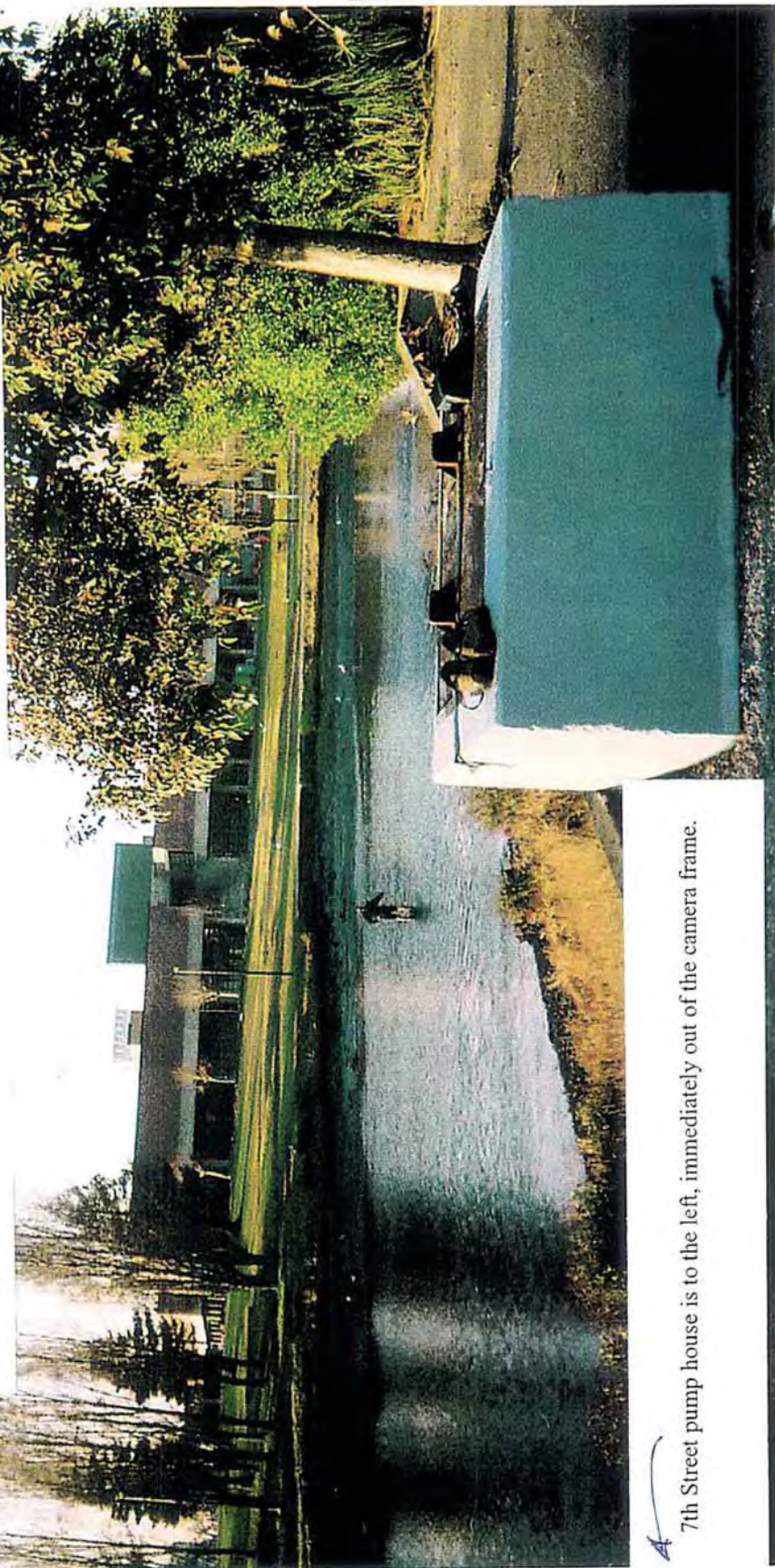
This was taken at low tide. He is standing on top of the tube – which here is only inches under the water's surface. The proximity of the BART tunnel pretty much precludes dredging to make the channel deeper.



The square concrete box in the foreground is actually a service entrance for the Fremont Bart train which runs at a diagonal angle under the channel. The shoes are resting on the metal doors that allow maintenance access.

At extreme low tides, the outer shell of the tunnel pokes through the sand. One can actually stand on the outer shell wearing street shoes during extreme low tide.

The gentleman in the picture is standing top of the shell.



7th Street pump house is to the left, immediately out of the camera frame.



## The Alameda County Flood Control District pumping station at 7<sup>th</sup>

### COMMENTS ABOUT BOATS AND FISH



#### Boats:

The grille of the 7<sup>th</sup> Street pump house is the one boating impediment that cuts completely across the water (unlike the other utilities that will simply snap off sail boat masts at the base or decapitate the boat handler at high tide.)

*The solution for small boat passage around the pump house blockage: "PORTAGE" ...*

A boater simply picks up his kayak, walks up the small bank, goes around the pump house on an existing ADA compliant roadway and then returns the vessel to water. To make everything ADA compliant, the City of Oakland could pave a narrow five foot long walking path to and then from the pumphouse.

#### Fish Passage:

As per Alameda County Flood Control District: the heavy-duty grille cannot be removed – it's job is to keep garbage from wrecking the pumps. There are large gaps between the tongs below the water surface to allow large fish to pass through. The gaps are not large enough to allow tree logs (a submerged log can sink a small boat in the harbor) harbor seals, sharks, etc.



## **LETTER B16**

**Nancy Rieser**

**September 10, 2007**

- Response B16-1: This introductory comment is noted. See responses to specific issues summarized in this paragraph as follows:
- Embarcadero Library re-configuration (Refer to Responses to Comments B16-2 to B16-7)
  - Lakeside Meadow (Refer to Responses to Comments B16-8 to B16-11)
  - Tree Canopy (Refer to Responses to Comments B16-12 to B16-14)
- Response B16-2: Detailed discussions of air and noise impacts associated with the proposed project are included in the Draft EIR, in Sections IV.D, Air Quality and IV.E, Noise, respectively. No significant effects associated with the Lakeview Library were identified and no mitigation is required. Other statements in the comment pertain to the merits of the proposed project and not the environmental analysis of the Draft EIR.
- Response B16-3: The purpose of the Draft EIR is to evaluate the environmental effects of the proposed project, as it is described in Chapter III, Project Description, of the Draft EIR. It is not the purpose of the Draft EIR to identify and evaluate all design options proposed by the community, but instead to recommend feasible mitigation measures for environmental impacts that would result from implementation of the project, as proposed.
- Response B16-4: The comment, which proposes an alternative to the proposed project, is noted. Appendix E presents data indicating that closing both couplets would cause a large increase in traffic delays and congestion at nearby intersections.
- Response B16-5: The comment, which pertains to the merits of the proposed project, is noted. The suggestions will be considered by City of Oakland decision-makers during review of the merits of the project.
- Response B16-6: The comment, which pertains to the merits of the proposed project, is noted. Refer to Response to Comment B8-1 for additional information on other variants of this project element considered during the design process.
- Response B16-7: The comment, which pertains to the merits of the proposed project, is noted. Also see Response to Comment B8-4.
- Response B16-8: The comment, which proposes a variant to the proposed project element, is noted. Refer to Response to Comment B8-1 for additional information on other variants of this project element considered during the design process. The

comment also includes statements pertaining to the merits of the proposed project, which will be considered by the City of Oakland decision-makers during review of the merits of the project.

Response B16-9: The comment, which does not pertain to the environmental analysis of the Draft EIR, is noted. The City Planning Commission will consider the Draft EIR, comments received, and the City's responses prior to certifying the Final EIR and approving the proposed project.

Response B16-10: The comment, which pertains to the merits of the proposed project, is noted. The Project Description of the Draft EIR describes the trees that would be removed as part of the project and Sections IV.F, Biological Resources and IV.M, Aesthetics evaluate the impacts associated with the removals. No significant impacts were identified. For additional discussion of tree removals also refer to Responses to Comments B3-3 to B3-16.

Response B16-11: The comment, which pertains to the merits of the proposed project, is noted.

Response B16-12: The comment, which pertains to the merits of the proposed project, is noted.

Response B16-13: The comment, which pertains to the availability of funding for Measure DD, is noted.

Response B16-14: The comment, which is an opinion on the environmental analysis of the Draft EIR, is noted.

The photos attached to the comment are the same as those included with comment letter B15. Refer to Response to Comment B15-9



**EQUAL  
ACCESS**

01-011-07  
John Wilson

Final comment

**ORDINANCE**

Please Include Lake Merritt master Plan in  
DDEIR. **MAÃU NÔN KHIEÁU NÃI (Tieáp theo)**

Chæ Daanh Cho Ban Sõu Dũng

Xin cho bieát trõõng hõp khieáu nãi naøy ñaõ ñõõic giaûi quyêát nhõ theá naø:

IN REGARDS TO DD ENVIRONMENTAL  
IMPACT REPORT(EIR).

Please read Lake Merritt <sup>(JW)</sup> Park  
master Plan, published July 2002.

Specifically:

Pages: Including <sup>(JW)</sup>  
Section 3 & Pages 29 Thru 55

Please answer why oakland can not  
Follow the outline suggested in the  
Lake Merritt Park master Plan.  
Specifically in regards to tree management,  
OF THE ~~eldest~~ designated Wildlife Sanctuary in the  
UNITED STATES.

Ngõõoi Lieân Laic/Chõõc Vui:

Ñieân Thoãi Ban Ngaøy: ( )

Moãi Ban/Cõ Quan phaûi lõu moät baun sao cuõa thõ khieáu nãi trong ít nhaát 3 naêm. Xin gõõi moät baun  
sao cuõa thõ khieáu nãi ñaõ naõp cho Vaên Phõng Bình Ñaúng trong vieác Sõu Dũng Dõch Vui (Equal  
Access Office) trong voøng 30 ngaøy keá tõe ngaøy nhaân ñõõic khieáu nãi.

Xin Gõõi Maõu Nõn naøy tõi: CAO-Equal Access Office, 1 Frank H. Ogawa Plaza, 3<sup>rd</sup> floor, Oakland, CA  
94612

Please Publish Pages From the Lake Merritt master Plan  
Including Section 111-29, 111-30, 111-32, 111-34, 111-35  
CAO 0707aV1  
111-27 Do Not Limit The EIR To These Pages.



## Cultural Landscape

- In the 1870s, the area, then pristine, was inhabited by a handful of settlers and a few Costanoan (Ohlone) and Miwok Indians. At the head of the slough (the present location of the Grand Lake Theater) was a pier operated by the Peralta brothers for boats transporting timber or cattle products to the bay.
- In 1909, during Mayor Frank Mott's tenure, Oakland acquired the entire lake frontage, set up the first Park Commission and began to develop Lakeside Park. The Embarcadero area including Trestle Glen Creek and Lakeshore Avenue to Park Street had wooded creek land, spacious upper areas, natural and historic oak trees. Between 1907 and 1912 the road around the Lake was paved, the boathouse and canoe house were built, a boat landing was created and the Camron-Stanford house was acquired for the new Oakland Museum
- In 1909, the architect Oscar Praeger was asked by Mayor Frank Mott to design parts of the existing landscaped 45-acre Lakeside Park. Preliminary ideas included the original bowling green and fountain site, augmented by live oaks with deciduous oaks, (*Quercus cerris*, *rubra* and *coccinea*), groups of pines (*Pinus austriaca*) and birches (*Betula alba*), madrones and flowering cherries.
- Trees were added from the 1915 World's Fair held on Treasure Island. At one time, a conservatory similar to the Conservatory of Flowers in Golden Gate Park existed on Adams Point in Oakland.
- The original lights, which are today a landmark, were installed in 1925 by consulting electrical engineer, Romaine W. Myers. The "Necklace of Lights" referred to the 128 electroliers installed along the shoreline and the "Festival Lights" were the strings of lights suspended between temporary poles and the electroliers. The circuit included 3,400 lights. In 1946, a Dr. Brown bought the discarded "Festival Lights" from a junkyard and they ended up lighting a mission, mission hospital and nearby villages close to the City of Swatow, China.
- Fairyland was built in the 1950s and reputedly served as the inspiration for Disneyland. The architect of approximately 50 of the original structures was William Russell Everitt. Approximately 60 settings based on fairy stories and Mother Goose rhymes form the pioneering playground. Currently, the non-profit entity run by Nancy Stark has renovated the gardens, entry and oversees educational programs. New programs will include a reading and learning program for preschool children and a volunteer gardener's docent tour of the Fairyland grounds. Mapping and plant collection lists exist for the Fairyland grounds.
- In November 1999, the one-third-acre Bonsai and Suiseki Display Garden opened. This nationally known collection of precious trees and stones includes a display booth, a fence surrounding the bonsai collection with entry gate, volunteers' office, display building and future workshop. It serves as the open-air cultural museum of the Golden State Bonsai Federation Collection - North. Many bonsais, by outstanding masters and collectors, have been in families for 20, 30 or 40 years. A special 400-year Japanese black pine bonsai was part of the 1915 Pan Pacific Exposition in San Francisco.



## PARK LANDSCAPE

Figure III.24 Existing Vegetation





## Vegetation Survey and Analysis

A tree survey was conducted, which identified a wide variety of planting in Lake Merritt Park and served as the basis for the Existing Vegetation Plan. Vegetation is classified into the following zones:

- Coastal bluff plant communities
- Fenced area (Fairyland and Botanical Garden)
- Mixed oak woods
- Mixed pine woods
- Groves of other trees
- Flowering ornamental trees (accent)
- Street trees
- Lawn
- Significant and historic trees

Historic trees are those planted after the 1915 World's Fair and/or trees referenced in Praeger's original planting design, such as the New Zealand Tea trees. These trees were identified largely from early writings and plans. Some trees have been newly planted (replacing those diseased), but there has been much resistance to planting trees because some residents prefer to preserve their view of the Lake. There was a large planting of ornamental cherry trees during the 1950s, but many of the trees were vandalized.

Significant trees are those trees that have grown to a large specimen size and/or trees or groves of trees that form a special, sanctuary space. Specimen trees include some specific trees within the Botanical Garden that were identified as "thriving" in the East Bay but not in San Francisco.

Lawn occurs predominantly in areas without trees as well as areas under trees. The planting slope to the west of Fairyland was once groundcover, but due to lack of maintenance, a rodent population became problematic.





## PARK LANDSCAPE

### Landscape Themes

#### *Bio-diversity*

The Landscape Plan will focus on enhancing the biological diversity and variety of life at Lake Merritt Park. Lake Merritt is the first wildlife refuge declared in the United States. The challenge is to enhance this wildlife refuge within an encroaching urban environment while responding to increasing human recreational demands. The Landscape Master Plan builds upon the existing wildlife habitat and park, offering a wide range specialty plants and environments. Restoring lost vegetation such as oak trees along the narrow vegetated perimeters of the Lake will provide a wider range of habitat and wildlife corridors to balance plant, animal and human needs.

#### *Multiculturalism*

Building upon the multicultural theme, development of the Botanical Garden extensions beyond the fenced gardens will capitalize upon the existing plant collections. Low groundcover massing of plants such as Hemoracallis and Phormium tenax will provide hardier theme plantings beyond the fenced areas. These plants will be selected from the Mediterranean climate, African continent, temperate and mild temperate climates of Asia and Australia, tropical climates of New Zealand, native Bay Area habitats and drought-tolerant species.

The drought-tolerant garden will combine plants from all areas to provide a design theme based on form, shape, color and textures. The Botanical Garden extensions (approximately 20-45 acres) will provide seamless landscape transitions and add to the overall landscape character of the Park. Educational themes of the Botanical Garden will stress the ecological values of plants such as low water usage. In keeping with historic precedent, New Zealand tea trees (*Leptospermum*), "whose branches, as noted in early writings, "will droop into the lake and give a most pleasing effect," will be planted as accents along the bulkheads and at the gateway entries into the Park.

#### *Ecological Systems*

Prior to the 1909 Park plantings, the existing site supported groves of oaks and a few buckeye trees. Today striking specimens of this period still exist and add to the rarity of the Park's collection of trees. The Landscape Plan extends clusters of Valley and Blue Oaks along the Lakeside and Lakeshore portions of the Park where site conditions permit.

Low groundcovers under oak trees will provide native oak woodland habitat for plant and animal species and reduce maintenance. A balance of open lawn areas and groundcover areas will help to restore bird and animal resources.

Along the Ecological Zone a restored tidal marsh is envisioned, consisting of upland and wetland habitat and vegetation. In the Ecological Zone Area, the water's edge will be supplemented with wetland plants to enhance bird habitat. The walkway will be pulled back from the water's edge to allow more extensive wildlife habitats, similar to those existing prior to the undergrounding of creeks and damming of the estuary, and to provide more natural viewing areas for people.



## Riparian Corridors

The large arterial streets surrounding Lake Merritt follow the route of the four creeks that formerly drained into the Lake Merritt estuary: Trestle Glen Creek (Grand Avenue / Lakeshore Avenue), Glen Echo Creek (Harrison Street), Park Boulevard Creek (Park Boulevard- Foothill Street) and San Antonio Creek (12th Street). Current conditions along these former riparian corridors are as follows:

- Trees along Grand Avenue are London plane trees with limbs pruned back. Past the freeway the trees are evergreen flowering pear trees. Foothill Street has London plane trees in the street median and scattered trees and vegetation in Athol Park and along the sidewalks.
- Many of the existing plantings along these streets are an accumulation of smaller landscapes and not part of a large cohesive design theme. Scattered trees exist along both Lakeside Drive and Lakeshore Drive.



In order to visually recall the former creeks, riparian planting is proposed along these corridors, as outlined in the following table.

Botanical Name	Common Name	Comments	Habitat
<b>TREES</b>			
<i>Platanus racemosa</i>	<i>California Sycamore</i>		X
<i>Alnus rhombifolia</i>	<i>White Alder</i>		X
<i>Acer macrophyllum</i>	<i>Big Leaf Maple</i>	where conditions permit	X
<i>Salix babylonica</i>	<i>Weeping Willow</i>	where conditions permit	
<b>SHRUBS</b>			
<i>Calycanthus occidentalis</i>	<i>Spice Bush</i>		X



## PARK LANDSCAPE

Figure III.25 Existing Forest





## Urban Forestry Program

### Existing Conditions

Lake Merritt Park provides the City of Oakland with a signature urban forest in the heart of downtown Oakland, including many historic and heritage category trees, such as oaks, California buckeyes, and New Zealand tea trees. In general, trees in Lake Merritt Park (including Lakeside Park) fall into the following three groupings:

1. Grown prior to European settlement (1800s) - including scrub oaks and woodland oaks (*Quercus agrifolia*, *Quercus kelloggii*, *Quercus douglasii*).
2. Planted from 1909 through 1915 - including deciduous oaks, *Quercus cerris*, *rubra* and *coccinea*, groups of pines (*Pinus austriaca*) and birches (*Betula alba*), madrones and flowering cherries. Included are specimen trees from the 1915 World's Fair.
3. Planted to replace diseased trees and sporadic plantings from 1950 to present.

Many of the Park's trees are at the end of their life span; the age of most forested sections of Lake Merritt is 87 years. Over-mature trees are susceptible to pests and diseases, wind damage and hazardous weakening effects. Reforestation efforts need to be more aggressive to sustain the value of this urban forest and its wildlife and recreation value to the City of Oakland.

A comprehensive forest-management program is needed. New trees have only been sporadically planted largely due to the political climate of preserving views of the Lake. On a larger scale, it must be recognized that these forests also support a wide range of wildlife and will need to be replanted for wildlife habitat. New trees have not been routinely planted to offset the aging of the forest. Very few trees have been planted along the eastern, western and southern shores of the Lake. Luckily many of the oak trees have a longer life span. However, the effects of new oak diseases have not yet been clearly considered.

### Goals

A reforestation program should be established that operates at a 25-30-year replacement cycle and includes the eastern and western shores as defined in the Landscape Plan. Consistent with the Existing Vegetation Plan, reforestation would serve the following goals

- Aesthetic - framing vistas, defining open spaces, including areas of smaller parks in Lake Merritt Park (i.e., Pine Knoll Park), accentuating riparian corridors (gateways), and providing color and visual accents.
- Habitat - multi-story landscape providing a diversity of habitat, food sources and canopy.
- Boulevard street trees - providing a border and extension of the Park boundaries beyond its present edge.



## PARK LANDSCAPE

### *Forestry Recommendations*

Specifically, the reforestation program should include the following elements:

- **Public Information:** Provide the public with information about the reforestation project and process through informational brochures and signs at the sites and at the Rotary Nature Center.
- **Native Plant Preservation:** Preserve the remnant native plant population, especially the oaks and California buckeyes. Educate the public that this is an oak preserve and that other oak areas will be re-established in the historic areas such as Lakeside Drive, Lakeshore Drive and the 12th Street Peralta Park areas. Prepare gateway areas for Riparian-native populations and replanting at the gateways of El Embarcadero - Eastshore Park, 18th Street, Harrison - Adams Park area, and the Estuary Channel area.
- **Specimen Tree Replacement:** Replace individual large trees in kind, with similar species, such as the Italian stone pines along the promontory in Lakeside Park. Other large trees such as the California buckeye could be planted around the Bandstand areas. The New Zealand tea trees and the Araucaria tree outside of the Botanical Gardens should be identified and addressed in replacement cycles.
- **Reforesting High-Use Areas:** Reforest high-use and high-visibility areas in Lake Merritt Park (Boathouse, Sailboat house, Tropical Garden area, New Promenade area, Duck Pond Feeding area, etc.) with larger trees rather than seedlings. Options include using trees being removed by the tree-spade method and moving them to new sites.
- **Tree Maintenance:** Provide ongoing maintenance of structurally weak trees that present risks to the health and safety of the public and property. These need to be identified, monitored and removed as an ongoing safety program. The Arborist Division of the City of Oakland is addressing safety issues but is in need of more current databases and tracking systems as afforded by a GIS tree system.
- **Reforesting Plant Communities:** Use species and forest communities similar to those identified in the Existing Vegetation Survey and Analysis. For example, Coastal Bluff plant communities should utilize a range of species similar to those found within the existing plant community.



### ***Construction Coordination with Wildlife***

Timing of construction can have a major impact on the wildlife and habitats in the area. Different components of the new park developments should be planned and timed to ensure that any negative impact is minimized, e.g., avoid lopping trees when birds are known to nest during breeding seasons.





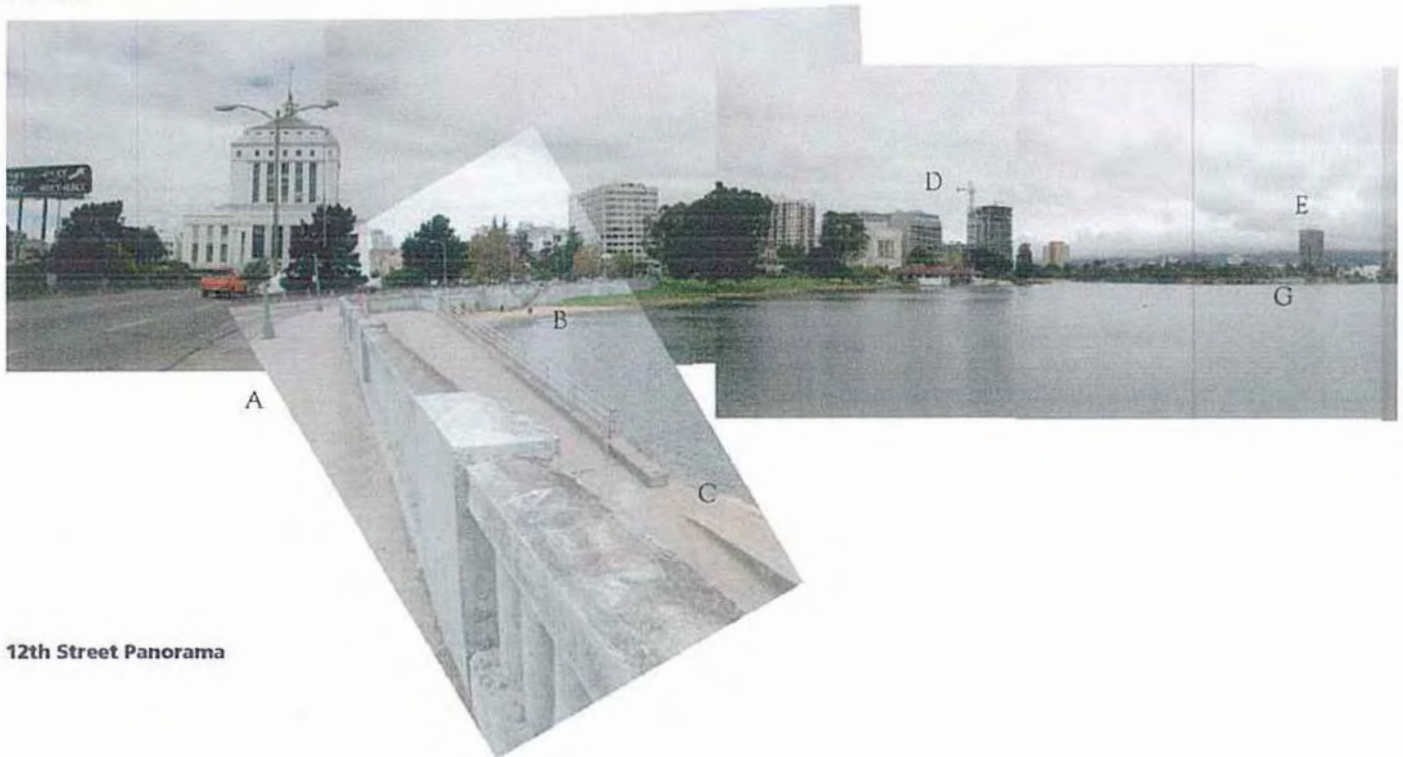
## PARK LANDSCAPE

### Visual Analysis

#### 12th Street Panorama

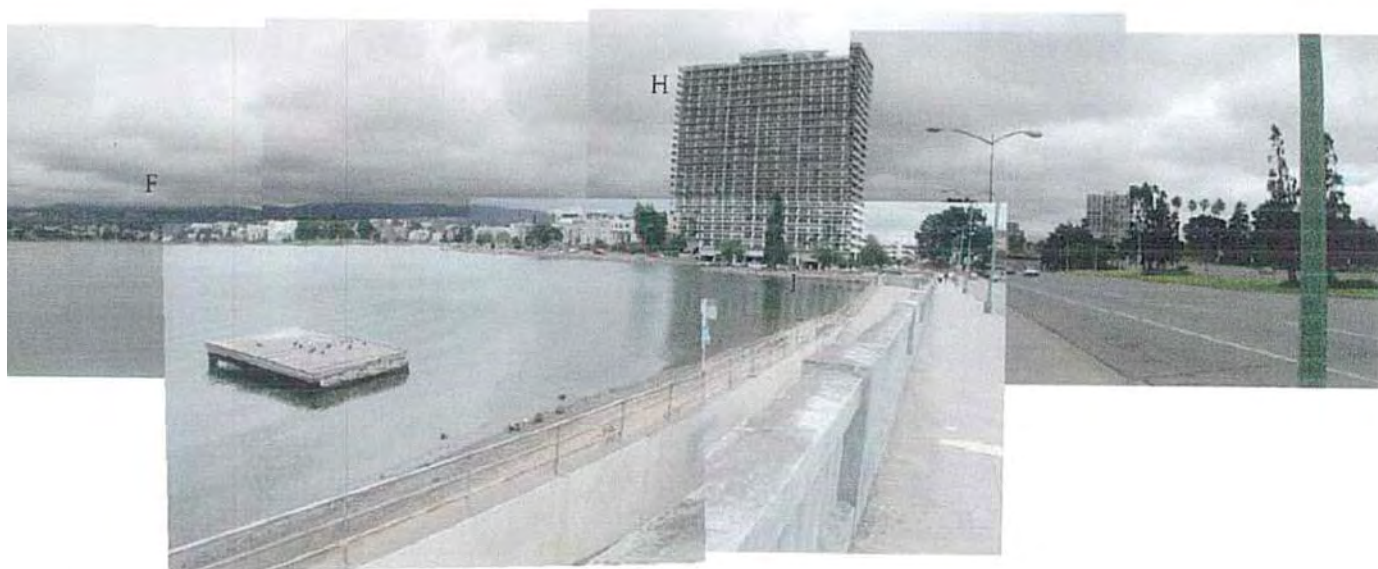
The 12th Street panorama provides many opportunities for interpretive art. The view to the north provides views of the Oakland hills and part of the watershed for Lake Merritt. There is one large building that mars the low, mass of buildings with the Oakland hills beyond. The Park portion of land is narrow and the promenade continues along the 12th street "short freeway." This is the site where the estuary water entering and exiting the Lake can be defined. It is also the historic site where the first bridge—Bridge of Sighs—connected the old township of Brooklyn and Oakland. It has a colorful history that can be interpreted here. This portion also links the Lake with Kaiser Convention Center, the Oakland Museum and Laney College. To the west is the Fire Alarm building. This site can be improved with more civic uses and landscape - park connection to the Lake.

- A. Fast-moving vehicular traffic conflicts with pedestrian, bicycling activities or crossing to Kaiser Convention Center area. Provide elevation or landscape separation experience to buffer from vehicular traffic.
- B. 30' to 40' wide beach at low tide used for two regattas, in July and October.
- C. High tide - narrow path to ramp access. Ramp is not to ADA codes. Second area where public can contact water's edge / lake water.
- D. High-rise building can frame views across the Lake, however their mass can be imposing and unattractive. Higher degrees of facade articulation are desirable.



12th Street Panorama

- E. Few high-rise buildings on hill preserve Oakland Hills views.
- F. Positive view of Oakland hills. Maintain low building heights to preserve view of Oakland hills beyond.
- G. Views of sailboats and opposite shores.
- H. High-rise building frames view.
- I. Saltwater inflow opportunity to make tides readable.

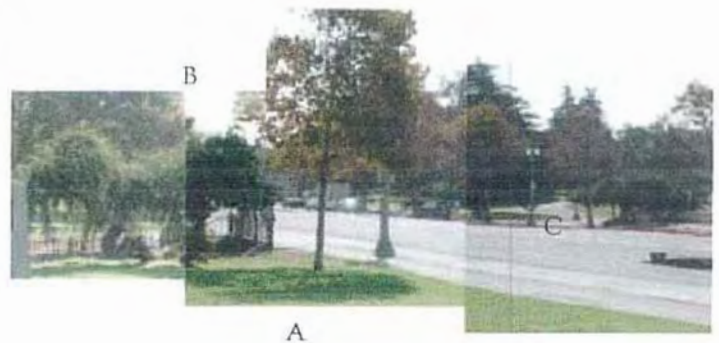


## PARK LANDSCAPE

### *Snow Park Panorama*

Snow Park panorama provides a large park space for commercial office workers. The expansive lawn is sometimes used by geese and their feces remain. The lawn provides a sweeping view up to the Lake with water barely visible through the park setting of mature trees. Lakeside Park looks very wooded. Additional siting of trees can visually screen the two predominant high-rises from this view. This park is a vital pedestrian link between the commercial downtown area and Lake Merritt.

- A. Light standards create visual "noise" and clutter.
- B. Cedar trees provide evergreen screening of buildings.
- C. Good landscape views of Lake Merritt, trees and banks from Snow Park.
- D. High-rise building diminishes view. Provide additional evergreen trees for screening.



**Snow Park Panorama**

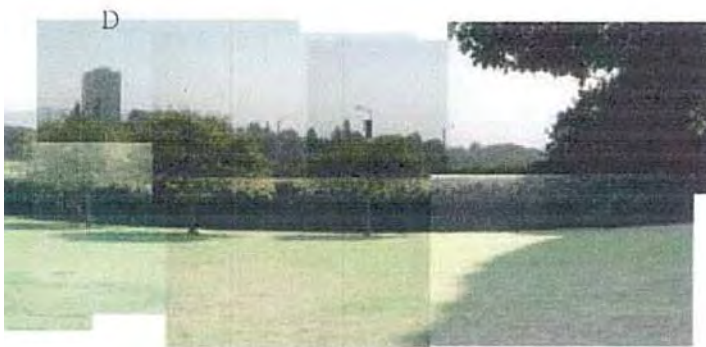




**Grand Avenue Panorama**

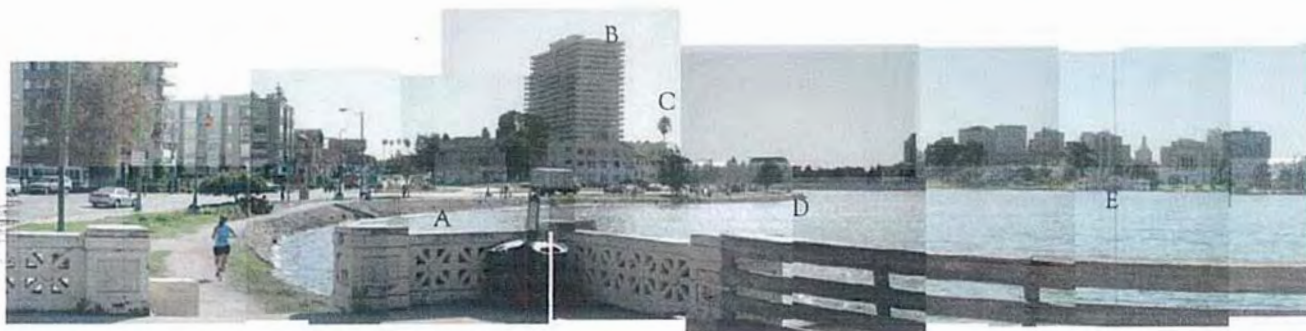
### *Grand Avenue Panorama*

From the Grand Avenue panorama, the lawn groundcover creates a strong and positive horizontal band, extending the Park and providing visual respite from the built environment. Trees and landscape fronting the tall apartments and high-rises add significantly to the "extension" of the Park and increases the Park's apparent size. The commercial high-rises form a strong edge that is softened on the east side by the Park trees.



- A. Open lawn area.
- B. Mature New Zealand Tea trees have specific pruning requirements. Only a qualified arborist should prune them since damage done by inappropriate pruning will kill trees. Veteran's Memorial Auditorium Grove provides good specimens of New Zealand Tea trees that have not been damaged.
- C. Lawn groundcover provides positive horizontal view.
- D. Trees and landscape fronting tall buildings provide visual extension of park beyond park boundaries.

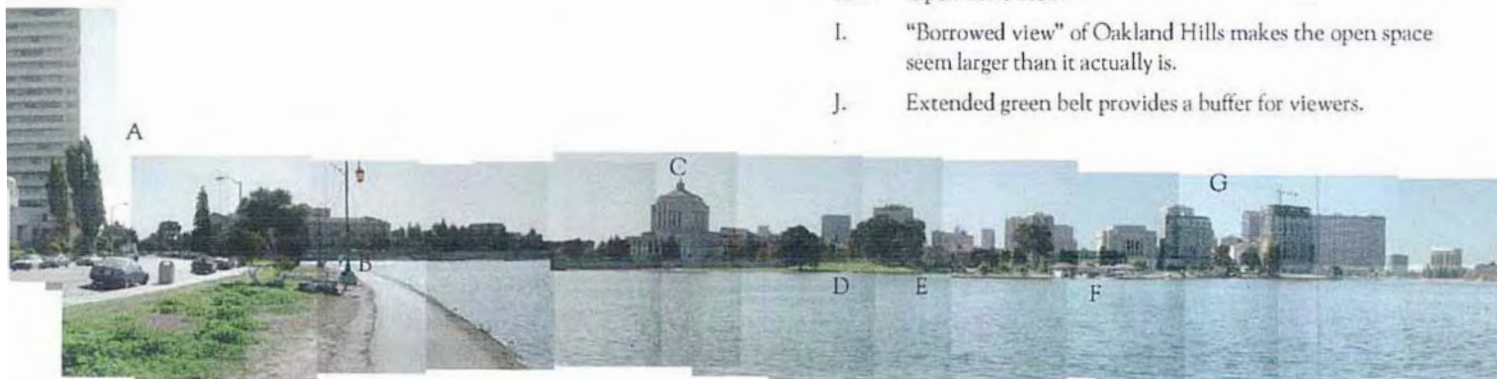
## PARK LANDSCAPE



### Lakeshore Avenue Panorama

Lakeshore Avenue panorama has an open feeling. There are few trees lining the Park boundary at this location. The large apartment building to the south is less intrusive at this point and probably provides residents with striking views of the Lake. From this vantage point the Federal Courthouse is visible. The Lake appears very large with a built skyline to the southwest and the Oakland hills to the northwest. The Park appears most narrow at this panorama.

- A. View of apartment building's narrow side is less intrusive.
- B. Retaining wall with no landscape.
- C. Federal Court House.
- D. Sunny open lawn area.
- E. Historical Cameron Stanford House.
- F. Park setting around Boathouse.
- G. 19th Street skyline provides a backdrop of the Lake view.
- H. Open Lake view.
- I. "Borrowed view" of Oakland Hills makes the open space seem larger than it actually is.
- J. Extended green belt provides a buffer for viewers.



Lakeshore Avenue Panorama





### 18th Street Panorama

The historic pier is on axis with the Boathouse, built in 1915 and now housing the Parks and Recreation offices. From this vantage point, the green lawn is a positive visual amenity. This historic building site is enhanced within the landscape setting. The building provides a strong architectural façade and sets the tone for the rest of the architecture within the Park. The view of the downtown skyline is striking. The banks need landscape improvements to the south and north of the pier. To the south of the pier is a view of the only angled bank where goslings can exit the lake (besides the boat ramp at the Sailboat house). The pier is in need of restoration. The balustrade details provide a solid architectural element that is enduring and important to maintain.

- A. Balustrade details of 18th Street Pier provides historical time setting, pier in need of repair.
- B. High-rise building provides housing density in relationship to ground area used. Guidelines for landscape trees or terraces could soften impact from ground view.
- C. Existing palm tree creates striking look against skyline.
- D. View of angled bank from 18th street pier provides one of the few places where goslings can exit the lake.
- E. Boathouse is on direct axis view from 18th street pier, view provides park architectural setting.
- F. View of 19th Street building skyline from 18th street pier.
- G. Band from green lawn enhances view. Banks of soil need improvement

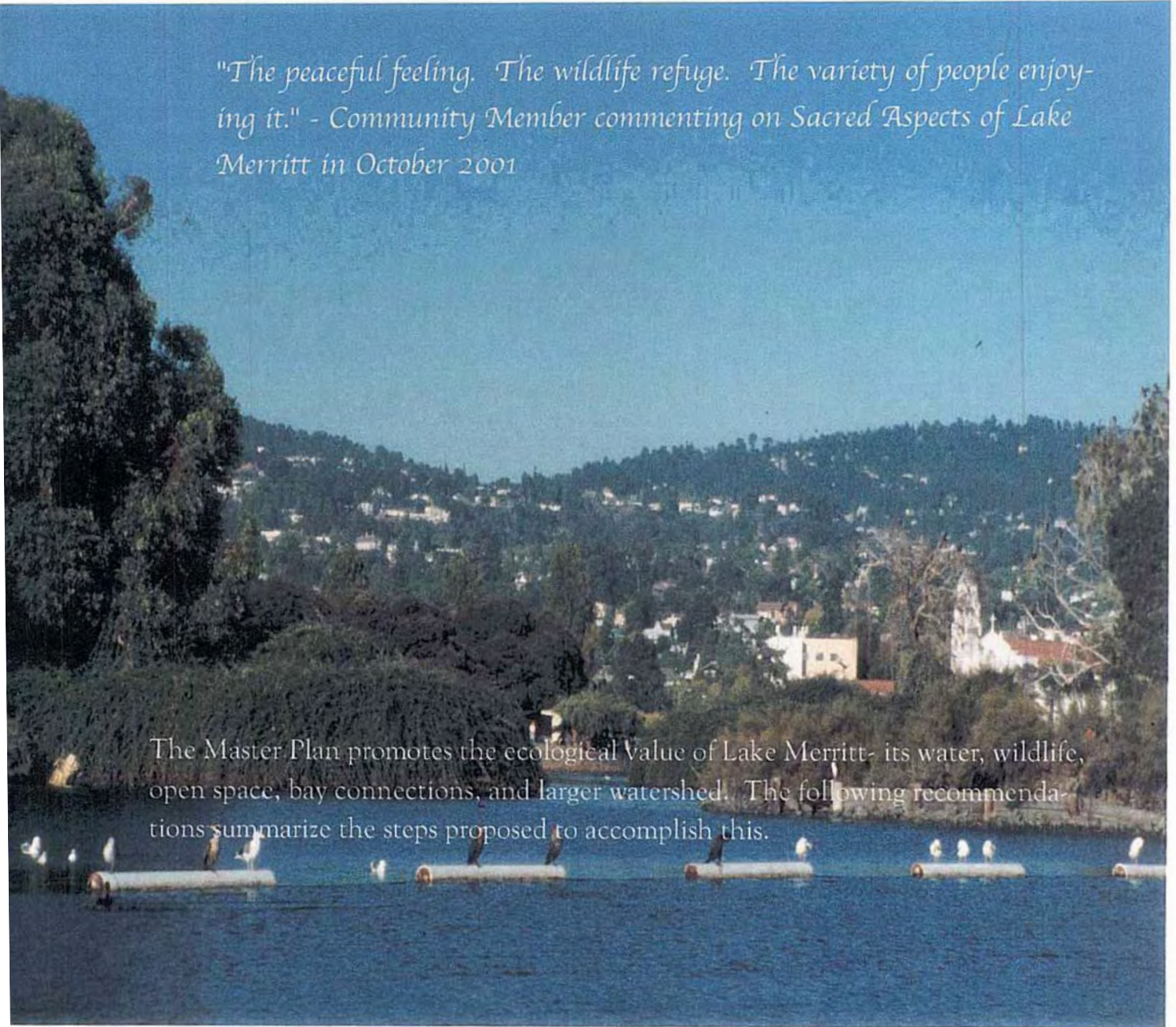




## ECOLOGY

*"The peaceful feeling. The wildlife refuge. The variety of people enjoying it." - Community Member commenting on Sacred Aspects of Lake Merritt in October 2001*

The Master Plan promotes the ecological value of Lake Merritt- its water, wildlife, open space, bay connections, and larger watershed. The following recommendations summarize the steps proposed to accomplish this.



## Recommendations

### Water Quality

1. Improve water quality by controlling pollution in the watershed. This should be accomplished by:

- A significant increase in enforcement of litter laws
- Continuous educational campaigns targeting businesses where litter is generated
- Educational and enforcement campaigns to eliminate waterfowl feeding
- See applicable activities on list of projects from water quality task force.

2. Control and remove trash that enters the Lake from storm drains and from the shoreline. This should be accomplished by:

- Installation of storm drain filters (CDS or other brand) five each year for 12 years
- Continuation of the Clean Lake Program to remove trash from the Lake.
- Building hook shaped "trash traps" into the shoreline at several locations when the bulkhead wall is replaced.



3. Improve water circulation in the bottom layer of the Lake by enhancing the connection to the estuary via the channel. This should be accomplished by:

- Forging an agreement with Alameda County to make tide gate closure decisions on a 12 hour basis.
- Removing the culvert condition at 12th Street and lowering the weir elevation to a point that maximizes water flow while minimizing disruption to recreational and scenic resources.
- Eliminating flow obstructions in the channel such as the culverts at 10th Street, the Flood Control Station (7th Street), the railway tracks and utility structures.
- Completion of a hydrology survey to recommend specific Lake water levels and alternatives for achieving these.
- Relocating the Alameda County pump facility to a location closer to the Lake and drawing water from the bottom of the Lake.

4. Provide for long term control of sediment, seaweed and plankton. This should be accomplished by:

- Continuation of algae and widgeon grass harvesting with establishment of several sanctuary areas
- Obtaining a small, city owned dredge boat (run by the harvester operator) to reduce the area of widgeon grass infestation and remove sediment around storm drains and docks
- Based on monitoring data, targets for reduction of nitrogen entering the Lake from creeks and storm drains should be established.



## ECOLOGY

Figure III.26 Ecology





## Wildlife

1. Enhance specific areas for wildlife, including creation of a ecological zone in Lakeside Park (Shoreline Zone). This should be accomplished by:

- Moving the path away from the shoreline in key locations, creating a more natural (slight gradient) shoreline, relocating inconsistent uses such as parking lots, active playgrounds, and operations that are not waterfront dependent.
- Calming motor and pedestrian traffic near the duck pond by expanding walkways, and separating users
- Creation of a paved fresh water pond at the mouth of outfall # 1 by the Bandstand beach
- Creation of a wetland area by removing the center of one of the islands, depositing it around the shoreline, and creating a fresh water pond within the island
- Implementation of a habitat improvement plan on the islands
- Providing perches for birds on the water side of the perimeter bulkhead walls

2. Restore a managed, youth fishing program, beneficial to those from all areas of Oakland. This should be accomplished by:

- Accepting offers from the state Department of Fish and Game to stock steelhead trout and conduct "Fishing in the City" programs.
- Establishment of rules including "no fishing" zones in natural areas or where conflicts with other park users may occur
- Requiring completion of an educational program prior to obtaining a mandatory city fishing permit

3. Establishment of a policy that the wildlife refuge should be managed primarily for migratory waterfowl. This should be accomplished by:

- An educational campaign to eliminate public feeding of birds
- Management to reduce overwhelming concentrations of pigeons, resident geese, and similarly domesticated fauna

1. Glen Echo Creek  
Provide special benches & interpretive signage depicting the watershed wildlife and riparian zone of the lake edge.
2. Pleasant Valley Creek / Treatle Glen Creek  
Highlight the creek in Lakeside Park. Provide special benches & interpretive signage depicting the watershed and historic significance of the lake edge.
3. E. 18th Street and Dock  
Remove the dock and provide special benches & interpretive signage depicting the watershed and historic significance of the lake edge. Monitor peregrine and osprey nests in 1989 and select the fittest residents under the structure.
4. 12th Street / San Antonio Creek  
Remove the docks to improve tidal water exchange to the grassy bay. Designate grassy areas across the channel for wildlife, bicyclists and pedestrians. Provide special benches & interpretive signage depicting the watershed wildlife and historic significance of the lake edge.



## ECOLOGY

### Goose Management

The unique balance between wildlife and human users at Lake Merritt is threatened by the large populations of geese. Both recreationalists and geese utilize the lawn areas of the park. The presence of fecal material from such high numbers renders the areas unusable for human recreation. Walkways, docks, bowling greens, and tables are also covered in goose excrement. This is especially problematic in areas where children congregate and during molting season (June to August). Geese feed on the mown lawns and are attracted by the visual openness. The geese typically congregate nearer the shoreline, however it is not uncommon to find them along Grand Avenue or in Snow Park.

The LMMP recognizes the need to review potential wildlife management practices to ensure that the notion of refuge is afforded to all. During the outreach process, many voices in the public expressed that geese are negatively impacting the park. As a significant ecological resource, Lake Merritt management should be sensitive to habitat provisions for wildlife. Practices should emphasize native avian species (shorebirds, migratory waterfowl) and fisheries. By implementing a range of techniques, domesticated wildlife such as geese should be brought into balance with other species and park uses.

### Background Information ("Managing Canada Geese in Urban Environments")

- Canada geese have undergone a significant population increase from a few thousand in 1965 to 1.1 million in 1996 in the central United States alone.
- Lake Merritt is not a historic site for large goose populations. In the 1940's several crippled birds were released. Their numbers grew to about 75 in 1994. By 2001, a total of 1,093 birds were noted before fall migration. After migration, about 400 resident geese remained.
- Heavy concentrations of goose feces contain nitrogen which can lead to excessive algae growth in Lakes.
- High concentrations of geese increase the likelihood of avian disease to be transmitted between geese and other waterfowl.
- Migratory patterns have been researched and coordinated with habitat protection.
- Geese at LM molt in summer early June to late July—they are flightless during this time and concentrate along the shoreline. Numbers at the lake increase dramatically during this period causing increased conflicts with the park's most popular summertime use by humans.
- Geese prefer fertilized lawns to unfertilized ones and graze on the young grass shoots.
- Goose management programs to reduce the size of local flocks have been initiated at numerous sites in the Bay Area.

*"Need to separate feeding and bird congregation areas from public paths where everybody walks." -Community Member commenting on geese at Lake Merritt in October 2001.*



### ***Lake Merritt Site Conditions***

- Studies have shown that geese excrete 10,000,000 fecal coliform bacteria per day. A total coliform count of 170,000 (unit unknown) was recorded near the bird islands in April, 2000.
- Open grass lawns near lake edge are populated with geese.
- Gatherings of 2-200+ geese are common.
- Fecal material covers all lawn areas inhabited by geese.
- Playground near Rotary nature Center has extensive fecal material.
- Accumulation of feathers is visible in the shallow water.
- Visitors feed and greatly enjoy the presence of geese.
- Nesting areas on the lake's shore are few- Geese are opportunists and will find small, protected spots in man made structures or high use areas. Natural lake edges like bluff segments in Lakeside may be used. Most successful nesting occurs on the refuge islands.
- Goslings appear on lake with adults during April.



### ***Goose Habitat Conditions in Park***

- Geese prefer open grassy areas where they feed on new grass growth.
- They tend to prefer park areas that are near or in sight of the lake.
- Geese require fresh water and congregate in areas of wet grass where available.
- Geese avoid areas frequented by dogs.

### ***Goose Management Recommendations***

Limit goose access in areas extensively used by people. This should be accomplished by:

- Initiating a Goose Management Study to determine the best practice techniques for reducing the impacts of geese on themselves, vegetation, other wildlife, and recreational users. This may involve commencement of a trial use of commercial Goose-Buster service to prevent geese from congregating in designated recreation areas during the summer.
- Creating a zone within Lakeside Park (Free and Open Space Zone) that emphasizes unimpeded use of lawn areas for informal recreation without disruption by goose fecal material.
- Eliminate the feeding of geese by park visitors.
- Reduction of grass and replacement with vegetative cover to that prevents grazing by geese in designated areas; increasing mowing height elsewhere.
- Establishment of vegetative visual and flight barriers to discourage geese from congregating in designated areas.
- Allowing on-sidewalk leashed dog walking per city park code.



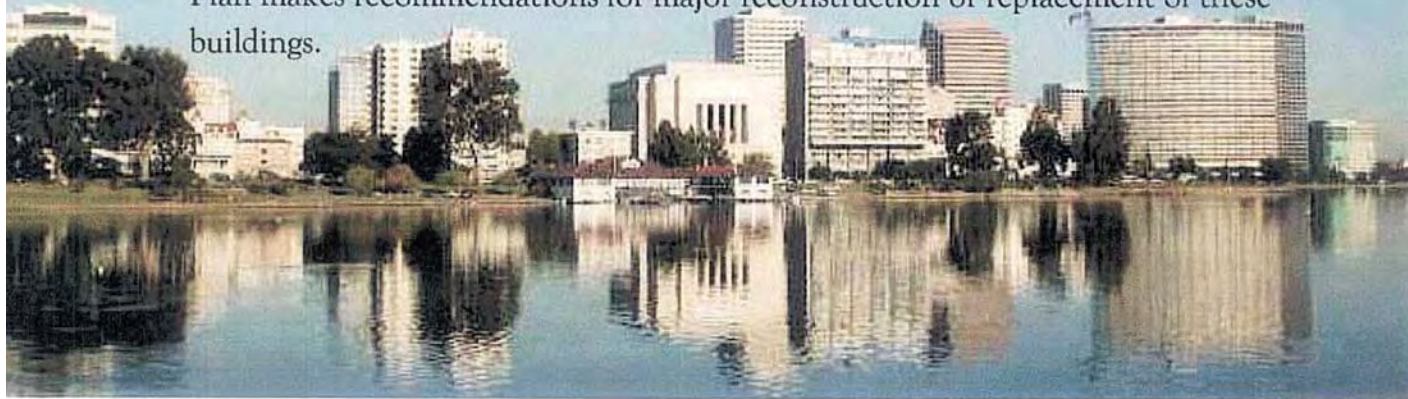
## **BUILDINGS**

### **General Architectural Background**

The buildings of Lake Merritt have evolved over a ninety year span, from the Municipal Boat House (originally constructed as the high-pressure salt water pumping station), to the recent Police Horse Stables. Understandably, there is a wide variety of styles, materials, scales, methods of construction, etc. in the architecture.

The buildings included in this study can be divided generally into two categories based on era of construction. The first era includes buildings constructed between 1909 and 1926: specifically, the Municipal Boat House, the Sailboat House, and the Lawn Bowling Clubhouse (and related outbuildings). The second era includes buildings originally constructed in the 1950's; the Rotary Nature Center, the Lakeside Park Garden Center, and the building which houses the Junior Center of Art and Science.

It should be noted that the Sailboat House and the Junior Center of Art and Science building have had major alterations during their history. In the case of the Sailboat House, the remodel has completely altered its appearance. The Master Plan makes recommendations for major reconstruction or replacement of these buildings.



## *Extents of Study*

The Lake Merritt Master Plan focuses on exterior form and appearance of existing buildings and makes suggestions for future construction. The eleven buildings included in this study are:

1. Municipal Boat House
2. Municipal Boat House Restrooms
3. Sailboat House
4. Sailboat House Restrooms
5. Sailboat House Storage
6. Lawn Bowling Clubhouse
7. Lakeside Park Garden Center
8. Rotary Nature Center
9. Junior Center of Art & Science
10. Police Horse Stables
11. Snack Bar

There are other significant buildings and structures in and around the Park which should be evaluated and be involved in any discussion of architectural character of the Park's structures. Specifically, these are:

12. Camron Stanford House
13. Glen Echo Pump House
14. Glen Echo Restrooms
15. Edoff Bandstand
16. Garden Center Restrooms
17. Corporation Yard
18. Greenhouse and Lath house
19. McElroy Fountain
20. Geodesic Dome
21. El Embarcadero Landing Pergola
22. El Embarcadero Library
23. Library Restrooms
24. Pine Knoll Restrooms
25. Fire Alarm Building
26. Snow Park Restrooms





## BUILDINGS

Figure III.27 Buildings





## Architectural Goals and General Recommendations

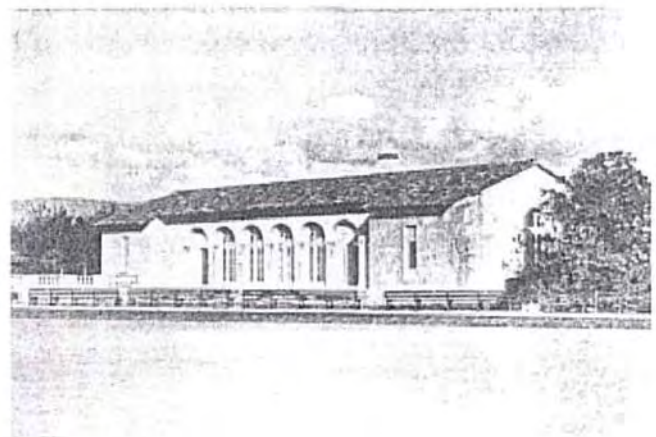
The Lake Merritt Master Plan makes four types of recommendations for the buildings included in the study.

1. Buildings to be revived/restored
2. Buildings to be rehabilitated/reconfigured
3. Buildings to be removed or relocated
4. New buildings

Buildings to be revived and restored include the Municipal Boathouse, and the Lawn Bowling Clubhouse. These are two of the defining buildings of Lake Merritt Park. They possess many inherent qualities which should be revived and encouraged. Restoration should be performed to the U.S. Secretary of the Interior's standards. Additions of poor quality should be removed or reconfigured in a manner which is sympathetic to the building's character, yet readily identifiable to avoid false historicism.

Buildings to be rehabilitated and reconfigured include the Sailboat House and the Lakeside Park Garden Center. While the Sailboat House will require major work to uncover the original character of the 1915 building, and integrate it with the site, the Lakeside Park Garden Center can be improved with a handful of discreet projects in key areas. The bulk of the building should remain intact.

Buildings which are intrusive, and detract from the Park should be removed or relocated. Two buildings which should be removed from the Park are the Police Horse Stables and the Snack Bar. A third, the building which houses the Junior Center of Art and Science (JCAS) should eventually, also be removed. A new building should be constructed to house the Junior Center of Art and Science, allowing the programs that this non-profit group offers to operate without interruption. This new building could also provide space to other educational programs and serve as a police sub station. In the interim, minor renovations to the existing JCAS building that improve its function and relate it to the park improvements are recommended



## BUILDINGS

### *General Building Recommendations*

General architectural goals for new and existing buildings include:

1. To strengthen the relationship of the buildings to the landscape, using the buildings to help define outdoor spaces.
2. To strengthen the relationship between buildings by enhancing or introducing vistas, axes, etc.
3. To preserve key views and vistas around the Lake, and reinforce or establish view corridors where appropriate.
4. To enhance the sense of entry into the buildings.
5. To engage public interest with the buildings and invite interaction with the architecture, through introduction of courtyards, verandas etc.
6. To locate possible new buildings within the park, with the stipulation that there be no net increase to the overall ground coverage by buildings.
7. To provide a unified design theme for the two building types and new structures, this may take the form of materials, color palette, form, orientation, siting, etc.
8. To clearly identify building use through a unified signage program and where applicable, through use of materials, forms, and artistry.
9. To incorporate sustainable architecture, including use of recycled and environmentally friendly materials and methods.
10. To encourage passive systems for energy conservation wherever possible, and active systems, such as solar panels where not.
11. To provide accessibility to all buildings for people with disabilities.



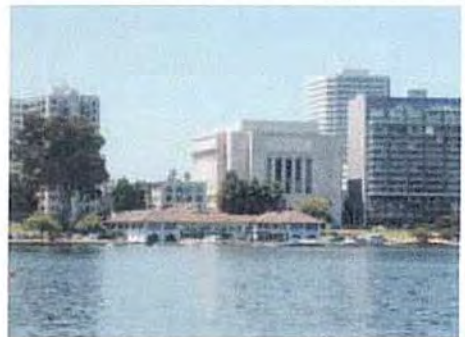


### ***Specific Recommendations for Future Buildings***

1. Buildings should be of a civic scale, with monumental presence.
2. Architectural materials should be durable and solid, such as concrete or stone, to suggest permanence.
3. No new building should be more than two stories tall.
4. Accessory or secondary buildings should not overshadow or obscure primary park buildings.
5. New buildings should be sited on major circulation routes, as defined by the Master Plan.
6. Park buildings should be integrated into the landscape.

### ***Opportunities for Future Study***

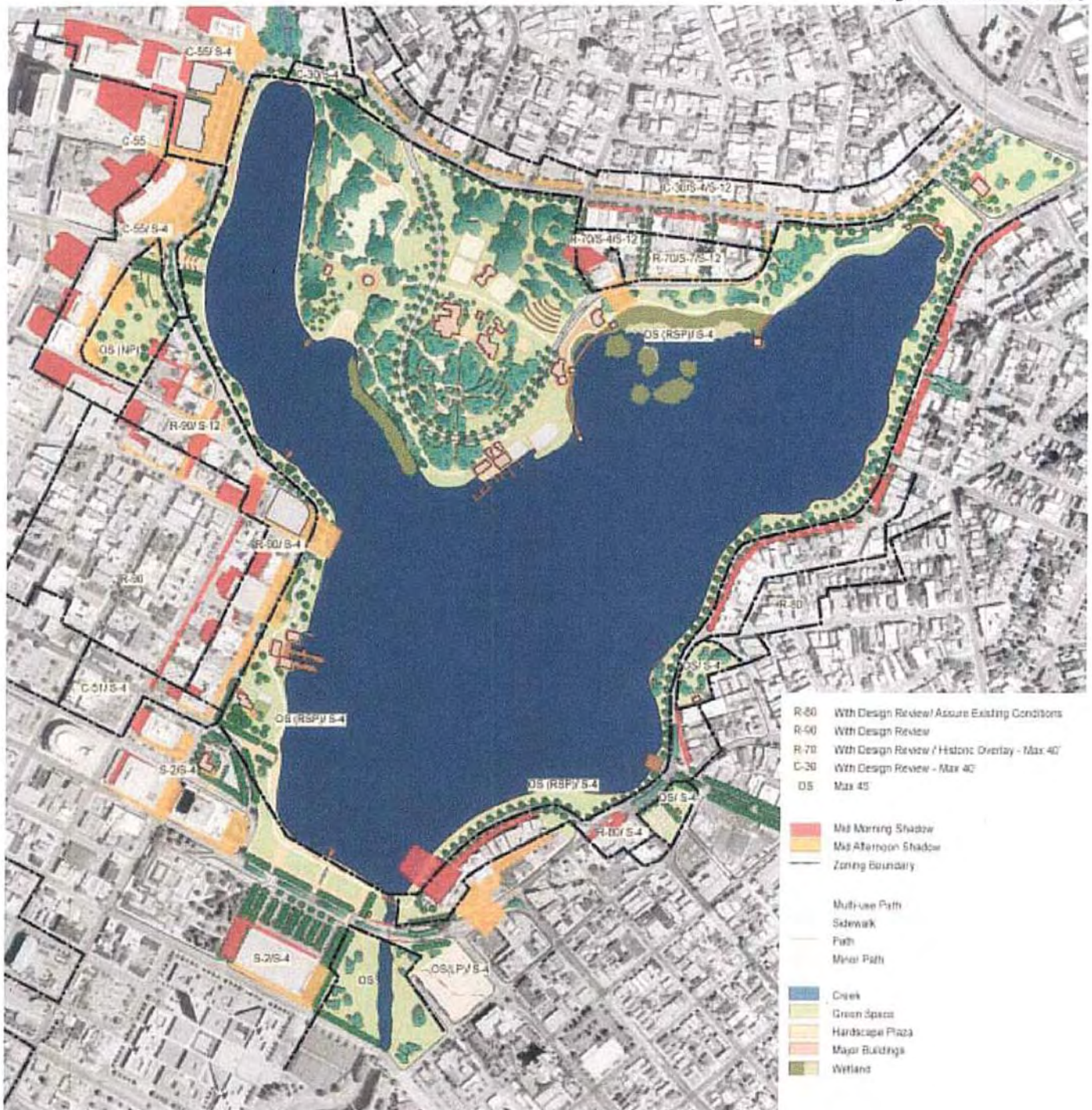
While the Master Plan does include façade improvement studies for existing buildings and thematic standards for future buildings, additional examination of the buildings should be performed as part of a complete study. This work might include seismic/structural, planning/use, mechanical/plumbing/electrical systems, hazardous materials, and accessibility compliance studies.





# SHADOW STUDY

Figure III.28 Shadow Study





## Sunlight Access and Shadow Study

Tall buildings are located on the perimeter of the Lake casting deep shadows into the parkland. This is problematic in that it reduces solar access for park users and disrupts the normal growing conditions for park vegetation. Furthermore, the imbalance of scale presented by these masses creates an uncomfortable sensory condition for those using the lawns, pathways, and benches nearby. This is further described in the Landscape section of this chapter though the use of panoramic photographs. The public has expressed concern for the negative impact of such structures, often characterizing the feeling as being "walled in." While the Master Plan presents no formal policy to non-park land use and massing, the effects are stated below. General recommendations are also stated to educate planners of future area buildings. No visual preference survey was completed during the planning process, however much public comment was received to substantiate this discussion.

### Existing Conditions

- Buildings that cast continuous shade on the park (including Snow Park) for more than several hours each day negatively impacts vegetation growth.
- The blockage of afternoon/evening sunlight provides further negative impacts to park use and enjoyment.
- Groups of buildings form a continuous mass that can further block sunlight from reaching the park.
- Tall buildings (20+) floors standing alone are visually distracting when viewed from a distance (such as the several residential towers built around the Lake in the 1960's and 70's).
- Four to twelve story residential buildings that have greater façade articulation and tall trees in the foreground generally provide a positive atmosphere. Examples of these are found on Lakeside near Snow Park and on Lakeshore Avenue.

- The view of tall buildings on the downtown edge are generally more scenic when viewed from across the lake as opposed to from the Downtown Park Edge due to the more comfortable scale relationship between people and buildings afforded at that distance.
- If heights were maximized per allowable zoning, the shade on park areas would be great (refer to figure III. on the facing page). Design review is required in most zoning areas of significant height.

### General Recommendations

- New buildings should minimize interruption of sunlight into the Park.
- District zoning, design guidelines, and FAR regulations should consider building mass impact to park scale and sunlight access.
- Buildings should accommodate ample room for tall tree plantings in the foreground and along the street.
- The design review process required by most adjacent zoning should consider sunlight access and building mass impacts to the park and its users.
- The placement of new buildings should consider views to popular landmarks from the Lake Merritt park areas. These could include the County Courthouse, the Kaiser Convention Center, the Oakland Hills, St. Paul's Church, the Tribune Building, and others of visual importance.



## ART ELEMENT

The Lake Merritt Master Plan supports the City of Oakland's commitment to weaving arts and culture into the fabric of everyday life. Public art as an "element" of the park master plan maintains an openness of application. The art may include, singly produced objects, functional designs, a process of creation and collaboration, or an overall approach and design of a place. The art may be the product of individual artists' creativity or the result of collaboration between artists of different disciplines, designers, architects, and community members. The resulting condition can be a landscape of meaning and visual intrigue.

Through "Spotlight on the Arts", the Craft and Cultural Arts Department is seeking to establish Oakland as the center for artistic-cultural events and entertainment in the Bay Area. From downtown renaissance projects to the restoration of Lake Merritt, the opportunities to promote arts and culture are found throughout our city.

The LMMP recognizes opportunities for artists to reflect the unique environment, culture and social conditions of Oakland, its neighborhoods, history, natural resources, and people. The intent of the art element is to describe the many opportunities for integrating arts into the revitalization of the park. No specific projects are determined, nor is a single arts approach recommended. Rather, the master plan sets the thematic and programmatic content of the Lake Merritt Park art element. The plan then acts as a guide to shape the artistic exploration of concepts and projects as part of the art element. This chapter describes the opportunities and highlights the guidelines.



## Opportunities

### Art Element Overview

#### Environmental Art

Natural conditions/processes should be recognized as a basis for site design and restoration. The landscape -more specifically, the art element-should integrate ecology as a function of the park and provide a means of its interpretation. Suitable locations for this type of expression could include the shoreline restoration in Lakeside Park; creek daylighting in Eastshore Park; other creek nodes, bird perches, storm drain filter covers, etc.

#### Designed Elements

Artists and craftspeople should be included to provide aesthetic input on functional elements in the park. Elements could include railings, fences, docks, botanical garden entries and perimeter fencing, neighborhood nodes (paving, seatwalls); historic markers and signage, entire promenades, low retaining walls, sections of the perimeter path, etc.



#### Collaborative Design Process

Many successfully designed and built projects are the result of collaborations between artists and designers. The process requires the partnership and collaboration of minds to conceive and execute such a work. Such an effort obscures the line between landscape and art, between meaning and aesthetic. Any improvement project is applicable to this process including zones or spaces within the park; entrances, nodes, and gateways; buildings recommended for restoration, remodeling or new construction; and park amenities.

#### Environment for Display

In addition to the incorporation of art as a design process, the lake and park offers a unique setting for the display of permanent and temporary sculptural work. The civic district of the park- stretching from 14th Street to the Estuary- is a potential area for sculpture display. Specific sites include the new 12th Street park area, the Fire Alarm Building Site, and the plaza at the 14th Street terminus. The Oakland Museum is recognized as a potential partner in the sculpture component and arts zone overlay.



## ART ELEMENT

### Ecology

The art element should reinforce the park's ecological heritage and potential. By highlighting the creeks, watershed, habitat zones, and natural systems, the story of ecology can be made evident.

### Education

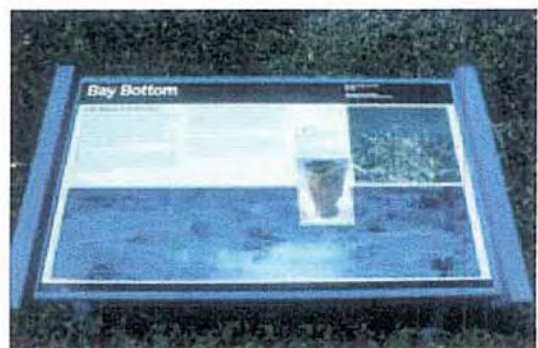
An understanding of natural processes, horticultural diversity, cultural heritage, and the history of Lake Merritt can be reinforced through the application of the art element. The plan describes several methods for application under Opportunities.

### Recreation

The park is used by many as a place for recreation. Provisions for these movements could be explored through the art element. For example, park amenities such as benches, signs, or walls, could combine exercise functions into their design; pathways could mark the pace or distance traveled of a jogger. The components could be artistically designed to serve a multipurpose role in the park.

### Culture

Culture is an underlying theme to all aspects of the master plan. Oakland's urban form, social composition, ecology, history, and present activities each shape the notion of local culture. The art element can reflect the unique character of Oakland, its peoples, neighborhoods, built form, history, and natural environment.



## Art Element Recommendations

- The art element should be compatible with and enhance ecology/resource sensitivity.
- The art element should enhance the historic, cultural, aesthetic, and interpretive potential of the park and support the park program and management per the master plan and the department of Parks and Recreation.
- The art element should conform to applicable design guidelines for functional park elements, while enhancing the aesthetic and educational possibilities of these necessary amenities.
- The art element should consider maintenance requirements and minimize the need for specialized practices.





**LETTER B17**

**John Wilson**

**September 11, 2007**

Response B17-1: The Lake Merritt Master Plan was considered in developing the proposed project design and is described on page 94 of the Draft EIR. A section of the plan is attached to the comment letter. The Measure DD-funded activities would address many of the goals identified in the Master Plan, including the forestry, water quality, and architectural recommendations included in the section submitted with the comment. Chapter V, Alternatives, of the Draft EIR describes a “lid park” alternative for the 12<sup>th</sup> Street roadway construction, which was evaluated as part of the Lake Merritt Master Plan. As stated on page 348 of the Draft EIR, this alternative was identified as undesirable by community members and the design team due to several factors including: no direct estuary pedestrian connections were possible; tidal flow was not improved from the current conditions; the structure would not enhance shoreline access; and the cost to build the structure was not justified by the benefits. As such, this alternative was not evaluated in the Draft EIR.

From: notify@yahoogroups.com on behalf of eliseackerman  
[eliseackerman@yahoo.com]  
Sent: Tuesday, September 11, 2007 3:05 PM  
To: Thornton, Elois  
Subject: EIR for Measure DD

Hi there,

Please take a look at the intersection of Harrison Street, Bay Place and 27th Street. It is already an extremely dangerous intersection with an accident or a close call happening about once a week. The Whole Foods that will open at the end of the month will exacerbate the problem.

1

One block up the road, where Orange merges into Harrison, is also extremely dangerous. Motorists are confused by the configuration of the islands and drive down the wrong side of the street several times a day.

2

Elise Ackerman  
306 Oakland Avenue

**LETTER B18**

**Elise Ackerman**

**September 11, 2007**

- Response B18-1: The 27<sup>th</sup> Street/Bay Place/Harrison Street intersection was evaluated in Section IV.C, Transportation Circulation and Parking of the Draft EIR. The text on page 115 of the Draft EIR notes that under existing conditions this intersection operates at LOS F during the AM peak hour. The text on page 124 of the Draft EIR (Impact TRANS-4) notes that implementation of the Lake Merritt and Lake Merritt Channel project components would result in significant impacts at this intersection, under the existing plus project conditions. The average vehicle delay at the 27<sup>th</sup> Street/Bay Place/Harrison Street intersection would increase by 4.6 seconds during the AM peak hour. Mitigation Measure TRANS-4 in the Draft EIR recommends optimizing the signal timing at this intersection to reduce the total intersection average vehicle delay by 49.9 seconds during the AM peak hour. Although with mitigation the intersection would remain at LOS F, it would operate at a total average vehicle delay that would be 45.3 seconds lower than the delay with no project and no mitigation. The increased delay and decreased LOS would not increase the hazard at the intersection – reduced traffic speeds would lower the safety risk at the intersection. It is also noted in the Draft EIR that under cumulative conditions, the proposed project would have a less-than-significant impact on this intersection (see page 134).
- Response B18-2: The intersection identified in the comment is not part of the project area.



**From:** Barton Mayhew [bmayhew03@yahoo.com]

**Sent:** Tuesday, September 11, 2007 1:38 PM

**To:** Thornton, Elois

**Cc:** harrioak@yahoogroups.com; rbishop747@aol.com

**Subject:** Measure DD draft EIR Comments

Ms. Thornton: I am responding to the "Measure DD draft EIR" affecting the intersections and crosswalks around, nearby, and/or adjacent to Harrison Street, Bay Place, and 27th Street.

Due consideration needs to be included regarding pedestrians and cyclists, and vehicle traffic configurations on and near these public streets, and walkways. Safety for pedestrians and cyclists especially needs to be emphasized first and foremost. Any changes in design, construction, or installation of controls should benefit people on foot or bicycle over and above vehicle movement. In other words, pedestrians and cyclists should be the primary concern for environmental impact alterations. Restrictions on vehicles, and provision for pedestrians and cyclists is mandated by state and local laws. Please apply highest standards for residents and visitors to this area of Oakland.

1

Barton Mayhew, on behalf of traffic safety committees, Harrioak Neighborhood Association, and Westlake Community Coalition

**LETTER B19**

**Barton Mayhew**

**September 11, 2007**

Response B19-1: The design of the 27<sup>th</sup> Street/Bay Place/Harrison Street intersection is not part of the proposed project. Impacts to the intersection resulting from implementation of the proposed project are discussed in Section IV.C, Transportation Circulation and Parking of the Draft EIR. See response to comment B18-1 for the identification of level of service operation at the 27<sup>th</sup> Street/Bay Place/Harrison Street intersection.

As stated on page 139 of the Draft EIR, the Lake Merritt and Lake Merritt Channel group would not conflict with adopted policies, plans and programs supporting pedestrian and bicycle transportation. The project is consistent with the adopted Oakland Bicycle Master Plan (see Figure IV.C-5 of the Draft EIR for the most recent update) and Pedestrian Master Plan. It would improve bikeway connectivity and pedestrian access around Lake Merritt and along the Lake Merritt Channel and would complete linkages along the Oakland waterfront. No impacts to pedestrian or bicyclist safety were identified in the Draft EIR at the 27<sup>th</sup> Street/Bay Place/Harrison Street intersection under the City's significant criteria for the evaluation of environmental impacts.

**From:** Catherine McBride [cmcbride@pacbell.net]

**Sent:** Tuesday, September 11, 2007 5:07 PM

**To:** Thornton, Elois

**Subject:** Fw: Measure DD EIR comments

Hi - don't know how these got dated 10-11 at 3:54 but I sent them today, 9-11, at 3:54 in hopes of making the deadline. Sorry and thanks - Catherine McBride

1

----- Original Message -----

**From:** Catherine McBride

**To:** Eathornton@oaklandnet.com

**Sent:** Thursday, October 11, 2007 3:54 PM

**Subject:** Measure DD EIR comments

Re: Harrison Street/Bay Place/27th Street traffic and Whole Foods impact on Measure DD.

A traffic test on use of the Whole Foods (WFs) loading dock, attended by neighborhood residents, WFs management staff, truck company management, and city staff and planners proved that:

1) WFs semi-trucks (even larger trucks are planned for future use) block the Harrison Street sidewalk and pedestrian traffic when using the loading bay and turning in/out of WFs.

2) WFs semi-trucks extend onto Harrison Street by several inches when using the loading bay.

3) The Harrison Street sidewalk parallel to WFs is extremely narrow even when accessible to pedestrians.

4) WFs trucks entering/exiting the loading bay cause traffic back-ups which stop traffic on Harrison Street in both directions since traffic must be stopped on all of Harrison to allow for the difficult maneuvering of large trucks into/out of the loading bay. WFs semi-trucks will be using the loading bay during drive time peaks due to municipal delivery time restrictions.

5) There are thousands of seniors who live in St. Paul's Towers, in the 4 apartment buildings located near Broadway/27th, the Downtown Senior Center located in the Veteran's Memorial Building - and no changes have been made to traffic safety islands, timing of crosswalk lights, or any other "slow pedestrian" safety needs. Family use these same streets and crosswalks when using the Lake Merritt facilities.

In summary, the opening of Whole Foods at the end of this month; the increased development of residential condos on Broadway; the high population of senior citizens; the development of the new cathedral; the expansion and development of Kaiser medical services; and the possible and DREADED development of lakeside condos (NO, NO!) when considered with Measure DD changes make for massive traffic problems for the Harrison Street/Oakland Avenue corridor that been in no way addressed or resolved in an integrated manner.

As an area resident and active member of the HarriOak Neighbor Group and the Westlake Area Traffic

2

3

4



**From:** Catherine McBride [cmcbride@pacbell.net]

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2) WFs semi-trucks extend onto Harrison Street by several inches when using the loading bay.

3) The Harrison Street sidewalk parallel to WFs is extremely narrow even when accessible to pedestrians.

4) WFs trucks entering/exiting the loading bay cause traffic back-ups which stop traffic on Harrison Street in both directions since traffic must be stopped on all of Harrison to allow for the difficult maneuvering of large trucks into/out of the loading bay. WFs semi-trucks will be using the loading bay during drive time peaks due to municipal delivery time restrictions.

5) There are thousands of seniors who live in St. Paul's Towers, in the 4 apartment buildings located near Broadway/27th, the Downtown Senior Center located in the Veteran's Memorial Building - and no changes have been made to traffic safety islands, timing of crosswalk lights, or any other "slow pedestrian" safety needs. Family use these same streets and crosswalks when using the Lake Merritt facilities.

In summary, the opening of Whole Foods at the end of this month; the increased development of residential condos on Broadway; the high population of senior citizens; the development of the new cathedral; the expansion and development of Kaiser medical services; and the possible and DREADED development of lakeside condos (NO, NO!) when considered with Measure DD changes make for massive traffic problems for the Harrison Street/Oakland Avenue corridor that been in no way addressed or resolved in an integrated manner.

As an area resident and active member of the HarriOak Neighbor Group and the Westlake Area Traffic

2

3

4

Coalition, I submit these comments. I do not speak for these groups but we have struggle with these issue over many years.

Thank you,

Catherine McBride  
242 Frisbie Street  
Oakland, CA  
94611  
510-465-6605  
District Three

**LETTER B20**

**Catherine McBride**

**September 11, 2007**

- Response B20-1: This introductory comment, which states the correct date of comment submission, is noted. The comments submitted were received in time and are considered in this Response to Comments Document.
- Response B20-2: The comment provides an opinion of traffic hazards at the 27<sup>th</sup> Street/Bay Place/Harrison Street intersection associated with the Whole Foods project and is noted. Also see Response to Comment B18-1.
- Response B20-3: The comment, which does not pertain to the environmental analysis of the Draft EIR, is noted.
- Response B20-4: The comment, which pertains to the merits of the proposed project and not the environmental analysis of the Draft EIR, is noted.





# Inlandboatmen's Union of the Pacific

MARINE DIVISION -- INTERNATIONAL LONGSHORE & WAREHOUSE UNION  
NATIONAL OFFICE • 1711 W NICKERSON ST, STE D • SEATTLE, WA 98119 • (206) 284-6001 • FAX (206) 284-5043



San Francisco Regional Office 450 Harrison Street, San Francisco, CA 94105 415-896-1224

FAX: 415-896-1226

## FAX COVER SHEET

TO: Elois A Thornton FAX: 510-238-3944 <sup>6538</sup>

Planner IV DATE: 9-5-07  
City of Oakland - Comm + Econ Dev. Agency

FROM: **Marina V. Secchitano, Regional Director**

RE: Opposed to pedestrian walkway on  
Bridge faces

Number of pages including cover sheet: \_\_\_\_\_

Message: Our Captains are  
very concerned about  
the safety of  
this proposal.

Please see letter  
attached -

Marina V. Secchitano

### REGIONAL OFFICES

PUGET SOUND  
W Nickerson, Ste D  
Seattle, WA 98119  
(206) 284-5040  
X (206) 284-5043

REGION 37  
1711 W. Nickerson, Ste D  
Seattle, WA 98119  
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COLUMBIA RIVER  
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KETCHIKAN  
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Ketchikan, AK 99901  
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FAX (907) 225-8656

JUNEAU  
3017 Clinton Drive, Ste 201  
Juneau, AK 99801  
(907) 790-9544  
FAX (907) 790-9545

## NORTHERN CALIFORNIA DISTRICT COUNCIL—ILWU

1188 FRANKLIN STREET • SAN FRANCISCO, CALIFORNIA 94109 • (415) 775-0533

### AFFILIATED ILWU LOCAL UNIONS:

Local 6 Warehousemen:  
San Francisco  
Stockton  
Oakland  
Redwood City San Jose  
Crockett Richmond  
Salinas

Local 10 Longshore  
San Francisco

Local 14 Longshore  
Eureka

Local 17 Warehouse  
Broderick

Local 18 Longshore  
West Sacramento

Local 34 Shipbuilders  
San Francisco

Local 54 Longshore  
Stockton

Local 75 Watchmen  
San Francisco

Local 91 Walking Bosses  
San Francisco

IBU Marine Division  
San Francisco

September 5, 2007

Attention: City of Oakland Planning Commission:

We have reviewed your Draft Environmental Impact Report and are very supportive of the overall intent of the project. A waterfront trail is a positive way for the community to access the waterfront and all its unique activities.

Extending the Waterfront Trail around the bridge faces into navigable waterways would interfere with maritime activities. Both the Park Street Bridge and the High Street Bridge are narrow and congested with other vessel traffic, recreational boaters, etc. Currently, all the space available is needed to ensure that the commercial vessel maneuvers can be performed safely. We believe this portion of the plan is a conflict with Policy W2.6, as it unnecessarily endangers public safety, as well as interfering with maritime activities.

3



Some of our ILWU Captains have over 30 years experience on this route delivering sand and gravel to the Hanson Yard under all kinds of conditions and feel strongly that the implementation this part of the plan would jeopardize the safe transit of their tugs and barges through the bridges.

4

Waterborne transit is an environmental friendly way to move products, and it reduces the amount of trucks necessary on the roadways. To replicate the volume of aggregate being delivered would result in thousands of truck transits a year added to the Bay Bridge and the community. The ILWU has been working in a partnership with the Oakland community to improve the air quality. While we support the Waterfront Trail, we ask that the City work to make sure that our navigational waterway is not impeded by the incursion of the pedestrian trail around the bridges.

In closing, we note that there are many good union jobs at stake. If it is necessary to close this facility we deliver to because we can't safely get through the bridges, this will result in the loss of many good union jobs with health care for our families and good pensions.

5

Please redraft this part of the plan regarding the Waterfront Trail.

6

Sincerely,

Marina V. Secchitano

Vice President

**LETTER B21**

**Inlandboatmen's Union of the Pacific**  
**Marina V. Secchitano, Vice President**  
**September 5, 2007**

- Response B21-1: The comment, which pertains to the merits of the proposed project, is noted.
- Response B21-2: The comment, which expresses concern with the safety of the proposed project, is noted. Refer to Response to Comment A8-1.
- Response B21-3: The comment, which expresses support for the proposed project, is noted.
- Response B21-4: Refer to Response to Comment A8-1.
- Response B21-5: The comment, which pertains to the merits of the proposed project, is noted.
- Response B21-6: Refer to Response to Comment A8-1.



**From:** Bishop, Mike (Oakland) NA [Mike.Bishop@hanson.biz]

**Sent:** Monday, September 10, 2007 10:25 PM

**To:** Thornton, Elois

**Subject:** Measure DD Draft EIR

Please see attached comments to Measure DD Draft EIR.

***Mike Bishop***

Marine Operations Manager

Northern California

Hanson Aggregates

(510) 261-8573



Hanson Aggregates  
4501 Tidewater Avenue  
Oakland CA 94601  
Tel. 510 261-8533  
Fax. 510 534-7418

September 10, 2007

Attention: City of Oakland Planning Commission

Subject: Draft EIR for Implementation of Measure DD projects – Oakland Waterfront Trail and Access Improvements

Lack of Public Out-reach:

- Hanson is in favor of the concept of creating public access to the waterfront and has been involved in the process over the last 3 years. That said the public out-reach for this EIR has been very limited, as a stakeholder and a participant we have had very little contact with the process over the last two years. The scope of the project was brought to our attention by the US Coast Guard and that was by the time the EIR project was well underway. There was no notification of the scoping meeting received for stakeholders. There was no invitation to comment or participate during the EIR process. This Draft EIR encompasses a huge scope and I do not believe the out reach to the public has been very encompassing to alert the public of the impacts of these projects.

1

Group 2 Alternatives – Waterfront Trail Surface Street Connection Alternative (Group2)

- This alternative failed to mention that eliminating the boardwalks under the bridges, specifically the High St Bridge and the Park St Bridge would also reduce the impacts to navigation under these bridges. Reducing the navigational channel under these bridges may severely impact current and future barge traffic that currently use the estuary. This point was not address in this Draft EIR.

2

Table II-1: Summary of Impacts and Mitigation Measures – A. Land Use (Group2)

- This Draft EIR does address the need for safe access along the waterfront on the Hanson Aggregates lease. What it has omitted is how complex this issue is. In preliminary meetings in 2004 several designs and discussions were considered as to how the Bay Trail may safely access the working waterfront site at Hanson. There was no conclusion drawn at that time and the one proposed in this Draft EIR is far from adequate. Discussed at that time was the overall poor condition of the concrete pier in which the path would be on as the path crossed the Hanson lease, the Draft EIR does not address this issue. It does not address the impacts the trail would have on the barge unloading operations at this location either.

3



As stated Hanson Aggregates is in favor of the Bay Trail and conceptually routing it over property that is leased. These comments are to address the omissions in the Draft EIR in regards to the impacts on our environment, operations and business as they are today.

4

Regards,

A handwritten signature in blue ink, appearing to read "Mike Bishop", enclosed within a blue oval.

Mike Bishop  
Marine Operations Manger  
Hanson Aggregates



## LETTER B22

Hanson Aggregates

Mike Bishop, Marine Operations Manager

September 10, 2007

Response B22-1: Refer to Response to Comment B4-1 for a general description of the process that was used to notice the Draft EIR. In addition, Joel Peter, Program Manager for the Measure DD Project, e-mailed Mr. Hanson on August 10, 2007 to notify him of the availability of the Draft EIR.

Response B22-2: The comment correctly states that the proposed Waterfront Trail Alternative notes that eliminating the boardwalks under the bridges would also reduce the impacts to navigation under these bridges. While the City did not find the impedance of marine shipping to be a significant effect under the City's significance criteria (Refer to Response to Comment A8-1), the City recognizes that the U.S. Coast Guard and the marine shipping community oppose the undercrossings of the bridges on the Oakland Channel and that the U.S. Coast Guard might not be willing to issue a permit for the proposed undercrossings. The text on page 357 of the Draft EIR is revised as follows:

### 1. Project Objectives

This alternative would meet most project objectives, but to a lesser degree than the proposed project. All objectives for the Lake Merritt and Lake Merritt Channel, the Recreational Facilities, and the City-Wide Creeks Groups would be met. It is being considered, in part, because the U.S. Coast Guard and the marine shipping community have concerns about the potential safety and feasibility of the proposed under-bridge segments of the Waterfront Trail and because the U.S. Coast Guard has permitting authority in this area. The alternative would complete the missing segments of the San Francisco Bay Trail along the Oakland Estuary, albeit with segments that would not be constructed on the waterfront but rather on nearby streets. Because the trail would avoid contaminated properties, hazardous waste impacts associated with these properties would not occur but the properties would also not be remediated, one of the objectives of this project group. The alternative would support some of the objectives of OSCAR and the Estuary Policy Plan by completing a linear trail along the waterfront; however because the segments would be completed away from the shoreline in some cases, the alternative would not create as much physical and visual access to the Oakland shoreline as the proposed project.

Response B22-3: On page 57, the Draft EIR acknowledges that crossing the Hanson Aggregate facility may not be feasible while it is operational and thus the Draft EIR includes the possibility that the trail would be diverted to City streets (i.e., Tidewater Avenue) until an easement can be obtained. The City acknowledges that there may be several reasons why crossing of the property is infeasible at this time and the text on page 57 of the Draft EIR is revised as follows:

**(14) Gallagher & Burk/Hanson Aggregate Trail Connection.** The proposed segment of the trail adjacent to the Gallagher & Burk asphalt plant would be a concrete pier supported walkway. As the Hanson Aggregate facility uses water access for delivery of materials, the trail would be designed to allow materials to be transferred from barges to the site while allowing for shoreline trail access. This would include the construction of a steel canopy over a portion of the trail. Property easements are being sought for this segment of the trail, but operational constraints may preclude completing this segment of the trail while the facility is in operation. An interim route may include a connection to Tidewater Avenue, which is analyzed in the Section V, Alternatives.

Response B22-4     The comment, which pertains to the merits of the project, is noted.



344 High Street Oakland, CA 94601  
Tel. 925-829-1446 Fax 925-829-8174

TO: City of Oakland  
Community & Economic Development Agency  
Planning Division

250 Frank H. Ogawa Plaza  
Suite 3315

Oakland, CA 94612

Attn.: Elois A. Thornton

## LETTER OF TRANSMITTAL

DATE 08/27/07	JOB NO.
RE: City of Oakland Measure DD	

WE ARE SENDING YOU: ☒ Attached ☐ under separate cover via: \_\_\_\_\_ the following items;

- ☐ Quote    ☐ Specifications    ☐ Plans    ☐ Insurance Requirements    ☐ Samples  
☐ Change Order    ☐ Copy of Letter    ☐ \_\_\_\_\_

COPIES	DATE	NO.	DESCRIPTION
1	08/22/07	1	Comments regarding the City of Oakland Measure DD
			Implementation Project, Environmental Impact Report

### THESE ARE TRANSMITTED AS CHECKED BELOW:

- ☐ For approval    ☐ Approved as submitted    ☐ Resubmit \_\_\_\_\_ copies for approval  
☐ For your use    ☐ Approved as noted    ☐ Submit \_\_\_\_\_ copies for distribution  
☐ As requested    ☐ Returned for corrections    ☐ Return \_\_\_\_\_ corrected prints  
☒ For review and comment ☐ \_\_\_\_\_  
☐ FOR BIDS DUE \_\_\_\_\_ 19 \_\_\_\_\_    ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS \_\_\_\_\_

COPY TO Bob McCarrick  
File No. 58004 Pedestrian Trail

SIGNED: Vicki Gama

If enclosures are not as noted, kindly notify us at once.



# GALLAGHER & BURK, INC.

PAVING & GRADING CONTRACTORS LICENSE NO. 141140A

344 HIGH STREET • P.O. BOX 7227 • OAKLAND, CALIFORNIA 94601  
(510) 261-0466 • FAX (510) 261-0478



August 22, 2007

Subject: City of Oakland Measure DD  
Implementation Project  
Environmental Impact Report  
State Clearinghouse #2006122048  
Public Review Draft  
Prepared by LSA dated July, 2007

To Whom It May Concern:

Gallagher and Burk has been a major contractor and employer in the City of Oakland since 1946, with offices at 344 High Street. Our asphalt concrete plant, located at our Tidewater address serves the infrastructure maintenance needs of the greater Oakland area, including the Port of Oakland's maritime and airport facilities.

We have reviewed a copy of the above referenced document and have concerns about the logistics and safety aspects of combining public access with industrial activities. As traffic and air quality issues become an increasing concern, we expect to supply the raw materials to our asphalt plant by water access. Paragraph 14 "Gallagher & Burk/Hanson Aggregate Trail Connection" on page 57, describes the adjacent trail being installed as a concrete supported walkway. The intent is to "allow materials to be transferred from barges to the site while allowing for shoreline trail access. This would include the construction of a steel canopy over a portion of the trail."

It is unclear to us how safety and access will be controlled. It is likely that we will be burdened with extraordinary costs of equipment and operations due to the issues related to public access. We request that these issues be addressed, including controls of public access and reimbursement of additional costs that our facility will incur.

We look forward to your attention to these matters, which are of grave concern to the long-term operation of our facility. If you have any questions or need additional information, please contact me.

Very truly,

Alan French  
General Manager  
Gallagher & Burk Materials Division

cc: Bob McCarrick

**LETTER B23**

**Gallagher & Burk Materials Division**

**Alan French, General Manager**

**August 22, 2007**

Response B23-1: Economic impacts (either at the “macro” level of the City, or at the “micro” level of the individual private business) do not fall under the definition of environmental impacts in CEQA and therefore are not discussed in detail in the Draft EIR. The Draft EIR correctly focuses on the physical effects of the project, which include land use conflicts and safety. These effects are discussed on page 81 of the Draft EIR and mitigation is proposed that would reduce the effects of the project to less-than-significant levels. Nevertheless, on page 57, the Draft EIR acknowledges that crossing the Gallagher & Burk facility may not be feasible while it is operational and thus the Draft EIR includes the possibility that the trail would be diverted to City streets (i.e., Tidewater Avenue) until an easement can be obtained. The City acknowledges that there may be several reasons why crossing of the property is infeasible at this time. Refer to Responses to Comment A8-1, B22-2, and B22-3.

From: JSASAY@up.com  
Sent: Monday, September 10, 2007 3:32 PM  
To: Thornton, Elois  
Subject: Comments on Lake Merritt Channel Measure DD DEIR

I am attaching Union Pacific Railroad Company's letter with comments concerning the Draft Environmental Impact Report.

(See attached file: Lake Merritt DEIR Comment Letter.pdf)

\*\*\*\*\*

Jeff S. Asay  
Senior Counsel - Western Region  
Union Pacific Railroad  
10031 Foothills Blvd., Suite 200  
Roseville, CA 95747  
(916)-789-6217.

This message and any attachments contain information from Union Pacific which may be confidential and/or privileged.

If you are not the intended recipient, be aware that any disclosure, copying, distribution or use of the contents of this message is strictly prohibited by law. If you receive this message in error, please contact the sender immediately and delete the message and any attachments.



# UNION PACIFIC RAILROAD COMPANY



LAW DEPARTMENT  
10031 Foothills Boulevard, Suite 200, Roseville California 95747-7101  
(916) 789-6400 Facsimile (916) 789-6227

JEFF S. ASAY  
Assistant General Solicitor  
Direct Line: (916) 789-6217

September 10, 2007

Community and Economic Development Agency  
Planning Division  
City of Oakland  
250 Frank H. Ogawa Plaza, Suite 3315  
Oakland, CA 94612

Attn: Elois A. Thornton, Planner IV  
(email: [eathornton@oaklandnet.com](mailto:eathornton@oaklandnet.com))

Re: **Measure DD Implementation Project  
Lake Merritt Channel Improvements  
Draft Environmental Impact Report  
Case No. ER 06-0017**

## **Comments Concerning Draft EIR**

Dear Planning Division:

Union Pacific Railroad Company submits the following comments with respect to the Draft Environmental Impact Report identified above dated July 20, 2007.

The DEIR identifies the project boundaries as extending to the Union Pacific Railroad Company right of way and main line on the south end of Lake Merritt Channel. It is not possible from the maps in the DEIR to determine if the boundary encroaches into UPRR's right of way at that location. UPRR strongly objects to any designation of project boundaries that includes our right of way and trackage at this location. UPRR requests that the FEIR state definitely that the project boundary does not encroach on UPRR right of way between the main line and I-880.

Elois A. Thornton  
September 10, 2007  
Page 2 of 2

UPRR's right of way at this location contains triple tracks for the main line south and east from central Oakland and the Port of Oakland. This main line handles numerous passenger and freight trains on a daily basis. UPRR must retain the entire width of the right of way at this location for main line trackage and train operation. No part may be released or sold for improvements to Lake Merritt Channel.

2

Further, UPRR has entered into an agreement with Caltrans relating to the seismic retrofit of Interstate 880 at this location. Pursuant to this agreement, UPRR will construct a third main line track on the north side of its right of way, utilizing available width at this location. The addition of this new third main track will require construction of a new railroad bridge across Lake Merritt Channel matching the elevation of the existing railroad bridges. Therefore, no encroachment of the Lake Merritt Channel on the railroad right of way will be entertained or permitted at this location.

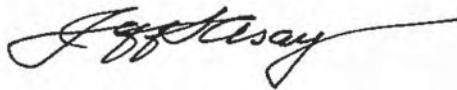
3

Please revise the DEIR accordingly, noting that project boundaries must not encroach on UPRR right of way and must not extend south of the north right of way line of the UPRR. It should also be noted that further expansion of the Lake Merritt Project south of the railroad must take into account the fact that the location and elevation of the existing and planned railroad bridges.

4

Please contact the undersigned if more information is needed.

Very truly yours,



Jeff S. Asay

/amm

**LETTER B24**

**Union Pacific Railroad Company**  
**Jeff Asay, Senior Counsel – Western Region**  
**September 10, 2007**

Response B24-1: Refer to Response to Comment A7-1.

Response B24-2: The comment, which pertains to Union Pacific railroad's control of the railroad right-of-way at the south of end of the Lake Merritt Channel, is noted. As the comment does not pertain to the environmental analysis of the Draft EIR, no further comment is provided.

Response B24-3: The comment, which pertains to Union Pacific railroad's control of the railroad right-of-way at the south of end of the Lake Merritt Channel, is noted. As the comment does not pertain to the environmental analysis of the Draft EIR, no further comment is provided. Refer to Response to Comment A6-1.

Response B24-4: Refer to Response to Comment A7-1.



September 14, 2007

19869

**VIA E-MAIL (*EAThornton@oaklandnet.com*)**

Elois A. Thornton, Planner IV  
Community and Economic Development Agency  
Planning Division  
250 Frank H. Ogawa Plaza, Ste. 3315  
Oakland, CA 94612

Re: Union Pacific Railroad Company's Comments on  
Draft EIR for Measure DD Implementation Project, SCH #2006122048

Dear Ms. Thornton:

We represent Union Pacific Railroad Company ("UP"). By this letter, UP augments its letter to you dated September 10, 2007 and further presents its comments on the Draft Environmental Impact Report ("Draft EIR") for the Measure DD Implementation Project (the "Project").

1

The Project seeks to implement Measure DD, a municipal bond measure passed by Oakland voters in 2002 that authorizes the City of Oakland (the "City") to issue bonds that fund physical improvements to existing parks; acquisition of land for new parks; development of new parks and recreational facilities; clean water measures; restoration and rehabilitation of recreation buildings; and implementation of creek and waterway protection and restorative activities. The Project is divided into four implementation groups located throughout the City: (1) Lake Merritt and Lake Merritt Channel Improvements (Group 1); (2) Oakland Waterfront Trail and Access Improvements (Group 2); (3) North and East Oakland Recreational Facilities (Group 3); and (4) City-wide Creeks, Restoration, Preservation and Acquisition (Group 4).

2

Located adjacent to or otherwise near the Project sites are UP's railroad yard, a railroad line and right-of-way in Oakland (the "UP Line") that roughly parallels the I-880 freeway. As a result of this close proximity, the development or improvements proposed by the Project are likely to impact the UP-Line and rail services.

By this letter, UP brings to the City's attention its concerns regarding traffic, safety, trespassing, vibration, and mechanical odor. Based on our comments below, UP respectfully requests that the City analyze these impacts associated with the Project's location near the UP Line and require appropriate mitigation measures to reduce those impacts.

Elois A. Thornton  
September 14, 2007  
Page Two

## 1. Background on UP

Many people know about UP's distinguished history. UP played a prominent role in the development of the first transcontinental railroad in the late 1860's. What many people do not know is that today, UP remains a significant owner of railroad property and a major freight transporter in the western two-thirds of the United States. In fact, UP is the largest railroad company in North America.

Of particular relevance to the Project, UP owns a railroad yard, railroad line and right-of-way immediately adjacent to or near the Project sites. UP operates freight services, and Amtrak operates passenger services, on the UP line. The UP line experiences a very high volume of rail traffic, as it serves the entire metropolitan Bay Area and is a major transportation corridor through Northern California.

Given UP's significant presence in and around the City of Oakland, UP takes great interest in the City's growth and improvement. It is with this perspective that UP respectfully submits the comments in this letter.

## 2. Traffic

Many of the concerns specific to the Project, including, but not limited to, a concern about traffic, arise from the associated increase in population within the close proximity of the UP Main Line. Specifically, the Project proposes, in connection with Group 3, the construction of an East Oakland Sports Complex at the corner of Ednes and Jones Avenues. This component of the project proposes a 150,000 square foot addition to and expansion of the existing Ira Jinkins Park/Recreation Center (the "Center"). (Draft EIR, p. 57.) The facility is anticipated to include a 25-meter pool, activity pool, gymnasium, fitness center, meeting rooms and community space, and bowling alley.

The UP Line crosses several roadways at-grade to the immediate east of the Center, including, but not limited to, the at-grade crossings at 85th Avenue and 98th Avenue. A natural consequence of the expansion of the Center will likely be an increase in the number of people going there to enjoy the new recreational benefits. In turn, there will also likely be an increase in traffic volumes in and around that area, including the existing at-grade rail crossings. Traffic spillover effects may further increase vehicle trips over the at-grade crossings, as motorists attempt to take short cuts to avoid congestion along primary traffic arterials. Additional vehicle trips and traffic congestion could negatively impact at-grade rail crossings in the area by increasing the chance of train-vehicular conflicts, thereby raising an obvious safety issue.

UP therefore urges the City to further analyze the Project's potential impacts on traffic inasmuch as they relate to rail safety and operations along the length of the right-of-way, and traffic flow at at-grade rail crossings near the proposed East Oakland Sports Complex, including, without limitation, those at 85th Avenue and 98th Avenue. UP's operations must not be affected

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Elois A. Thornton  
September 14, 2007  
Page Three



by greater traffic and potential congestion at at-grade crossings and, thus, adequate mitigation measures should be implemented. Possible mitigation measures include construction at the developer's expense of grade-separated crossings or permanently blocked-off closures of existing at-grade crossings. (For a further discussion on the concern of at-grade crossings, see Section 3 below.)

4  
cont.

### 3. Pedestrian and Bicycle Safety; Trespassing

The addition of this substantial increase in population near the UP Line creates concerns not only about traffic but also about pedestrian and bicycle safety. Planned uses near the UP Line include, without limitation, recreational facilities (*e.g.*, East Oakland Sports Complex, Municipal Boathouse), parks, pedestrian and bicycle trails (*e.g.*, Waterfront Trail along the Oakland Estuary between Jack London Square and 66th Avenue), marina uses, residential, open space, roadways, and retail/commercial. Although this area is already populated, these developments and improvements will likely attract a substantially large amount of people the immediate vicinity of the UP Line, thereby raising concerns about pedestrian and bicycle safety, and trespassing.

For instance, the Waterfront Trail will likely attract more pedestrians and cyclists to the area around the UP Line. UP generally disfavors the location of pedestrian trails and uses adjacent to its tracks and therefore any trails or pedestrian uses adjacent to or in close proximity of UP's tracks that are currently under consideration should be highly discouraged. The distance between the trail and the UP Line is anticipated to vary from one point to another. In some places, such as the vicinity of the mouth of the Channel, the trail would be located immediately adjacent to the UP line. Some of those people using the trail could walk across the UP Line to reach the trail at various points, and others might trespass onto the UP right-of-way itself. Similarly, the pedestrian, bicycle, and small boat improvements in connection with the Lake Merritt Channel Improvements likely will increase the number of people who may walk or bike across the UP Line, and/or walk, bike, or boat beneath railroad bridges that span the Lake Merritt Channel, at point close to the mouth of the Channel, and that parallel the automotive bridge on Fruitvale Avenue. These potential impacts raise concerns about pedestrian safety, trespassing and interference with rail operations.

5

The concern about safety is also exacerbated by the Project's proposal to increase the population near existing at-grade crossings, such as, among others, the intersection of Embarcadero and 5th Avenue, at 85th Avenue, and at 98th Avenue. Although the vehicular traffic analysis in the Draft EIR found the Project's traffic impacts on the intersection of Embarcadero and 5th Avenue to be less than significant, the Draft EIR contained no analysis regarding pedestrian and bicycle safety at that intersection, let alone the at-grade crossings at 85th Avenue and 98th Avenue, near the proposed expansion of the Center. Patrons of the Center may walk or jog through and around the surrounding neighborhood, meaning that some likely would walk across the UP Lines at the aforementioned at-grade crossings, or might trespass onto

6



the UP right-of-way itself. This increase in pedestrian activity near the UP Line could implicate pedestrian safety around the tracts.

6  
cont.

Another safety concern is the City's stated goal to provide trail access along the Lake Merritt Channel south of 7th Street, which would require the trail to cross the existing UP mainline rail tracks at-grade and/or require a new at-grade crossing along the channel. (DEIR, p. 129.) We note that, any such new at-grade crossings (or modifications to existing crossings) require the permission of the California Public Utilities Commission. Although the Draft EIR states that the "resolution of improving trail connectivity is not intended to be resolved in this study," UP advises in advance that it strongly objects to any proposed at-grade crossings because they have obvious safety implications and could negatively impact train operations. (*Id.*)

7

The Restoration Along Sausal and Seminary Creeks (Group 4) also presents a possible safety concern. The creek restoration activities raise the issue of whether the public access improvements would attract any additional pedestrians or cyclists across or around the UP Line. If so, the Draft EIR should examine the possible safety impacts.

8

The City should therefore closely analyze pedestrian and bicycle safety, and the likelihood of trespassing onto the UP right-of-way in order to set forth appropriate mitigation measures. As the Draft EIR recognizes, Policy W2.5 of the City's General Plan states: "[t]o create safe access to water pedestrian, bicycle, and automotive railroad crossings should be provided where feasible." Thus, appropriate mitigation measures are not only desirable in their own right, but are also crucial to the Project's consistency with the General Plan. Specifically, the City should consider requiring the developer to install grade-separated pedestrian and bicyclist crossings as well as require the developer to construct only grade-separated roadways across the UP Main Line. To this aim, UP appreciates the City's decision that the preferred plan for the continuation of the Bay Trail along the Oakland Estuary is for the trail to pass under the railroad bridges along Fruitvale and High Avenues. (Draft EIR, pp. 55, Appendix D at p. 3.)

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The City may also want to consider requiring the developer to eliminate the existing at-grade rail crossings by either constructing grade-separated crossings at those locations and/or eliminating the crossings altogether. Other possible mitigation measures that the City should consider include, but are not limited to, solid barriers along the full lengths of the right-of-way, (for example, walls, as opposed to fencing, to manage pedestrians and vehicles), relocating such land uses far away from the tracks where possible, setbacks and buffers, the installation of sound walls or other barrier fencing along the full lengths of the right-of-way, pedestrian gates, pavement markings, "no trespassing" signs, railroad safety education programs, and planning for safe transportation routes to schools, entertainment, shopping, and recreational facilities.

10

#### 4. Vibration

As the Draft EIR recognizes, the Project sites are located adjacent to or near the existing UP Line, which generates airborne vibration. (Draft EIR, p. 175.) It is well-known, however,

11

that UP's rail operations, as well as passenger trains, also generate ground vibration associated with an active railway. For instance, the Waterfront Trail and pedestrian, bicycle and small boat improvements likely will attract more people to the area immediately surrounding the UP Line, thereby exposing them to typical vibration that come with freight and passenger rail service. The Project is therefore anticipated to expose increased population to existing vibration, and the City should analyze this possible impact.

11  
cont.

Possible mitigation measures include a condition of approval that requires the developer to disclose to the general public this pre-existing and predictably-occurring vibration, as well as construction and design techniques (*e.g.*, trenching and/or floating floors) that absorb and/or minimize interior vibration.

#### 5. Mechanical Odor

Finally, it is also well-known that locomotives not only generate noise and vibration, but also may emit mechanical odors. Other existing land uses in and around the site include industry and commerce, and such land uses typically generate odors associated with their specific uses, thereby potentially resulting in cumulative impacts that some people in the area may notice. The various development and improvements proposed for the Project will attract more people to the area surrounding the UP Line and therefore expose them to existing mechanical odor. Although the Draft EIR briefly discusses odors from restaurants, manufacturing plants, agricultural operations, and industrial facilities, it does not mention the mechanical odors associated with locomotives. (Draft EIR, p. 155.) The City should therefore consider analyze this potential impact in the Draft EIR and implement any necessary mitigation measures.

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\*\*\*

UP appreciates this opportunity to comment on the Draft EIR for the Project and hopes that the City, as lead agency, gives due consideration to the above concerns. On UP's behalf, we would welcome the opportunity to sit down together with City officials and staff to discuss this Project as it progresses or any other project that may relate to UP's property or operations within the area. Such a discussion would afford UP and the City the opportunity to work in collaboration to ensure that the Project and all future development near UP lines are compatible with the rail services that will continue to serve the area for years to come.

13

Please give notice to UP of all future developments with respect to this Project and any other proposed transportation improvements in the vicinity as follows:

Mr. Terrel Anderson  
Manager of Industry and Public Projects  
Union Pacific Railroad Company  
10031 Foothills Boulevard  
Roseville, California 95747-7101



Elois A. Thornton  
September 14, 2007  
Page Six



With a copy to:

Andrew Bassak, Esq.  
Shirley Jackson, Esq.  
Steeffel, Levitt & Weiss  
One Embarcadero Center, 30th Floor  
San Francisco, California 94111.

**13**  
**cont.**

Please do not hesitate to contact our office if you would like to schedule a meeting with UP or have any questions. UP will monitor this project with interest.

Sincerely,

Shirley E. Jackson

cc: Andrew Bassak, Esq.  
Mr. Terrel Anderson

19869:6608883.2



## **LETTER B25**

**Steeffel, Levitt & Weiss**

**Shirley E. Jackson**

**September 14, 2007**

Response B25-1: The comment letter was received on September 14, 2007, three days after the close of the comment period on September 11, 2007. Although the 45-day comment period for the Draft EIR had closed, the City has elected to respond to the comments provided in the letter.

Response B25-2: The comment, which describes elements of the proposed Measure DD Implementation Project and states that the project is likely to impact the Union Pacific Railroad (UPRR) lines and rail services, is noted. It requests that the EIR analyze traffic, safety, trespassing, vibration and mechanical odor issues associated with the proposed project's proximity to the rail line and require mitigation measures to reduce impacts. Refer to Response to Comment A7-1 and Responses to Comments B25-3 to B25-12 for responses to the specific issues raised for each topic.

Response B25-3: The comment, which describes certain aspects of the history of the Union Pacific Railroad (UPRR) and its presence in and around Oakland, is noted.

Response B25-4: The comment incorrectly states that the project would result in a substantial increase in population within close proximity of the UPRR Main Line. The project does not propose to build housing or other facilities that would substantially increase the residential population in the vicinity of the UPRR Main Line.

It is recognized that the East Oakland Sports Complex project would increase traffic volumes at the railroad crossings located at 98<sup>th</sup> Avenue and 85<sup>th</sup> Avenue. The study showed that peak hour traffic volumes on 98<sup>th</sup> Avenue would increase by less than two percent as a result of the project. The traffic added would not perceptibly affect traffic service levels at the rail crossing. The study did not evaluate traffic volume changes at 85<sup>th</sup> Avenue because the traffic volumes are relatively light and changes in traffic volume resulting from the Sports Complex were expected to have a less than significant impact on traffic operations along 85<sup>th</sup> Avenue.

The effectiveness of existing safety measures in place at all railroad crossings leading to the Sports Complex would not be significantly affected by the minimal changes in traffic volumes associated with the project. The small changes in traffic volumes would not justify construction of grade-separated crossings. Permanent blocked-off closures of existing at-grade crossings would transfer traffic volumes to other streets and could result in secondary traffic impacts.

Response B25-5: Please see Response to Comment B25-4 regarding population effects of the proposed project. In addition, project facilities, with the exception of portions of the Waterfront Trail and the trail along the Lake Merritt Channel, are located well away from (a quarter mile or more) the UPRR lines as shown in the figures provided in the Project Description and would not bring substantial numbers of people to the rail crossings.

It is recognized that there is a potential for pedestrians and bicyclists to travel between project elements (such as the Waterfront Trail and Lake Merritt) along 5<sup>th</sup> Avenue, Oak Street, or other streets near Embarcadero. The Draft EIR did not specifically address pedestrian impacts at railroad crossings because there are existing safety measures (i.e., crossing gates, warning lights, and chain link fencing along the Embarcadero) that would limit the ability of pedestrians and bicyclists traveling between the project elements to cross the tracks. The numbers of pedestrians or cyclists crossing the tracks to travel between project areas would not compromise the existing safety features at the crossings or exceed the capacity or capabilities of the existing controls to limit crossings of the rail lines.

The Waterfront Trail, which runs parallel to the UPRR lines, is separated from the tracks by roads, such as the Embarcadero and Interstate-880, and fencing. This infrastructure provides barriers between recreational users of the trail and the UPRR lines at non-street crossing locations. The trail along the Lake Merritt Channel currently ends just south of the 7<sup>th</sup> Street Bridge and this would not change as part of the project. No new at-grade crossings of the UPRR line are proposed as part of the project although existing crossings at 5<sup>th</sup> Avenue and Oak Street would be used by bicyclists and pedestrians, as they are now, to travel between the waterfront and other areas of Oakland. Refer to Response to Comment A7-1 for additional discussion of the rail line crossings.

The text on page 130 of the Draft EIR is revised; the following text is added to the discussion of Alternative Transportation (Pedestrian and Bicycle Transportation) (as a new paragraph):

Pedestrians and bicyclists would cross the UPRR tracks along 5<sup>th</sup> Avenue and Oak Street when traveling between project elements in the Lake Merritt area and the Waterfront Trail. Currently, the crossings have safety equipment including crossing gates and warning lights. These facilities control access by pedestrians as well as vehicles. There is also a chain link fence along Embarcadero, which prevents crossings by pedestrians at other locations. With the implementation of the Measure DD improvements, these existing safety features would remain in place. Thus, the project would not increase hazards to vehicles, pedestrians, or bicyclists. The impact would be less than significant.

The text on page 139 of the Draft EIR is revised; the following text is added to the discussion of Alternative Transportation (as a new paragraph):

Pedestrians and bicyclists would cross the UPRR tracks along 5<sup>th</sup> Avenue and Oak Street when traveling between project elements in the Lake Merritt area and the Waterfront Trail. Currently, the crossings have safety equipment including crossing gates and warning lights. These facilities control

access by pedestrians as well as vehicles. There is also a chain link fence along Embarcadero, which prevents crossings by pedestrians at other locations. With the implementation of the Measure DD improvements, these existing facilities would remain in place. Thus, the project would not increase hazards to vehicles, pedestrians, or bicyclists. The impact would be less than significant.

Response B25-6: Please see Response to Comment B25-4 regarding population effects of the proposed project.

It is recognized that the project may increase pedestrian and bicycle activity along 5<sup>th</sup> Avenue, 85<sup>th</sup> Avenue and 98<sup>th</sup> Avenue; however, the increase is expected to be small and would be consistent with City of Oakland's policy to encourage pedestrian and bicycle travel along these routes. For the Draft EIR, a review was performed of the potential of the project to conflict with adopted policies, plans and programs supporting pedestrian and bicycle transportation and was found to be consistent with City policy. The Oakland Bicycle Master Plan proposes bike lanes along 5<sup>th</sup> Avenue and proposes designation of 85<sup>th</sup> Avenue and Edes Avenue as Class III bike routes. Similarly, the Oakland Pedestrian Plan identifies 5<sup>th</sup> Avenue and 85<sup>th</sup> Avenue as neighborhood pedestrian routes, 98<sup>th</sup> Avenue as a City pedestrian route, and Edes Avenue as a District pedestrian route.

The increase in pedestrian activity near the UPRR Line would not be of sufficient magnitude to significantly affect safety around the tracks and would not justify construction of grade separated crossings. Walking, jogging, or bicycling across the UPRR lines at the aforementioned at-grade crossings would be consistent with City policies, plans and programs. The potential for trespassing onto the UPRR right-of-way would not be substantially affected by the project.

Response B25-7: The comment, which states that the UPRR would strongly oppose an at-grade crossing of the UPRR tracks in the vicinity of the Lake Merritt Channel and that new crossings or modifications of existing crossing would require permission of the California Public Utilities Commission, is noted. Refer also to Response to Comment A7-1.

Response B25-8: The locations of proposed creek restoration, preservation and acquisitions sites are shown on Figure I-3 and described in Table III-2. None of the project locations along Sausal and Seminary creeks as cited in the comment are in close proximity to UPRR lines. The nearest activity associated with Sausal Creek is a daylighting of the creek at Hawthorne School, which is located about 0.5 miles from the railroad lines. The nearest activity on Seminary Creek site, which is also located about 0.5 miles from the railroad lines, is the removal of a concrete channel and site restoration. Both sites are located in residential areas and there is considerable urban infrastructure between the restoration sites and the railroad, making traffic, pedestrian or bicyclist connections between the locations unlikely. Neither of the proposed activities would attract vehicles, pedestrians or bicyclists to the UPRR lines.



A creek restoration site along Lion Creek on San Leandro Boulevard near 66<sup>th</sup> Avenue is in closer proximity to the UPRR tracks than the creek locations cited in the comment. The restoration activity at this site would create wetlands along an existing section of creek within a residential project and an existing park. The UPRR tracks lie to the west of the park. The restoration is not expected to substantially increase park use and most users of the park would come from the residential areas to the east rather than from the industrial area to west. Thus, the creek restoration would not generate a significant number of vehicle, pedestrian, or bicycle crossings of the UPRR tracks.

Response B25-9: The entire text of General Plan Policy W2.5 that is cited in the comment reads, “**Improved Railroad Crossings.** To create safe access to the water pedestrian, bicycle, and automobile railroad crossings should be provided where feasible. Crossings could include grade separations, at-grade crossings, skyway bridges, or connections between buildings.” The policy analysis in Appendix D of the Draft EIR correctly states that the policy is not applicable to the Lake Merritt and Lake Merritt Channel, Recreational Facilities, and City-wide Creeks Groups as no rail crossings are proposed as part of these groups; the under-crossing of the rail line proposed as part of the Waterfront Trail is consistent with the policy as well. It should be noted that the policy includes at-grade crossings as an option for safe access to the waterfront, where feasible. The comment, which states that the UPRR appreciates the decision to route the Waterfront Trail to pass under the railroad bridge at Fruitvale and High [sic] Avenues, is noted. Refer to Responses to Comments A8-1, B22-2 and B22-3.

Response B25-10: The comment, which suggests design features as mitigation for reducing safety hazards at rail crossings, is noted. As impacts to safety were found to be less-than-significant no mitigation is required. Refer to Response to Comment, B25-4 to B25-6.

Response B25-11: The impacts of ground-borne vibration are analyzed on p. 181 of the Draft EIR, which concludes that there would be no impact during the project’s operational phase. The proposed Measure DD Implementation Project would not expose a substantial number of people to ground-borne vibration associated with the UPRR operations. No sensitive uses (e.g., schools, hospitals, or housing) would be constructed as part of the project that would bring sensitive receptors into proximity with the UPRR lines. No new crossings of the UPRR lines are proposed as part of the project. The information provided in the comment does not change the analysis or conclusions of the Draft EIR. The text on page 181 of the Draft EIR is revised as follows:

(4) **Vibration.** None of the four project groups contain components that would generate ground-borne vibration levels that would be perceptible to the average person. ~~There would be no impact during the project’s operational phase.~~ The project may briefly bring people into proximity with transportation facilities along the Waterfront Trail, such as railroad tracks, that produce ground-borne vibration. But the project would not frequently expose a substantial number of people to ground-borne vibration. Construction activities associated with implementation of the project,

including proposed pile driving activities, could temporarily expose persons in the vicinity of the proposed project construction areas to ground-borne vibration or ground-borne noise levels. However, the project would comply with the construction hours specified in the City's Noise Ordinance and the City's standard Conditions of Approval would be applied. Implementation of the Conditions of Approval would ensure potential ground-borne vibration would be avoided or reduced to a less-than-significant level.

Response B25-12: The proposed Measure DD Implementation Project would not expose a substantial number of people to odors associated with the UPRR railroad operations. No sensitive uses (e.g., schools, hospitals, or housing) would be constructed as part of the project that would bring sensitive receptors in to proximity with the UPRR railroad lines. No new crossings of the UPRR lines are proposed as part of the project. The text on page 155 of the Draft EIR is revised as follows:

**(4) Odors.** Odors are also an important element of local air quality conditions. Specific activities can raise concerns on the part of nearby neighbors. Major sources of odors include restaurants, manufacturing plants, and agricultural operations. Other odor producers include the industrial and transportation facilities within the region, such as railroads that may produce mechanical odors. While sources that generate objectionable odors must comply with air quality regulations, the public's sensitivity to locally produced odors often exceeds regulatory thresholds.

The text on page 159 of the Draft EIR is revised as follows:

**(5) Objectionable Odors.** The operation of the project components of Measure DD would not generate objectionable odors. Typically, major sources of odors include restaurants, manufacturing plants, and landfills. Other odor producers include industrial and transportation facilities within the region, such as railroads that may produce mechanical odors. The proposed project components include physical improvements to existing parks; acquisition of land for new parks; development of new parks and recreation facilities; clean water measures; restoration and rehabilitation of recreation buildings; and implementation of creek and waterway protection and restoration projects which are not expected to generate objectionable odors. The project may briefly bring people into proximity with industrial or transportation facilities that produce odors along the Waterfront Trail, but exposures would be brief and affect a relatively small number of people on an occasional basis. Therefore, the project would not frequently create substantial objectionable odors affecting a substantial number of people. The information provided in the comment does not change the analysis or conclusions of the Draft EIR. This potential impact would be less than significant.

Response B25-13: The comment, which states that the UPRR would welcome the opportunity to meet with the City to discuss its concerns, is noted.

## **C. VERBAL COMMENTS**

The Planning Commission held a Public Hearing on September 5, 2007 to accept verbal comments on the Draft EIR from agencies, organization or interested individuals. The comments presented at the hearing are summarized and enumerated in attachment C1 and written responses follow.



**COMMENTS AT THE OAKLAND CITY PLANNING COMMISSION PUBLIC HEARING  
FOR THE MEASURE DD IMPLEMENTATION PROJECT**

September 5, 2007; City Council Chambers, City Hall, 1 Frank H. Ogawa Plaza

Public individuals spoke first, followed by Planning Commissioners.

**Mike Bishop.** Introduced himself as a representative of Hanson Aggregates at 4501 Tidewater Avenue in Oakland. Made the following comments:

- He has received little notice of scoping meetings for the project; he has been involved with the Bay Trail, working with City and Regional Parks. | 1
- Development of steel canopy noted in Table II-1 more complicated than described; site also has deteriorated dock that needs to be considered. | 2
- Narrowing of navigable channel under the bridges along the estuary makes it more difficult for barges to use the channel and might require switching to trucks to bring materials to Oakland. | 3
- Requested that the navigable channels be kept open. | 4

**John Wilson.** Made the following comments: | 5

- Many people who wanted to speak tonight had to leave earlier. | 6
- Why are we 5 years into the Measure DD process and only now preparing an EIR? | 7
- The project has the appearance of poor planning and underfunding. There have been major design changes after the bond measure was passed. Why have projects changed? | 8
- Projects are stalled because they are overbudget. | 9
- Government entities are only now being contacted. | 10
- Expressed concern about plan to remove trees; there is a mythology that only dead trees would be removed. | 11
- Found Figure III-1 helpful. Reason to remove trees was to create a view corridor. Asked where view corridor is and expressed concerned about tall buildings being constructed around lake | 12
- Lake is oldest designated wildlife sanctuary in nation. Boundary goes 1,065 feet from old tidal boundaries. | 13

**Orna Sasson.** Made the following comments:

- Voted on Measure DD to preserve parks. | 14
- Old trees should be cared for by arborists. | 15
- Parks are not the place for parking lots. | 16
- Need easements to preserve City parks. | 17
- Let 1,000 parks bloom. | 18

**John Butcher.** Introduced himself as the port captain for FOSS Maritime in Richmond. Made the following comments:

- Stated that he was here to discuss proposed walkway under bridges along the estuary. FOSS Maritime is a company of professional mariners that transports sand and other materials along waterways. | 19
- The proposed walkways under bridges would reduce the openings by 25% under some conditions. Barges are 60-feet wide and the opening would be 90 feet when only one side of bridge is open. | 20
- Invited commissioners to see how channel would be constrained. | 21

- A brief discussion occurred between Mr. Butcher, Commissioner Boxer, Joel Peter (Measure DD Program Manager), and Claudia Cappio (Community and Economic Development Agency, Development Director) ensued clarifying the proposed location and design of the walkway. Joel Peter indicated that the City believes that the walkway could be designed with adequate safety to protect users of the trail.
- Mr. Butcher concluded by stating that he did not believe the walkway design is safe and that the Coast Guard agrees.

**13  
cont.**

**Nancy Rieser.** Introduced herself as a member of Friends of the Lake. Made the following comments:

- Noted Friends of the Lake is sending written comments.
- Stated that there is a lack of coordination with regional and state agencies with regards to the 12<sup>th</sup> Street Channel.
- Stated she has concerns about toxics in the bay fill in the project area that exceed state standards.

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**David Mix.** Made the following comments:

- Document is too extensive and not enough time at public hearing
- Appendix C documents are too difficult to read, due to poor reproduction
- He objects to entire document; it is based on improper or false material, junk science
- Sewers and storm sewers have historically flowed into the lake and channel
- Noted various studies that looked at flows through the channel. Some studies used MIKE II model and MIKE II didn't adequately consider elevations and size of culverts.

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**Jonas LaMattery-Brownell.** Introduced himself as a member of the Lake Merritt Neighbors Organized for Peace and a participant in the tree spirit photo by Jack Gescheidt. Made the following comments:

- Encourages the City to save as many trees as possible around Lake Merritt.
- The commentor read the following poem, which he had composed:

The Merritt of Trees

Lake Merritt lakeshore's trees are alive,  
As alive as you and me,  
I run by them often and say,  
Hey sticky sister, hey brother barkful,  
Hello old one prickly, hello relatives rooted.  
When I breathe, I breathe tree.  
Just like sipping lake or sipping melted glacier stream,  
Here in Oakland I breathe salty sunny air, a little pollution pepper and still too...  
All the trees of Lake Merritt

**22**

**Jacquee Castain.** Made the following comments:

- Elmhurst District and East Oakland supports the East Oakland sports and swim center
- Asked for City's help on cleaning up a nearby contaminated creek site on 85<sup>th</sup> Avenue.

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**24**

- Noted that according to the staff report and the EIR notice, comment period will end on September 10, which is a City holiday when offices will be closed. | 25
- The City of Oakland and the planning commission should allow more than 2 minutes per commentor to make verbal comments. The Planning Commission has reduced available meeting time over the past 4 years, which limits the number of people who can comment. | 26
- Measure DD funding was inadequate. | 27

**Planning Commissioners**

**Michael Lichty.** Made the following comments:

- Stated that many issues raised tonight didn't appear germane to the EIR and will be considered during engineering and design review. Claudia Cappio noted in response that impacts to navigable waterways are relevant to CEQA evaluation; document needs to identify impact to safety and navigation around bridge. | 28
- Need to resolve safety issue outside of the EIR process during the design work; hope issues will be taken seriously.

**Paul Garrison.** Made the following comments:

- Requested an update on the litigation about the proposed tree removals. Mark Wald provided an update. | 29

**Suzie Lee.** Made the following comments:

- Recommended commentors submit comments in writing; | 30
- Expressed concern about impact to navigation and requested that impact be given serious consideration.

**Douglas Boxer/Michael Colbruno.** Made the following comments:

- Commissioners stated that they would accept previous speaker's offer to take them out on a tug boat to observe the proposed sites of the trail walkways along the estuary. | 31

**Madeleine Zayas-Mart.** Made the following comments:

- Requested clarification of phasing and funding of project. Claudia Cappio noted that City is leveraging matching and supplemental funding from various sources. | 32



## **Oakland City Planning Commission Public Hearing Comments September 5, 2007**

- Response C1-1: Refer to Responses to Comments B4-1 and B22-1 (comment letter B22 was submitted by the speaker).
- Response C1-2: Refer to Response to Comment B22-3.
- Response C1-3: Refer to Response to Comment B22-2.
- Response C1-4: The comment, which requests that navigable channels be kept open, is noted. For additional discussion of this issue refer to responses to comment letters B8 (from the U.S. Coast Guard) and B22 (Mr. Bishop's written comments on the Draft EIR).
- Response C1-5: The comment does not pertain to the environmental analysis of the Draft EIR so no further response is provided.
- Response C1-6: A history of the environmental review process for Measure DD-funded activities, which explains what has occurred between passage of Measure DD and the release of the Draft EIR, is provided in Chapter III, Project Description on pages 23 and 24 of the Draft EIR.
- Response C1-7: The comment, which expresses concern about funding and planning for the Measure DD activities, is noted. The comment does not pertain to the environmental analysis of the Draft EIR so no further response is provided.
- Response C1-8: Refer to Response to Comment B4-1.
- Response C1-9: The reasons for the removing trees are varied; they are identified in Chapter III, Project Description on page 30.
- Response C1-10: The reasons for the removing trees are varied; they are identified in Chapter III, Project Description on page 30. No tall buildings, which would block view corridors, are proposed as part of the project.
- Response C1-11: The comment is noted. The Draft EIR notes the Lake's designation as a wildlife refuge on page 226.
- Response C1-12: The comment does not address the environmental analysis of the Draft EIR so no further response is provided.
- Response C1-13: The comment raises concerns about the impact of the Waterfront Trail on maritime shipping. Refer to responses to comment letters B8 and B22.

- Response C1-14: The comments were submitted in writing. Refer to responses to comment letters B15 and B16.
- Response C1-15: Refer to Response to Comment B4-1.
- Response C1-16: Refer to Response to Comment B15-7.
- Response C1-17: The comment, which pertains to the amount of speaker time available at the public hearing, is noted.
- Response C1-18: Full size copies of the original public comment letters that were received during the EIR scoping period have been and are available for review at: City of Oakland, Community and Economic Development Agency, Planning and Zoning Division, 250 Frank H. Ogawa Plaza, Suite 3315, Oakland, California 94612.
- Response C1-19: Mr. Mix submitted his comments in writing. Refer to response to his comment letter B11, in particular Responses to Comments B11-3 to B11-5, which are included under the heading “Junk Science” in the comment letter.
- Response C1-20: The comment regarding the historic discharges to Lake Merritt is noted. The comment does not pertain to the environmental analysis of the Draft EIR so no additional response is provided.
- Response C1-21: Refer to Response to Comment B11-3.
- Response C1-22: The comment, which addresses the merits of the project, is noted.
- fallen trees, sadness  
spring tides flow strong again  
park and lake reborn
- Response C1-23: The comment, which addresses the merits of the project, is noted.
- Response C1-24: The comment, which identifies a creek segment not included in the Measure DD Implementation Project, is noted.
- Response C1-25: Due to the City holiday, the City accepted comments on the Draft EIR until September 11, 2007.
- Response C1-26: The comment, which pertains to the amount of speaker time available at the public hearing, is noted.
- Response C1-27: The comment, which states that Measure DD funding is inadequate, is noted.
- Response C1-28: Refer to responses to comment letters B8 and B22.

- Response C1-29: The requested information does not pertain to the environmental analysis of the Draft EIR. City legal counsel responded to the question at the public hearing.
- Response C1-30: The statement regarding submittal of comments in writing is noted. Refer to responses to comment letters B8 and B22 for discussion of impacts to navigation and safety along the estuary.
- Response C1-31: The comment, which does not pertain to the environmental analysis of the Draft EIR, is noted.
- Response C1-32: Because of the large number of elements of the Measure DD Implementation Project, which are geographically dispersed across the City, a phasing plan for the entire project is not provided in the Draft EIR. Phasing and project status information for individual elements is provided where such information is available (see Table III-1 of the Project Description, for example). Individual projects would receive funding from a variety of federal, State and regional sources in addition to receiving Measure DD funds. The source of funding does not pertain to the environmental analysis of the Draft EIR.





## IV. TEXT REVISIONS

Section A of this chapter presents specific revisions to the text of the Draft EIR that are being made in response to comments, or to amplify and clarify material in the Draft EIR. Where revisions to the main text are called for, the page and paragraph are set forth, followed by the appropriate revision. Added text is indicated with underlined text. Deletions to text in the Draft EIR are shown with ~~strikeout~~. Page numbers correspond to the page numbers of the Draft EIR. Section B presents revisions initiated by the City to the cumulative traffic analysis. The cumulative analysis for traffic is being revised because the City's significance criterion for cumulative traffic impacts was invalidated by the Superior Court of California subsequent to the publication of the Draft EIR.

None of the changes or clarifications presented in this chapter significantly alters the conclusions or findings of the Draft EIR.

### A. REVISIONS MADE IN RESPONSE TO COMMENTS ON THE DRAFT EIR

Page 23 of the Draft EIR is revised as follows:

In June 2002, prior to the passage of Measure DD, the City analyzed the measure's potential environmental effects in an Initial Study that relied upon previous environmental documents prepared by the City. The previous environmental documents included the Oakland General Plan Open Space, Conservation and Recreation (OSCAR) Element Mitigated Negative Declaration, the General Plan Land Use and Transportation Element (LUTE) EIR, the Estuary Policy Plan EIR, and the Coliseum Redevelopment Plan Area EIR. Based on the environmental analysis, the City found that all potentially significant effects would be avoided or mitigated by mitigation measures required by ~~in~~ previously prepared CEQA documents. As a result, because none of the circumstances calling for preparation of a subsequent or supplemental EIR were present, and thus the City prepared an Addendum to the previous environmental documents.

Page 24 of the Draft EIR is revised as follows:

~~As of this writing, there is a pending lawsuit that challenges the granting of three permits for tree removal around Lake Merritt, and another CEQA document, the 2006 Lake Merritt Channel Wetlands and Widening Project EIR. The City has not implemented these approvals during the pendency of the lawsuit. At the time the Draft EIR was published in July 2007, a lawsuit was pending that challenged the granting of three permits for tree removal around Lake Merritt, and another CEQA document, the 2006 Lake Merritt Channel Wetlands and Widening Project EIR. On October 10, 2007 subsequent to the close of the public review period for the Draft EIR, the Superior Court of California, County of Alameda, upheld the tree permits and the City's CEQA determination for the tree permits ruling that "substantial evidence does not exist in the record to support a fair argument that the issuance of the tree permits may have a significant effect on the environment requiring an EIR be prepared." The~~

court also dismissed the challenge to the Channel Wetlands and Widening Project EIR and entered judgment in favor of the City. Thereafter, the City removed some trees around Lake Merritt, including those along Lakeshore Avenue and Lakeside Drive near the Municipal Boathouse pursuant to the permits. None of these removals (nor any other circumstances occurring subsequent to circulation of the Draft EIR) alter the EIR's analysis or conclusions. The EIR acknowledges that the tree removals will occur and new trees will be planted in accordance with the previously issued permits.

Page 30 of the Draft EIR is revised as follows:

The City is proposing to renovate existing plantings and irrigation around the 12<sup>th</sup> Street component site. This includes removing approximately 157 existing trees from the median strip along 12<sup>th</sup> Street, the Kaiser Convention Center parking lot and some areas along the banks of the Lake Merritt Channel and replanting these areas with approximately 321 new trees and other landscaping. The final numbers of trees removed or planted may differ slightly from these counts. Some trees will ~~would~~ be removed because they are in conflict with the new construction, are diseased, have severe structural defects or are fast-growing, short-lived trees reaching the end of their life expectancy. Figure III-3 shows the area where trees are ~~proposed~~ to be removed as part of this project component. As part of the project design process the City hired a certified arborist to evaluate the trees to be removed ~~proposed for removal~~ around Lake Merritt and the Lake Merritt Channel. The arborist recommended preserving four trees in this area by redesigning the project or by relocating some of the trees. The City has incorporated these recommendations into the project. The arborist's report is provided in Appendix I.

Pages 35 and 36 of the Draft EIR are revised as follows:

As part of the Measure DD Implementation Project, the City proposes to widen the Channel, streambed, stream banks and upland areas between Lake Merritt and the Estuary by removing the 10<sup>th</sup> Street culvert and 12<sup>th</sup> Street culvert (discussed above) and grading the Channel's banks, thus creating additional areas of open water and tidal marsh as shown in Figure III-4. The bottom of the channel at 12<sup>th</sup> Street would be lowered. Shoreline improvements (e.g., pedestrian pathways and tidal marsh) along the channel between 12<sup>th</sup> Street and I-880 would be similar in design to those to the designs proposed for the 12<sup>th</sup> Street project component. The existing pedestrian bridge below 10<sup>th</sup> Street would be refurbished or replaced. At 7<sup>th</sup> Street, the pedestrian tunnel on the east side of the trail would be refurbished and the pedestrian tunnel on the west side would be relocated to allow construction of the new bypass channel. A new traffic signal and crosswalk across 7<sup>th</sup> Street is proposed. The 7<sup>th</sup> Street project component proposes the creation of a bypass channel to improve recreational access, as well as to allow large fish to once again enter the upper Lake Merritt Channel and Lake Merritt. The trail south of 7<sup>th</sup> Street would be refurbished but would otherwise remain unchanged. On the east side of the Channel the trail merges into the parking lot south of Peralta College District offices; on the west, the trail passes under I-880 and connects to the dead end of 4<sup>th</sup> Street.

The City ~~will~~ ~~is proposing to~~ remove some existing trees (approximately 58) along the channel as shown in Figure III-5. Invasive exotic plants, such as *Spartina*, would be removed



if present along the shoreline and new intertidal and upland plantings consisting of native plants such as pickleweed (lower marsh areas), marsh gumplant, and salt grass (upper marsh areas and transitional zones characterized by native grasses), and shrubs and trees would be planted to restore the natural ecosystem of the Channel. Control measures for *Spartina* would include those approved by the San Francisco Estuary Invasive *Spartina* Project. The City also is proposing to install biofiltration basins to improve water quality. Typical construction activities would include clearing, grading, excavating, pile driving, and replanting of landscaping using various pieces of construction equipment and by hand labor. ~~This reconfiguration would include the continuation of pathways established as part of the 12<sup>th</sup> Street and 10<sup>th</sup> Street project components, the improvement of pedestrian tunnels under 7<sup>th</sup> Street, and the installation of a new traffic signal and crosswalk across 7<sup>th</sup> Street. The 7<sup>th</sup> Street project component proposes the creation of a bypass channel to improve recreational access, as well as to allow large fish to once again enter the upper Lake Merritt Channel and Lake Merritt.~~

Page 36 of the Draft EIR is revised as follows:

This reconfiguration would include the continuation of pathways established as part of the 12<sup>th</sup> Street and 10<sup>th</sup> Street project components, the improvement of pedestrian tunnels under 7<sup>th</sup> Street, and the installation of a new traffic signal and crosswalk across 7<sup>th</sup> Street. The 7<sup>th</sup> Street project component proposes the creation of a bypass channel to improve recreational access, as well as to allow large fish to once again enter the upper Lake Merritt Channel and Lake Merritt. The bypass channel would be designed and managed to retain the tidal and flood control functions of the pump station. To ensure that the flood control function of the 7<sup>th</sup> Street Pump Station is not compromised, the new bypass channel would include a hydraulic gate that would be closed when operation of the pumps is required to lower the water level in the lake.

Page 41 of the Draft EIR is revised as follows:

(2) **Lakeshore Avenue Variant B.** Lakeshore Avenue Variant B proposes to re-stripe the street to create one travel lane in each direction, a Class 2 bike lane in each direction, a continuous left-turn lane down Lakeshore Avenue, and parking lanes along both curbs. A planting strip, including street trees, would be included along the park border. A multi-use path would be installed between the planting strip and the park landscaped area. As with Variant A, park landscaping would be renovated ~~and the removal of with some trees removed is proposed.~~ The surface of the lakeside path would be resurfaced with stabilized decomposed granite and would be widened at the narrow spots. The pedestrian crossing at Cleveland Cascade would be improved and mid-street pedestrian islands would be included at intersections as appropriate. Typical construction activities would include paving, grading, path resurfacing and replanting of landscaping.

(7) **Landscaping Improvements.** Approximately 9 acres of existing planting and irrigation are proposed to be renovated along Lakeshore Avenue. This renovation ~~would~~ includes removing approximately 24 existing trees and planting approximately 135 new trees. The final numbers of trees removed or planted may differ slightly from these counts. As part of the project design process the City hired a certified arborist to evaluate the trees to be

~~removed proposed for removal~~ around Lakeshore Avenue. The arborist recommended preserving one tree in this area by relocating it. The City has incorporated this recommendation into the project. The arborist's report is provided in Appendix I. The trees ~~were identified for removal would be removed~~ because they are diseased, have severe structural defects, are crowding buildings, conflict with the new construction or are fast-growing, short-lived trees reaching the end of their life expectancy. Landscaped areas with shrubs and ground cover would replace the existing lawn in narrower parts of the park corridor. This substitution would reduce maintenance and water use and reduce the attractiveness of the area to Canada geese. Hardscape development, including benches and patios, would be added at creek nodes and areas where small peninsulas jut out into the Lake. Figure III-7 shows a proposed landscaping plan, which indicates where trees would be removed and new trees would be planted.

Page 47 of the Draft EIR is revised as follows:

Approximately 4 acres of existing planting and irrigation are proposed to be renovated along Lakeside Drive and around the Boathouse. This renovation ~~would include~~ removing approximately 20 existing trees and planting approximately 65 new trees. The final numbers of trees removed or planted may differ slightly from these counts. The trees ~~were identified for removal would be removed~~ because they are in conflict with the new construction, are diseased, have severe structural defects or are fast-growing, short-lived trees that have reached the end of their life expectancy. Figure III-9 shows the proposed landscape plan, which indicates ~~the locations of where tree removals would be removed~~ and new tree ~~plantings would be planted~~.

Page 52 of the Draft EIR is revised as follows:

**a. General Trail Characteristics.** Most of the 6.6 miles of trail would be paved with asphalt or concrete, with minimal grading so as to minimize disturbance of the ground surface. At some locations, invasive exotic plants, such as *Spartina*, would be removed if present along the shoreline. Control measures for *Spartina* would include those approved by the San Francisco Estuary Invasive *Spartina* Project. Some portions of the existing Bay Trail between Jack London Square and 66<sup>th</sup> Avenue may be repaired to fix broken pavement, lighting, or signage. The trail would vary from a minimum 12-foot-wide combined use trail where space is constrained to a pair of bike and pedestrian trails separated by a landscaped median, with a total width of up to 40 feet. At points of interest, additional landscaping would be planted. Various types of decorative and informational wayfinding signage would be installed along the trail.

Some segments of the trail are already complete or will be completed as part of other projects. These segments include:

- Lake Merritt Channel to 10<sup>th</sup> Avenue Marina – segment will be completed as part of the Oak to 9<sup>th</sup> Project.
- Livingston Pier to Cryer Site – trail segment is complete
- Park Street Bridge to Derby Avenue – trail segment is complete

- U.S. Audio Technologies to High Street – trail segment is complete
- Gallagher & Burk/Hanson Aggregate to 66<sup>th</sup> Avenue Gateway – trail segment is complete, except for the northern-most portion

Figures III-10a and III-10b on pages 53 and 54 of the Draft EIR are revised as shown in Chapter 3 (pages 59 and 61) of this Response to Comments document.

Page 57 of the Draft EIR is revised as follows:

**(14) Gallagher & Burk/Hanson Aggregate Trail Connection.** The proposed segment of the trail adjacent to the Gallagher & Burk asphalt plant would be a concrete pier supported walkway. As the Hanson Aggregate facility uses water access for delivery of materials, the trail would be designed to allow materials to be transferred from barges to the site while allowing for shoreline trail access. This would include the construction of a steel canopy over a portion of the trail. Property easements are being sought for this segment of the trail, but operational constraints may preclude completing this segment of the trail while the facility is in operation. An interim route may include a connection to Tidewater Avenue, which is analyzed in the Section V, Alternatives.

Page 93 of the Draft EIR is revised as follows:

Policy Rec-4.1	<b>Systematic Maintenance Provisions.</b> Provide for ongoing, systematic maintenance of all parks and recreational facilities to prevent deterioration, ensure public safety, and permit continued public use and enjoyment. Routine maintenance needs should be evaluate on a regular basis. Parks which receive very heavy use should receive more frequent maintenance than those with less use.	<u>Lake Merritt and Lake Merritt Channel:</u> The project provides funding to renovate the Boathouse, Pergola, 18 <sup>th</sup> Street Pie, which are consistent with the long-term upkeep of parks and recreational facilities. <u>Waterfront Trail:</u> The project provides funding to renovate existing trails as well as to construct new trails. <u>Recreational Facilities:</u> The project provides funding to renovate Studio One. <u>City-wide Creeks:</u> N.A.
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Page 95 of the Draft EIR is revised as follows:

**e. San Francisco Bay Plan.** The San Francisco Bay Plan<sup>9</sup> (Bay Plan) is a policy tool that, under the provisions of the McAteer-Petris Act, allows the San Francisco Bay Conservation and Development Commission (BCDC) to “exercise its authority to issue or deny permit applications for placing fill, extracting materials, or changing the use of any land, water, or structure within the area of its jurisdiction,” an area that includes all of the San Francisco Bay, a shoreline band of 100 feet from the water, and salt ponds, managed wetlands and certain waterways associated with the Bay. The Bay Plan stipulates: “Any public agency or private owner holding shoreline land is required to obtain a permit from the Commission before proceeding with (shoreline) development.” The Bay Plan contains findings and policies that will apply in BCDC permits for Measure DD project components within the commission’s jurisdiction. Examples of applicable policies include those related to public access, the placement and removal of fill in the Bay, sea level rise and the safety of fills, the protection of fish, other aquatic organisms and wildlife, and tidal marshes and tidal flats, among others. Implementation of the proposed project would require BCDC permit



approval for development within the 100-foot shoreline band. Measure DD includes waterfront improvements within 100 feet of the shoreline, including areas along the Oakland Estuary and the southern portion of the Lake Merritt Channel, downstream of the 7<sup>th</sup> Street Pump Station.

Page 121 of the Draft EIR is revised as follows:

**City of Oakland General Plan.** The Land Use and Transportation Element (LUTE) of the General Plan has numerous policies related to transportation issues. The primary LUTE policies relevant to transportation, circulation and parking, including those provided in the City's Bicycle Master Plan and Pedestrian Master Plan (which are part of the LUTE), include the following:

Page 122 of the Draft EIR is revised as follows:

- Policy D13.2: An adequate quantity of car, bicycle, and truck parking, which has been designed to enhance the pedestrian environment, should be provided to encourage housing development and the economic vitality of commercial, office, entertainment, and mixed use areas.
- BMP Policy 1: Create, enhance and maintain the recommended bikeway network.
- BMP Policy 2: Establish design and maintenance standards for all streets that recognize the needs of bicyclists.
- BMP Policy 4: Include provisions for safe and direct bicycle access to special development areas and key corridors.
- BMP Policy 8: Ensure that the needs of bicyclists are considered in the design of new development and redevelopment projects.
- PMP Policy 2.1: Route Network: Create and maintain a pedestrian route network that provides direct connections between activity centers.

Page 130 of the Draft EIR is revised as follows:

Pedestrians and bicyclists would cross the UPRR tracks along 5<sup>th</sup> Avenue and Oak Street when traveling between project elements in the Lake Merritt area and the Waterfront Trail. Currently, the crossings have safety equipment including crossing gates and warning lights. These facilities control access by pedestrians as well as vehicles. There is also a chain link fence along Embarcadero, which prevents crossings by pedestrians at other locations. With the implementation of the Measure DD improvements, these existing safety features would remain in place. Thus, the project would not increase hazards to vehicles, pedestrians, or bicyclists. The impact would be less than significant.

Page 133 of the Draft EIR is revised as follows:

#### *Transit Recommendations*

- The City should provide active and/or passive transit signal priority to reduce travel times along 12<sup>th</sup> Street and Harrison Street. This action would reduce delays for AC Transit but not completely eliminate increases in travel time along 12<sup>th</sup> Street and Harrison Street.

- The City should provide an eastbound bus lane along the right side of 11<sup>th</sup> Street with the bus lane continuing through the signal at the 11<sup>th</sup>-12<sup>th</sup>/14<sup>th</sup> Street intersection.

Page 139 of the Draft EIR is revised as follows:

Pedestrians and bicyclists would cross the UPRR tracks along 5<sup>th</sup> Avenue and Oak Street when traveling between project elements in the Lake Merritt area and the Waterfront Trail. Currently, the crossings have safety equipment including crossing gates and warning lights. These facilities control access by pedestrians as well as vehicles. There is also a chain link fence along Embarcadero, which prevents crossings by pedestrians at other locations. With the implementation of the Measure DD improvements, these existing facilities would remain in place. Thus, the project would not increase hazards to vehicles, pedestrians, or bicyclists. The impact would be less than significant.

Pages 139-140 of the Draft EIR is revised as follows:

*Transit Recommendations*

- Implementation of active and/or passive transit signal priority as described in the previous recommendations for transit service would reduce delays for AC Transit. Nevertheless, the implementation of transit signal priority is not expected to completely eliminate increases in travel time along the 12<sup>th</sup> Street and Harrison Street. ~~While adding bus-only lanes or queue jump lanes, or eliminating pedestrian crosswalks are feasible, they are not recommended because they would have substantial impacts on traffic operations or pedestrian mobility, and in most cases have additional costs.~~
- The City should provide an eastbound bus lane along the right side of 11<sup>th</sup> Street with the bus lane continuing through the signal at the 11<sup>th</sup>-12<sup>th</sup>/14<sup>th</sup> Street intersection.

Page 142 of the Draft EIR is revised as follows:

**Traffic and Maritime Hazards.** Implementation of the proposed project would result in the Bay Trail passing under the bridges. Therefore, the project would not result in any significant impacts related to traffic hazards as the trail would not conflict with vehicular circulation. To the extent feasible the proposed trail segments that would pass beneath the Park Street and High Street bridges would not extend further into the channel than the existing bridge fenders. At all bridges, trail segments would be kept as close to the shoreline as necessary to ensure public safety and not impede navigation. However, the U.S. Coast Guard and others have raised concerns about the potential safety and feasibility of a trail being constructed under the bridges, particularly the High Street and Park Street bridges. Recognizing that the U.S. Coast Guard has permitting authority in these areas, the City includes street-level crossings in these areas as part of the alternative for the Waterfront Trail Group, described in Section V.F, Waterfront Trail Surface Street Connection Alternative.

Page 155 of the Draft EIR is revised as follows:

(4) **Odors.** Odors are also an important element of local air quality conditions. Specific activities can raise concerns on the part of nearby neighbors. Major sources of odors include restaurants, manufacturing plants, and agricultural operations. Other odor producers include the industrial and transportation facilities within the region, such as railroads that may produce mechanical odors. While sources that generate objectionable odors must comply with air quality regulations, the public's sensitivity to locally produced odors often exceeds regulatory thresholds.

Page 159 of the Draft EIR is revised as follows:

(5) **Objectionable Odors.** The operation of the project components of Measure DD would not generate objectionable odors. Typically, major sources of odors include restaurants, manufacturing plants, and landfills. Other odor producers include industrial and transportation facilities within the region, such as railroads that may produce mechanical odors. The proposed project components include physical improvements to existing parks; acquisition of land for new parks; development of new parks and recreation facilities; clean water measures; restoration and rehabilitation of recreation buildings; and implementation of creek and waterway protection and restoration projects which are not expected to generate objectionable odors. The project may briefly bring people into proximity with industrial or transportation facilities that produce odors along the Waterfront Trail, but exposures would be brief and affect a relatively small number of people on an occasional basis. Therefore, the project would not frequently create substantial objectionable odors affecting a substantial number of people. The information provided in the comment does not change the analysis or conclusions of the Draft EIR. This potential impact would be less than significant.

Page 181 of the Draft EIR is revised as follows:

(4) **Vibration.** None of the four project groups contain components that would generate ground-borne vibration levels that would be perceptible to the average person. ~~There would be no impact during the project's operational phase.~~ The project may briefly bring people into proximity with transportation facilities along the Waterfront Trail, such as railroad tracks, that produce ground-borne vibration. But the project would not frequently expose a substantial number of people to ground-borne vibration. Construction activities associated with implementation of the project, including proposed pile driving activities, could temporarily expose persons in the vicinity of the proposed project construction areas to ground-borne vibration or ground-borne noise levels. However, the project would comply with the construction hours specified in the City's Noise Ordinance and the City's standard Conditions of Approval would be applied. Implementation of the Conditions of Approval would ensure potential ground-borne vibration would be avoided or reduced to a less-than-significant level.

Page 204 of the Draft EIR is revised as follows:

(4) **McAteer-Petris Act.** The McAteer-Petris Act and Suisun Marsh Preservation Act were adopted to protect San Francisco Bay and Suisun Marsh as natural resources for the benefit of the public and to encourage development compatible with this protection. The San Francisco Bay Conservation and Development Commission (BCDC) was established to



enforce this Act. The two primary goals of the BCDC are: (1) to prevent the unnecessary filling of San Francisco Bay; and (2) to increase public access to and along the Bay shoreline. BCDC approval is required for all projects within 100 feet of the Bay shoreline, as well as projects that propose any filling or dredging within Bay waters. In reviewing permit applications, BCDC relies on findings and policies on fish, other aquatic organisms and wildlife in the Bay Plan to ensure protection of biological resources.

Page 211 of the Draft EIR is revised as follows:

**(1) Candidate, Sensitive, or Special-status Species.** The only special-status species potentially occurring within all component groups is Cooper's hawk, a California Species of Special Concern. The numerous tall trees throughout the Measure DD Implementation Project area provide nesting habitat for a variety of native bird species, potentially including Cooper's hawk. In addition, some of the creek restoration sites in the upper Oakland watershed may contain suitable nest trees for sharp-shinned hawk. Both these species are California Species of Special Concern. ~~Proposed tree removal within the Lake Merritt and the Lake Merritt Channel group area and potential tree removal within other group sites could directly impact nesting Cooper's and sharp-shinned hawks by removing trees that support active nests. Prolonged loud construction noise could also disturb nesting birds, resulting in nesting failure and/or nest abandonment.~~

Implementation of the City's Standard Conditions of Approval (Condition 32) will reduce potential impacts to nesting Cooper's and sharp-shinned hawks to a less-than-significant level. The pre-construction survey shall be conducted within 15 days prior to the start of work from March 15 through May (since there is higher potential for birds to initiate nesting during this period), and within 30 days prior to the start of work from June through August 15.

Page 213 of the Draft EIR is revised as follows:

**(6) Protected Trees.** Based on current plans, the Lake Merritt and Lake Merritt Channel group includes removal of ~~proposes to remove~~ a number of ~~protected trees protected under the City's Tree Ordinance.~~ Protected trees might also be removed as part of the Waterfront Trail, Recreational Facilities, and City-wide Creeks groups. This impact is discussed in Section IV.F2c.

The following text is inserted on page 216 of the Draft EIR at the end of subsection IV.F.2.c(3):

The increased tidal flows that would occur as a result of the proposed modifications to the Lake Merritt Channel are not expected to cause adverse changes to the open water habitat in Lake Merritt or the Lake Merritt Channel. Increased tidal flows would not adversely affect the relevant water quality characteristics of the open water habitat such as salinity, temperature, and dissolved oxygen. Water quality, especially dissolved oxygen, would be improved by the greater exchange rate between Lake Merritt and the estuary and by newly created tidal wetlands in the channel, which would benefit wildlife.

Page 216 of the Draft EIR is revised as follows:

**(4) Native Resident or Migratory Wildlife Movement, Wildlife Corridors, or Nursery Sites.** As the channel is not a corridor for the movement of migratory fish, the proposed changes to Lake Merritt and Lake Merritt Channel would not have an adverse effect on migratory fish species. Several species of migratory waterbirds have been observed using the Lake Merritt Channel during the winter (approximately October through March), often in flocks of 40 to 70 birds (e.g., scaup, common goldeneye). A 2004 study of waterbird use and disturbance response within Berkeley's Aquatic Park found that disturbance sensitivity was positively related to flock size, with large flocks flushing more readily than smaller ones.<sup>37</sup> Although no such studies have been conducted at the Lake Merritt Channel, LSA observed a flock of approximately 50 common goldeneyes swimming away from a group of schoolchildren crossing the pedestrian bridge during the January 19 site visit, indicating sensitivity to disturbance. Human-caused disturbance negatively affects wintering ducks by causing the expenditure of energy (i.e., flying or moving away from the source of disturbance) that would otherwise be used for behaviors necessary for survival, such as resting or feeding.<sup>38</sup> Repeated or periodic disturbance would cause a greater expenditure of energy and thus have a greater effect on wintering birds than singular events.

Page 218 of the Draft EIR is revised as follows:

**(6) Protected Trees.** In order to create additional parkland along the south shore of Lake Merritt and make other improvements around the Lake, approximately 259 trees, including 129 protected trees, are to ~~would~~ be removed and 521 new trees and other landscaping are to ~~would~~ be installed to replace them. Approximately 510 existing trees will ~~would~~ be retained. Overall, the trees will ~~would~~ be replaced at about a 2:1 ratio, that is, two trees will ~~would~~ be planted for each tree removed. Table IV.F-3 summarizes the proposed tree removals and new plantings by project component within the Lake Merritt and Lake Merritt Channel project group. As part of the project design process the City engaged a certified arborist to evaluate the trees to be removed ~~proposed for removal~~ in this group. The arborist recommended preserving five trees by redesigning the project or by relocating some of the trees. The City has incorporated these recommendations into the project and the numbers in Table IV.F-3 reflect the preservation of these trees. The arborist's report is provided in Appendix I.

**Table IV.F-3: ~~Proposed~~ Tree Removals for the Lake Merritt and Lake Merritt Channel Project Group**

Project Component	Trees to be Retained <sup>a</sup>	Trees to be <u>Removed</u> <u>Proposed for Removal</u>	Protected Trees to be <u>Removed</u> <u>Proposed for Removal</u>	New Trees to be Planted	Ratio of Trees Planted to Trees Removed
Lakeside Drive/Municipal Boathouse	30	20	17	65	3.25
Lakeshore Avenue/El Embarcadero	90	24	6	135	5.4
12 <sup>th</sup> Street Reconstruction	50	157	90	321	2.0
Lake Merritt Channel	340	58	16	0 <sup>b</sup>	0
<b>TOTAL</b>	<b>510</b>	<b>259</b>	<b>129<sup>c</sup></b>	<b>521</b>	<b>2.0</b>

<sup>a</sup> Numbers of trees are approximate. Totals include trees recommended for preservation or relocation by the certified arborist.

<sup>b</sup> No new trees ~~will~~ ~~would~~ be planted along the Channel because the habitat type would be converted from landscaped urban parkland to wetlands and open water.

<sup>c</sup> Includes eight protected oak trees.

Source: HortScience, 2007.

The City of Oakland's Tree Preservation and Removal Ordinance (OMC Chapter 12.36) requires a permit for removal of protected trees. A permit is also required if work might damage or destroy protected trees. The project ~~will~~ ~~would~~ comply with the Tree Preservation and Removal Ordinance and ~~would~~ obtain permits for the removal of any protected trees. In addition, the City considers other factors in determining significance for purposes of CEQA including: the number, type, size, location and condition of the protected trees to be removed and/or impacted by construction and the protected trees to remain, with special consideration given to native trees, as discussed below.

The majority of protected trees to be removed are located in the 12<sup>th</sup> Street reconstruction area. Although protected trees are present in this area many of the trees are in poor or fair condition (see Appendix D); are in the landscaped median strip for 12<sup>th</sup> Street that is accessible only via rarely used pedestrian underpasses; or are in small planting strips within the parking lot for the Kaiser Convention Center (see Figure III-3). Most of the trees are non-native ornamental species. When the project components around Lake Merritt are looked at as a whole, about twice as many trees are retained in the project area as ~~are to~~ ~~would~~ be removed and approximately two trees ~~will~~ ~~would~~ be planted for each tree removed. The new trees in the 12<sup>th</sup> Street reconstruction area ~~will~~ ~~would~~ be part of proposed landscaped areas that would have direct pedestrian access to Lake Merritt and surrounding civic buildings. The four components of Group 1 (Lakeside Drive/Municipal Boathouse, Lakeshore Avenue/El Embarcadero, and Lake Merritt Channel) either retain more trees than they ~~would~~ remove and/or plant at least twice as many new trees as ~~are~~ ~~would be~~ removed (Lakeside Drive/Municipal Boathouse, Lakeshore Avenue/El Embarcadero, and 12<sup>th</sup> Street Reconstruction). Eight trees to be removed are protected native oak trees.

The project would not fundamentally conflict with the City of Oakland's Tree Preservation and Removal Ordinance and would therefore be a less-than-significant impact for the following reasons: approximately twice as many trees ~~will~~ ~~would~~ be retained as ~~will~~ ~~would~~ be removed; removed trees ~~will~~ ~~would~~ be replaced at approximately a 2:1 ratio; the majority of trees to be removed are in poor or fair condition; and many are located in a parking lot or an inaccessible median strip. In addition, because trees are being replaced at approximately a 2:1 ratio many benefits lost by the removal of trees, such as aesthetics, energy conservation, reductions in stormwater runoff, improvements in air quality, and capture of carbon dioxide (a greenhouse gas) ~~will~~ ~~would~~ be compensated for in a few years because of the large number of new trees being planted. The impacts of removing trees and the benefits of planting new trees in the Lake Merritt and Lake Merritt Channel group were estimated quantitatively using a computer application developed by scientists at the United States Department of Agriculture (USDA) Forest Service's Pacific Southwest Research Station to assess populations of street trees.<sup>1</sup> The results of this study are provided in Appendix I. Because the City would comply with the Tree Preservation and Removal Ordinance, the Lake Merritt and

<sup>1</sup> USDA Forest Service. [http://www.itreetools.org/street\\_trees/introduction\\_step1.shtm](http://www.itreetools.org/street_trees/introduction_step1.shtm).



Lake Merritt Channel project components would have a less-than-significant impact. To reach this conclusion, the City considered the number, type, size, location and condition of the protected trees to be removed and/or impacted by construction and the protected trees to remain, including native trees.

A small number of protected trees may require removal as part of the Waterfront Trail, Recreational Facilities, City-wide Creeks groups or other components of the Lake Merritt group (e.g., the Cleveland Cascade). The trees would be replaced in accordance with the City's Tree Protection Ordinance and Standard Conditions of Approval (Condition 32), which would reduce the impact to a less-than-significant level.

Page 261 of the Draft EIR is revised as follows:

- As with many facilities built near the shore of San Francisco Bay, rising sea levels associated with global climate change could, in the long-term, affect project facilities and existing infrastructure such as the 7<sup>th</sup> Street Pump Station that are designed to protect them from flooding. The pump station's function would be compromised if, for example, tidal levels overtopped the facility. However, the flood control components and operation of the 7<sup>th</sup> Street Pump Station itself would not be altered by the project. New trails are being located above the current reach of tidal action, with additional freeboard which will accommodate some future sea level rise. In addition, the project is not constructing housing, high occupancy, or sensitive facilities within the zone that could be affected by flooding or rising sea levels.

Substantial quantities of new impervious surfaces, which could increase runoff rates and velocities (and potentially flooding), would not be created by Measure DD project components. The integrity and function of existing flood control and stormwater conveyance facilities operated by the Alameda County Flood Control and Water Conservation District, such as stormwater outfalls at Lake Merritt, would be ensured by obtaining permits and authorizations from the District prior to construction as required by Condition of Approval 75. ~~Construction of housing is not a proposed element of the project, and no new residential development would be subject to flooding.~~ Therefore, no substantial impact related flood hazard or redirection of flood water would occur with the proposed Measure DD components.

Pages 263 and 264 of the Draft EIR are revised as follows:

These three components are designed to improve tidal exchange between Lake Merritt and San Francisco Bay by clearing and broadening the channel to approximately 100 feet at the outlet from Lake Merritt and at 10<sup>th</sup> Street. New clear-span bridges would be constructed after removal of existing culverts under 12<sup>th</sup> and 10<sup>th</sup> streets, ~~and by reconfiguring the channel at 7<sup>th</sup> Street.~~ The proposed changes would result in approximately doubling the flow rate through the Lake Merritt Channel in this area.<sup>50, 51</sup> These components are also intended to improve pedestrian and bicycle circulation in the area of the Channel, and along with other components, enhance and improve the environment of Lake Merritt and surrounding parks. Redesign of the Channel at the Lake Merritt Flood Control Station at 7<sup>th</sup> Street is at the conceptual design stage. As noted previously, hydraulic studies conducted at this stage of project development indicate that the proposed changes to the Lake Merritt Channel would help alleviate flooding conditions. Nevertheless, as required by Condition of Approval 75 this

project component would be required to obtain all necessary permits and authorizations from the Alameda County Flood Control and Water Conservation District prior to construction to ensure that the operation of the flood control facilities at 7<sup>th</sup> Street would not be adversely affected by the proposed action. Topics of wildlife, aquatic life, vegetation, landscaping, creek restoration, U.S. Army Corps of Engineers Section 404 (filling and grading in wetlands) permitting, California Department of Fish and Game Section 1604 – Streambed Alteration Agreements, and San Francisco Bay Conservation and Development Commission (BCDC) requirements are addressed in the Biological Resources section of this DEIR.

Page 311 of the Draft EIR is revised as follows:

Adams Park and the Veterans Memorial Building are located at the northwest corner of Lake Merritt at Harrison Street and Grand Avenue and provide space for private events and senior activities. Lakeside Park at Grand Avenue and Bellevue Avenue includes a Lawn Bowling Clubhouse and Greens, non-programmed open space, Children's Fairyland, McElroy Fountain and Specimen Groves, ~~Edhoff Band Stand~~ Edoff Memorial Bandstand, a beach, amphitheater, Garden Center, Junior Center of Art & Science, the Sailboat house, the Rotary Nature Center, OPD horse stables, and wildlife areas.

Page 325 of the Draft EIR is revised as follows:

Wastewater generated by the Measure DD Implementation Project components represents less than 0.1 percent of the MWWTP's secondary treatment capacity. ~~This wastewater would be accommodated by the MWWTP, which is currently operating at 48 percent of its secondary treatment capacity. The increase in wastewater generated by these projects is not substantial in the context of the entire volume of wastewater processed by EBMUD's Main Wastewater Treatment Plant.~~ EBMUD has sufficient capacity to treat wastewater flows from the projects during dry weather<sup>19</sup> and would not require or result in construction of new wastewater treatment facilities or expansion of existing facilities, construction of which could cause significant environmental effects.

Page 336 of the Draft EIR is revised as follows:

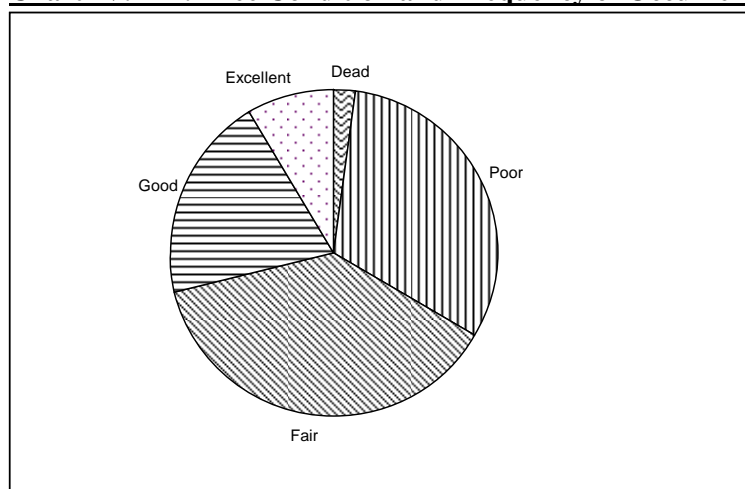
**Lake Merritt and Lake Merritt Channel (Group 1).** Lake Merritt and the Lake Merritt Channel are resources that are part of scenic vistas seen from numerous locations in Oakland, including the City's Downtown and hillside areas. The proposed project would result in beneficial impacts to the visual quality of the Lake through water quality control measures, the restoration of historic buildings and monuments around the perimeter of the Lake, and enhanced landscaping. These changes to the Lake and the Channel would result in small but beneficial improvements to scenic vistas encompassing these waterways. ~~The project would result in the removal of certain diseased trees from the vicinity of the Lake is consistent with and in furtherance of the project. The removal of these trees will enhance the visual character of the Lake and; however, the removal of these trees will~~ not substantially adversely change scenic vistas. New trees ~~will~~ would be planted to replace the trees that are removed, and these trees will not substantially block scenic vistas. No structures would be built that would block surroundings and would not block scenic views of the

Estuary. Therefore, this group of project components would have a less-than-significant impact on scenic vistas.

Page 341 of the Draft EIR is revised as follows:

**Lake Merritt and Lake Merritt Channel (Group 1).** A key component of this group is the various proposed water quality control measures, including the installation of devices and features to clean and circulate water, and the creation of an open channel to allow for increased tidal flow into and out of the Lake. These measures, by improving water quality in the Lake, would enhance the scenic qualities of the waterway (including portions of the Lake visible from I-580), which suffers from algal blooms and stagnation associated with a surplus of nutrient-rich pollution. In addition, this group would involve the renovation of existing landscaping, which would improve the landscape context of the Lake. ~~As part of the project, certain trees would be removed (and replaced with healthy individuals).~~ Based on the Tree Assessment prepared by HortScience, Inc. (Appendix I), of the 269 trees that will be removed as part of the project, 6 are dead, 84 are in poor condition, 101 are in fair condition, 55 trees are in good condition, and 23 trees are in excellent condition (see Chart IV.M-1). As shown in Chart IV.M-1, many of the trees considered for removal that would be removed are diseased, short-lived, or are not stable (i.e., they are dead, or in poor to fair condition). Although some of the trees subject to removal ~~may that would be removed~~ contribute or may have contributed to the scenic quality or overall visual character of the Lake, this contribution is not significant either individually or cumulatively. In context, approximately 500 trees will be retained in the project area and the 521 trees will be planted as part of the project (a replacement ratio of almost two trees for every removed tree). These replacement trees will fill in any visual “gaps” created by the removed trees. As shown in Figures IV.M-1 through IV.M-4, the removal of trees from the site will not adversely affect scenic resources or visual character as seen from key viewpoints around Lake Merritt.

**Chart IV.M-1: Tree Condition and Frequency of Occurrence**



Source: HortScience, Inc., 2007.

This conclusion is also supported by a cost/benefits analysis of tree removal/replacement conducted by HortScience as part of the Tree Assessment. Using a model that takes into



account the environmental and economic benefits of trees (including improvement of visual quality, reductions in storm water runoff, improvements in air quality, and sequestration of carbon dioxide), HortScience determined that the trees subject to removal from the site provide an estimated \$29,438 in annual benefits, approximately 77 percent of which (\$22,866) is associated with aesthetic value. At planting, the 521 replacement trees will provide an estimated \$22,986 in annual benefits, “almost entirely due to aesthetic and other benefits.” As the trees mature, the value of their annual benefits will increase to \$33,193 at 5 years and \$40,700 at 20 years. Therefore, based on the model, within only 5 years of planting, the replacement trees will be more valuable in terms of aesthetics and other environmental/ economic benefits than the existing trees that will be removed as part of the project. Although there are limitations with assigning monetary values to resources like trees (i.e., resource valuation generally lacks a reliable way to estimate the value of ecological damage), the data produced by HortScience suggest that the aesthetic costs of tree removal do not outweigh the benefits of tree replacement. Based on the HortScience analysis, and an understanding of tree removal in the context of trees that will be preserved and trees that will be replaced as part of the project, ~~Therefore,~~ the removal of select trees and the replacement with new individuals would not be considered a significant impact to scenic resources or the visual character of the project site.

Page 342 of the Draft EIR is revised as follows:

**Lake Merritt and Lake Merritt Channel (Group 1).** Lake Merritt and its surroundings are characterized by a semi-formal landscape of rolling lawns and walkways, all oriented around the water body itself. While the area has high visual quality, the aesthetics of the area are diminished primarily by low water quality in the Lake, landscaping and trees that are in poor condition, and roadways surrounding the Lake that are disproportionately wide and emphasize automobile traffic at the expense of the pedestrian environment. The proposed project would substantially improve these adverse conditions. First, the removal of the 12<sup>th</sup> Street culvert and the implementation of the various water quality control measures would improve the water quality of the Lake, and enhance the potential for the growth of native vegetation and use of the water body by native wildlife (besides Canada geese). Second, landscaping and trees in poor condition will ~~would~~ be removed and replaced with new plants that would enhance the visual environment. Third, several roadways (including 12<sup>th</sup> Street, Lakeshore Avenue, and Lakeside Drive) would be reconfigured and/or narrowed to include bike lanes and pedestrian paths. These changes would reduce the visual intrusion of motor vehicles and would improve the visual environment for the bikers and walkers that comprise the key users of Lake Merritt. Lastly, historic buildings around the Lake, some of which are in poor condition, would be rehabilitated. At the Municipal Boathouse, two parking lots next to the Lake and Boathouse would be removed and replaced with landscaping, terraces, and pathways. A smaller parking lot would be constructed closer to the road and the remaining parking would be relocated along Lakeside Drive itself. The improvement and preservation of historic structures, and the modification of parking areas would benefit the visual quality of the area, including the lakeshore itself. Therefore, the project group would have a less-than-significant impact on the existing visual character of the area surrounding the Lake and Lake Merritt Channel.

Page 352 of the Draft EIR is revised as follows:

For Group 1, the No Project alternative would include completion of the Pergola, Children's Fairyland, the E. 18<sup>th</sup> Street Pier, and Municipal Boathouse renovations. However, paths, landscape improvements and additional patron parking (for the Boathouse) that would provide improved access to the facilities would generally not be constructed. The land around Lake Merritt would continue to be used as park land. Landscape maintenance, including the removal and replacement old or diseased trees, would continue as needed. Trees will be removed along Lakeshore Avenue, Lakeside Drive and the 12<sup>th</sup> Street reconstruction area in accordance with the permits for the removal of trees previously issued by the City. ~~The tree replacement process would generally maintain the current appearance of the park, but no substantial increase in landscaped area or number of trees is likely to occur because there would be no net increase in parkland as would occur if the project were constructed as proposed.~~ The creation of bike lanes by restriping Lakeside Drive and Lakeshore Avenue might occur as part of other projects, but associated landscaping and pedestrian path improvements would not be constructed.

Table V-1 on page 353 of the Draft EIR, is revised as follows:

**Table V-1: No Project Alternative (Groups 1 and 2): Components Completed or In Progress and Components Unbuilt**

<b>Lake Merritt and Lake Merritt Channel (Group 1)</b>	
<b>Components Completed or In-Progress</b>	
<ul style="list-style-type: none"> <li>• Pergola Renovation (complete)</li> <li>• Installation of a Fire Protection Main (complete)</li> <li>• Water Quality Improvements, including storm drain filters at Bellevue/Staten, 27<sup>th</sup>/Valdez, and 22<sup>nd</sup>/Valley; pilot air diffuser project; new aeration fountain; Pergola fountain (complete)</li> <li>• Children's Fairyland Renovations (in-progress)</li> <li>• Municipal Boathouse Renovation (in-progress)</li> <li>• <u>E. 18<sup>th</sup> Street Pier Improvements (in-progress)</u></li> <li>• <u>Tree removals along Lakeshore Avenue and Lakeside Drive</u></li> </ul>	
<b>Unbuilt Components</b>	
<ul style="list-style-type: none"> <li>• 12<sup>th</sup> Street Improvements</li> <li>• Lake Merritt Channel</li> <li>• Lakeshore Avenue, <u>and El Embarcadero, and E. 18<sup>th</sup> Street Pier Improvements</u></li> <li>• Lakeside Drive</li> <li>• Snow Park and Lakeside-Harrison-20<sup>th</sup> Street Intersection</li> <li>• Bellevue Avenue Redesign</li> <li>• Sailboat House</li> <li>• All water quality improvements except those noted above</li> </ul>	
<b>Oakland Waterfront Trail (Group 2)</b>	
<b>Components Completed or In-Progress</b>	
<ul style="list-style-type: none"> <li>• Union Point Park</li> <li>• Park Street Triangle traffic study</li> <li>• <u>Alameda Avenue south of Fruitvale Avenue</u></li> <li>• <u>66<sup>th</sup> Avenue Gateway</u></li> </ul>	
<b>Unbuilt Components</b>	

Lake Merritt and Lake Merritt Channel (Group 1)
<ul style="list-style-type: none"> <li>• Estuary Park</li> <li>• 10<sup>th</sup> Avenue Marina</li> <li>• Brooklyn Basin</li> <li>• Brooklyn Basin to Embarcadero Cove</li> <li>• Livingston Pier</li> <li>• Cryer Site</li> <li>• ConAgra to Park Street Bridge</li> <li>• Bridge boardwalks at Park Street, Fruitvale Avenue and High Street</li> <li>• Derby Avenue to Lancaster Street (Oakland Museum Women's Board warehouse)</li> <li>• <del>Alameda Avenue south of Fruitvale Avenue</del></li> <li>• US Audio/Capture Technologies and friendly Transportation Trail Connection</li> <li>• Gallagher &amp; Burk/Hanson Aggregate Trail Connection</li> <li>• <del>66<sup>th</sup> Avenue Gateway</del></li> </ul>

Page 356 of the Draft EIR is revised as follows:

Although the City has a permit for tree removals in the 12<sup>th</sup> Street reconstruction area, as of this writing, none has been removed. The alternative would reduce the number of trees that will need to ~~would be~~ removed to allow the reconstruction and realignment of 12<sup>th</sup> Street. In this scenario, the Kaiser Convention Center parking lot would not be reconfigured and therefore the trees located in this area would be preserved. Approximately 59 trees would be preserved, including 12 protected trees (all flowering cherries), in and around the parking area. Trees along the median of the existing 12<sup>th</sup> Street alignment would still be removed ~~require removal~~ in order to accommodate the new roadway and modified grade of the park land.

Page 357 of the Draft EIR is revised as follows:

### 1. Project Objectives

This alternative would meet most project objectives, but to a lesser degree than the proposed project. All objectives for the Lake Merritt and Lake Merritt Channel, the Recreational Facilities, and the City-Wide Creeks Groups would be met. It is being considered, in part, because the U.S. Coast Guard and the marine shipping community have concerns about the potential safety and feasibility of the proposed under-bridge segments of the Waterfront Trail and because the U.S. Coast Guard has permitting authority in this area. The alternative would complete the missing segments of the San Francisco Bay Trail along the Oakland Estuary, albeit with segments that would not be constructed on the waterfront but rather on nearby streets. Because the trail would avoid contaminated properties, hazardous waste impacts associated with these properties would not occur but the properties would also not be remediated, one of the objectives of this project group. The alternative would support some of the objectives of OSCAR and the Estuary Policy Plan by completing a linear trail along the waterfront; however because the segments would be completed away from the shoreline in some cases, the alternative would not create as much physical and visual access to the Oakland shoreline as the proposed project.

Page 363 of the Draft EIR is revised as follows:



## 1. Methodology

When evaluating cumulative impacts, CEQA allows the use of either a list of past, present and reasonably foreseeable future projects ~~or reasonably anticipated relevant projects~~ (including projects outside the control of the lead agency) or a summary of the projections in an adopted General Plan or related planning document. This cumulative impacts analysis considered development projections that are contained in is likely to occur under the build-out of the various elements of the City of Oakland General Plan, including the Land Use and Transportation Element (LUTE), and the Open Space, Conservation, and Recreation Element (OSCAR), and their related environmental review documentation. The projections account for past and present projects as well as reasonably foreseeable future development. In addition, the cumulative analysis considered specific projects, including the Oakland Whole Foods Market, the Jack London Square Redevelopment, and the Oak to Ninth Avenue Projects. As a result, the analysis is based on a projections approach, which has been refined by including additional information regarding specific existing and anticipated future projects.

Pages 363 to 364 of the Draft EIR are revised as follows:

**a. Land Use.** The majority of the Measure DD components would renovate or improve existing structures, recreational facilities, roadways, and creeks within the City of Oakland and would not change land use. New land uses would include roadway and park changes associated with Lake Merritt, and the creation of new parks and installation of the new trail connections associated with the Waterfront Trail, and the construction of the East Oakland Sports Complex. With one exception, the proposed land uses associated with the project would be compatible with the surrounding land use and zoning of the project site and surrounding neighborhood, which is the geographic area of potential cumulative effect for land use impacts. One ~~The~~ The potential land use conflict, a potential safety hazard that would be created by constructing the trail across an operating industrial facility, was identified for the Waterfront Trail group, which This impact would be reduced to a less-than-significant level with implementation of the identified mitigation measure. The EIR analysis shows that the impact would not be cumulatively considerable for two reasons: 1) there are no other similar safety impacts to which the impact would contribute and 2) the residual effect would be eliminated by the proposed mitigation measure. Thus, the project This site-specific impact would not have a cumulative effect when considered with other projects and implementation of Measure DD would not result in any cumulatively significant land use impacts.

**b. Transportation, Circulation and Parking.** A detailed analysis was conducted for the purposes of assessing cumulative environmental impacts to the transportation system as described in Section IV.C. As described therein (see pages 133 to 134), the cumulative analysis analyzed the project in combination with past, present and reasonably foreseeable future projects. The cumulative analysis identified five significant cumulative impacts related to transportation (TRAF-5 through TRAF-9), three of which are identified as significant and unavoidable because they may not be reduced to less-than-significant levels. The impacts and mitigation are discussed in detail in Section IV.C. No significant impacts were identified for alternative modes of transportation. The project would not fundamentally conflict with adopted policies, plans, or programs supporting pedestrian and bicycle transportation or

transit use. The project would improve both pedestrian mobility and bicycle transportation. Although travel times would increase as a result of the project and affect some transit routes, travel times for other motor vehicles would increase by a similar amount, and travelers would not be discouraged from using transit as a result of the project. Thus, the project would not fundamentally conflict with adopted policies, plans, or programs supporting transit use and would not have a significant cumulative impact.

c. **Air Quality.** As noted in the air quality impact analysis in Section IV.D, the air basin within which the City of Oakland and the project components lie is non-attainment for ozone, PM<sub>10</sub> and PM<sub>2.5</sub>. As such, the project and other past, present and reasonably foreseeable future projects could result in an impact that is cumulatively significant for air quality related to these pollutants. However, the City finds that the project's contribution to the impact would not be cumulatively considerable and thus the impact is less than significant. According to the *Bay Area Air Quality Management District (BAAQMD) CEQA Guidelines*, any proposed project that would individually have a less-than-significant air quality impact and is consistent with the General Plan, where the General Plan is consistent with the Clean Air Plan, would be considered to have a less-than-significant cumulative air quality impact. The Measure DD components would not have significant operational air quality impacts, therefore a determination of the cumulative impacts would be based on an evaluation of the consistency of the project with the City of Oakland's General Plan and of the General Plan with the regional air quality plan. As discussed in Section IV.D, ~~t~~The City of Oakland's General Plan is consistent with the 2005 Ozone Attainment Plan, the fourth triennial update of the Clean Air Plan, and the project is consistent with the General Plan; In addition, the project would not generate objectionable odors, expose sensitive receptors to substantial air pollutant concentrations, or emit toxics that would contribute to a cumulative impact. Likewise, the project would not contribute to an impact associated with CO concentrations because CO concentrations would not increase as a result of the project. ~~T~~therefore the project would not have a significant cumulative impact.

d. **Noise.** As noted in the noise analysis in Section IV.E, ~~t~~The project components are primarily recreational facilities and water quality improvements that would not produce substantial noise during their operation and would not contribute substantially to the cumulative noise environment, which would generally include the project site and surrounding properties. Further, the noise impact analysis in Section IV.E notes that the primary source of noise in the project area is and would be motor vehicle noise. The analysis of ~~c~~Cumulative traffic noise impacts for all project components, as shown in Tables IV.E-12 and IV.E-13 and in the discussion under Section IV.E.2.b, was based on the cumulative traffic volumes (i.e., cumulative plus project scenario) generated for the traffic analysis in Section IV.C, which included the project and other past, present, and reasonably foreseeable future ~~planned~~ projects within the City of Oakland. The analysis demonstrates that the cumulative noise impacts from traffic would be less than significant for noise sensitive receptors within the City of Oakland.

There would be temporary construction noise impacts and one of these (i.e., pile driving) that would be significant if noise-reducing measures specified in the City's Standard and Uniformly Applied Development Standard Conditions of Approval are not feasible (as noted in Section IV.E). However, if they occur, these impacts would be limited to sites around Lake

Merritt, namely the E. 18<sup>th</sup> Street Pier, the 12<sup>th</sup> Street reconstruction area and Lake Merritt Channel, and a few segments of the Waterfront Trail site-specific and limited to the duration of construction period. Except as noted with respect to pile driving, there is no evidence that noise levels would be cumulatively significant. The noise levels in the project area are within the City's standards for noise and because construction projects in the cumulative scenario within the City of Oakland are required to comply with the City's Noise Ordinance and Conditions of Approval. Thus, The requirements will render cumulative construction noise and operational noise impacts would be less than significant.

**e. Biological Resources.** Project activities are not anticipated to make a cumulatively considerable contribution to have a cumulative significant impact on biological resources. The project would generally be conducted in an urbanized area and would increase open space and improve water quality, which would benefit wildlife. Other benefits include establishing foraging and refuge areas by restoring native vegetation, restoring wetlands, and removing exotic invasive vegetation, providing greater diversity of habitat, and improving connectivity between Lake Merritt and similar habitat areas within the area. Potential temporary impacts to wildlife, such as nesting raptors and songbirds, during construction, injury to fish during pile driving, or disturbance of wildlife in the Channel by small boats, and impacts to waters of the U.S. and State of some project components were identified, but these would be mitigated would be avoided (impacts to wildlife and fish) or fully compensated for (impacts to waters of the U.S. and State) by the City's Conditions of Approval or by the mitigation measures recommended in this EIR. It is anticipated that other cumulative projects within the City of Oakland would be required to undergo the same protective measures for biological resources and would not result in cumulative adverse impacts to wildlife. With implementation of the mitigation measuresBecause the potential impacts to biological resources would be beneficial, avoided, or fully compensated for, the project's incremental contribution would not be cumulatively considerable and the impact would be less than significant.~~fully mitigated and no cumulative effects to biological resources would result from this project.~~

Pages 365 to 366 of the Draft EIR are revised as follows:

**g. Hydrology and Water Quality.** The majority of Measure DD components would be constructed in an urbanized area of Oakland and would not significantly increase impervious surface coverage or result in flood hazards within the component sites. In fact, several Measure DD Project components would include measures to improve water quality.

Construction and operational-period impacts to stormwater that would result from implementation of the Measure DD Project would be minimized through compliance with the Water Board's regulations and implementation of the City's Standard Conditions of Approval. Nevertheless, as noted on page 260 of the Draft EIR, Lake Merritt is an impaired water body due to organic enrichment, low dissolved oxygen, and trash and the Estuary and San Francisco Bay, to which Oakland's creeks flow, are impaired for pesticides, dioxins, furans, PCBs, selenium, mercury, and exotic species. However, the EIR analysis shows that the project's contribution to the impact would not be cumulatively considerable for two reasons: 1) the project would not generate the chemical contaminants for which the water bodies are impaired and 2) the project would likely reduce organic nutrients due to the net



decrease in impervious surface around Lake Merritt and the Best Management Practices (BMPs) that are included in the project (e.g., grassy swales, porous pavements, and stormwater planters). Thus, the cumulative impact of the project is less than significant. It is anticipated that other cumulative projects within the City of Oakland would be required to undergo the same water quality maintenance measures and would not result in cumulative adverse impacts to water quality. Therefore, implementation of the proposed project would not result in significant cumulative hydrology and water quality impacts.

**h. Geology, Soils and Seismicity.** The area of cumulative effects for geology, soils and seismicity issues, such as liquefaction, landslides, lateral spreading, expansive soils, landfills, and septic systems, is the project site. The geologic, seismicity, and soils conditions of this site are specific to the individual component sites. Other sites in the vicinity may have similar issues and concerns regarding geological conditions and hazards. For geologic, seismicity, and soils issues, the proposed development does not influence or degrade conditions in the area of cumulative effects, because among other reasons, as long as the impacts of the individual components are reduced to a less than significant level by the California Building Standards Code and the City's Uniformly Applied Development Standard Conditions of Approval with which the project will be required to comply. In addition, many features of the project, such as improvements to trails, creeks, landscaping, and water quality, do not create any hazards. Others, such as renovations of the Studio One Art Center, the Municipal Boathouse and the Pergola, would reduce existing hazards by strengthening existing structures. These actions would not contribute to a cumulative impact and, in the case of renovations would have net beneficial effects. New structures associated with past, present and reasonably foreseeable future projects as well as the current project, such as the East Oakland Sports Complex, would be built to current seismic codes ensuring that potential seismic hazards are less than significant. Thus, the project would not make a cumulatively considerable contribution to a cumulative significant impact related to geology, soils or seismicity.

**i. Hazards and Hazardous Materials.** The hazards and hazardous materials issues for the proposed project are specific to the individual component sites and would not lead to any cumulative impacts related to hazards. Most components of Measure DD would not store or use substantial quantities of hazardous materials and would, at some sites, help ensure that potential chemical hazards in soil or groundwater are remediated and the risk from these hazards is reduced. Some hazardous materials would be stored for maintenance and disinfection purposes at the proposed East Oakland Sport Complex. As all such storage and use in the City of Oakland must comply with State and local regulations for hazardous materials, this would not have a significant cumulative impact.

Hazardous materials transport, storage and use would be cumulatively significant if the project and cumulative projects created a significant hazard to the public or the environment within the area of cumulative effect (i.e., the project construction sites, the East Oakland Sports Complex site, or roadways to these sites). The cumulative effect would create a significant hazard to the public if the hazardous materials in the cumulative scenario exceeded regulated quantities or resulted in the improper use or storage of hazardous materials. The City finds that storage of common hazardous materials in accordance with

State and federal regulations and the City's Best Management Practices by the project in combination with past, present, and reasonably foreseeable future projects would not create a significant cumulative hazard to the public or the environment. Thus, the impact would be less than significant.

For emergency evacuation routes, the area of impact would be the areas served by 12<sup>th</sup> Street, the evacuation route that would be temporarily closed during construction. During the period of project construction, other projects in the cumulative scenario could have street closures that would affect the same areas, which could constitute a cumulative impact. However, the proposed mitigation requires the review and approval of the temporary detour plans by the City's Office of Emergency Services, which would be aware of other closures in the City, and would ensure that the project's contribution is less than cumulatively considerable because it requires that alternative routes are identified and available during project construction. Because the project's contribution to the cumulative impact is not cumulatively considerable the impact is less than significant.

**j. Public Services and Recreation.** ~~Development of the proposed Measure DD Implementation Project, in conjunction with planned future development as anticipated by the City's General Plan, would incrementally increase demand for police and fire services as noted in Section IV.K, which finds that the project sites are currently adequately served and the impacts on demand would be less than significant. For recreation, the analysis finds that service is currently inadequate, as the City does not meet its goals of 10 acres of total and 4 acres of urban parkland per 1,000 residents. However, the project would improve recreational facilities and increase the current ratios by constructing new facilities in East Oakland and by increasing the acres of parkland around the south end of Lake Merritt. Thus the project would have a beneficial effect on recreation. Therefore, the cumulative analysis focuses on police and fire services. public facilities and services. However, none of the public facilities or services analyzed would experience significant impacts or create demand beyond that anticipated in the General Plan.~~

There is no evidence that the demand for police and fire services would be cumulatively significant because adequate fire and police service is provided to the project area and development under cumulative conditions would be addressed by the service providers prior to completion of development to ensure that service demand can be reasonably be accommodated at that time. Build-out of the cumulative projects would not result in cumulative impacts related to physical capacities, service levels or funding availability, particularly because the increased demand for services has, in many cases, been anticipated in planning and policy documents and would be shared across service areas within the City. In addition, given the acceptable levels of service as described in Section IV.K, the demand by the project when combined with past, present, and reasonably foreseeable future projects would not be cumulatively considerable because the facilities that are part of the project, such as new trails, new landscaping, creek restoration activities, renovations of buildings and other historic structures, creation of bike lanes, and water quality improvements do not create demand for services, have a demand for services that is the same as the existing project sites, or have very low demand for services. As a result, no significant cumulative impacts would result.

**k. Utilities and Infrastructure.** The proposed Measure DD Implementation Project is located in areas already served by utilities and the incremental increase in demand for services would not require the expansion or construction of new facilities. The cumulative increase in demand on the utility providers and infrastructure in the City resulting from implementation of Measure DD, in combination with past, present and other reasonably foreseeable projects in Oakland, is anticipated within the General Plan as well as within plans prepared by each of the utility providers to address projected growth.

There is no evidence that the demand for utilities and infrastructure would be cumulatively significant because adequate service is provided to the project area and development under cumulative conditions would be addressed by the utility providers prior to completion of development to ensure that service demand can be reasonably be accommodated at that time. In addition, given the acceptable levels of service as described in Section IV.L, the demand by the project when combined with past, present and reasonably foreseeable future projects would not be cumulatively considerable because the facilities that are part of the project, such as new trails, new landscaping, creek restoration activities, renovations of buildings and other historic structures, creation of bike lanes, and water quality improvements do not create demand for services, have a demand for services that is the same as the existing project sites, or have very low demand for services. Therefore, no significant cumulative impacts would result.

## **B. REVISIONS TO THE DRAFT EIR INITIATED BY THE CITY**

### **Clarification regarding Compliance of the Project with the City's Uniformly Applied Development Standard Conditions of Approval**

Page 64 is revised as follows:

The City's Uniformly Applied Development Standard Conditions of Approval are incorporated into projects as Conditions of Approval regardless of a project's environmental determination. As applicable, the Conditions of Approval are adopted as requirements of an individual project when it is approved by the City and are designed to, and will, substantially mitigate environmental effects. For the Measure DD Project the City's Conditions of Approval have been incorporated as part of the project. As such, the project will comply with all applicable Uniformly Applied Development Standard Conditions of Approval.

In reviewing project applications, the City determines which of the standard conditions are applied, based upon the zoning district, community plan, and the type(s) of permit(s)/approval(s) required for the project. Depending on the specific characteristics of the project type and/or project site, the City will determine which Development Standards apply to each project; for example, Development Standards related to creek protection permits will only be applied projects on creekside properties.

The Development Standards incorporate development policies and standards from various adopted plans, policies, and ordinances (such as the Oakland Planning and Municipal Codes, Oakland Creek Protection, Stormwater Water Management and Discharge Control



Ordinance, Oakland Tree Protection Ordinance, Oakland Grading Regulations, National Pollutant Discharge Elimination System (NPDES) permit requirements, Housing Element-related mitigation measures, California Building Code, and Uniform Fire Code, among others), which have been found to substantially mitigate environmental effects. Where there are peculiar circumstances associated with a project or project site that will result in significant environmental impacts despite implementation of the Development Standards, the City will determine whether there are feasible mitigation measures to reduce the impact to less than significant levels. The project will comply with all applicable Uniformly Applied Development Standard Conditions of Approval and mitigation measures discussed in the EIR.

### **Clarification regarding Criterion of Significance for Cumulative Traffic Impacts**

Questions have been raised regarding the use on pages 122-123 in the Draft EIR of the significance criterion 1)h., which states, “A project’s contribution to cumulative impacts is considered “considerable” when the project contributes five (5) percent or more of the cumulative traffic increase as measured by the difference between existing and future cumulative (with project) conditions.”

For example, page 134 of the Draft EIR states that “If the Measure DD Implementation Project contributes less than 5 percent of the cumulative traffic increase at an intersection as measured by the difference between existing and future cumulative (with project conditions) the impact is considered less than significant.” The Draft EIR text then continues by identifying four intersections where the impacts “were found to be less than significant for this reason.” For purposes of clarification, however, the Draft EIR’s use of the referenced 5% contribution criterion merely provides information and context for this project and is not the sole basis for determining that cumulative impacts would (or would not) occur at these (or any other) locations. These intersections would not have significant cumulative effects under any other of the significance criteria identified in the Draft EIR. No impact or intersection was omitted from consideration, nor the potential significance of any impact understated by application of this criterion.

A summary of traffic operations is provided in Table IV-1 for the four intersections found to have less than significant impacts because the project would contribute less than 5 percent of the cumulative impact. Detailed capacity analysis worksheets are provided in Appendix A.

At the first three intersections listed in the table, the project in combination with past, other current and probable near term projects scheduled to be complete by Year 2025 would cause significant impacts. However, the project would not make a considerable contribution to those cumulative impacts because either the project would not contribute to the impact or a mitigation measure would reduce the project’s contribution to less than significant.

At the MacArthur Boulevard/Lakeshore Avenue intersection, Mitigation Measure TRANS-3 would reduce project impacts to a less-than-significant level as described on page 127 of the Draft EIR. Similarly, this mitigation measure would reduce delays and improve the LOS to an extent that would eliminate the project’s contribution to the cumulative impact.

**Table IV-1: Intersection Levels of Service – Cumulative (2025) Conditions**

Intersection	Traffic Control		Peak Hour	Existing		Cumulative No Project		Cumulative Plus Project		Cumulative Plus Project With Mitigation	
	(Existing)	(Future)		LOS <sup>a</sup>	Delay <sup>b</sup>	LOS <sup>a</sup>	Delay <sup>b</sup>	LOS <sup>a</sup>	Delay <sup>b</sup>	LOS <sup>a</sup>	Delay <sup>b</sup>
6. MacArthur Blvd/Lakeshore Ave	Signal	Signal	AM	D	36.0	D	49.2	E	68.7	D	35.3
			PM	F	89.3	F	168.4	F	225.7	F	166.9
29. Embarcadero /5 <sup>th</sup> Ave	Minor Stop	Signal	AM	B	12.5	C	28.5	C	29.1	C	29.1
			PM	E	39.0	F	200.5	F	200.5	F	200.5
30. 27 <sup>th</sup> St/Bay Pl/Harrison St	Signal	Signal	AM	F	146.3	F	88.2	E	67.1	E	67.1
			PM	C	31.8	F	93.8	E	70.7	E	70.7
31. Grand Ave/Harrison St <sup>c</sup>	Signal	Signal	AM	D	39.4	F	82.5	D	54.4	D	54.4
			PM	C	34.8	E	64.3	E	64.5	E	64.5

Notes:

Shaded values indicate a potential significant impact.

<sup>a</sup> LOS = Level of Service<sup>b</sup> Average control delay in seconds per vehicle<sup>c</sup> Defined as a downtown intersection

Source: Dowling and Associates, 2008.

At the Embarcadero/5th Avenue intersection, a cumulative impact would occur during the PM peak hour, but the project would not contribute to the impact. At the 27<sup>th</sup> Street/Bay Place/Harrison Street intersection and at the Grand Avenue/Harrison Street intersection, the project would reduce significant cumulative impacts to a less-than-significant level because the project would divert traffic from those intersections.

Page 134 is revised as follows:

Some intersections degrade under cumulative conditions due primarily to other projects that would be constructed in the future. ~~If the Measure DD Implementation Project contributes less than 5 percent of the cumulative traffic increase at an intersection as measured by the difference between existing and future cumulative (with project conditions) the impact is considered less than significant.~~ The impacts at the following four intersections were found to be less than significant ~~for this reason~~:

- MacArthur Boulevard/Lakeshore Avenue
- Embarcadero/5<sup>th</sup> Avenue
- 27<sup>th</sup> Street/Bay Place/Harrison Street
- Grand Avenue/Harrison Street

The Measure DD Implementation Project would add traffic to some of the movements at the MacArthur Boulevard/ Lakeshore Avenue intersection; however, implementation of Mitigation Measure TRANS-3 would result in LOS D (35.3 seconds delay) traffic operations during the AM peak hour and at LOS F (166.9 seconds delay) during the PM peak hour, which would be less delay than for cumulative conditions without the Project. Therefore, the Project would not cause any of the thresholds listed in section C.1.b.(1)1 to be exceeded at the MacArthur Boulevard/ Lakeshore Avenue intersection. The Project would not add traffic to the Embarcadero/5<sup>th</sup> Avenue intersection and would decrease traffic volumes at the 27<sup>th</sup> Street/Bay Place/Harrison Street and Grand Avenue/Harrison Street intersections.

#### **Clarifications regarding Mitigation Measures for Biological Resources**

Page 211 is revised as follows:

**b. Impacts Applicable to All Project Groups.** Several of the impacts to biological resources that may result from the implementation of Measure DD would essentially be the same for each or most of the four project groups. These impacts are defined below for each criterion of significance listed above. Where applicable, the City's specific Standard Conditions of Approval that will reduce potential impacts to a less-than-significant level are identified in the text after the discussion of the impact. As with all impacts discussed in this EIR, when specific Standard Conditions of Approval do not reduce potential impacts to a less-than-significant level, the EIR identifies feasible mitigation measures, when available, to reduce the impact to less-than-significant. In some instances, the mitigation measures call for development of site-specific plans, for which the City lacks sufficient project detail to develop at this time. The plans identified in these mitigation measures will be implemented prior to any activities that could result in the identified potentially significant impacts.



Page 214 is revised as follows:

Mitigation Measure BIO-1b (Group 2): Prior to ground disturbance, a qualified biologist experienced with SMHM exclusion procedures shall prepare a site-specific SMHM avoidance plan. The plan shall be implemented during construction at each specific site. At a minimum, the plan shall include (1) the installation of silt fencing around the entire portion of the work area (that is within 100 feet from the edge of the marsh) to exclude SMHM from entering, (2) the clearing of all ground vegetation within the fenced area, and (3) the relocation to Damon Marsh of any SMHM found during the vegetation removal effort. Construction work shall start as soon as possible (and no longer than one week) after vegetation has been cleared. All exclusion measures and initial ground disturbance activities shall be monitored by a biologist, who has the necessary state and federal permits to handle and relocate SMHM. (LTS)

Page 216 is revised as follows:

Mitigation Measure BIO-3b (Groups 1, 2, and 4): Impacts to jurisdictional wetlands shall be mitigated at a minimum replacement ratio of 1:1 (i.e., one acre created [and preserved] for every acre impacted). If feasible, replacement habitat shall be created/preserved in the same general area as the original impact. Off-site mitigation may be approved if the amount of required replacement habitat exceeds that which is available near a given impact site. A wetland mitigation and monitoring plan (MMP) shall be developed and implemented for each mitigation site, detailing the mitigation design, wetland planting design, adaptive management, maintenance and monitoring requirements, reporting requirements, and success criteria for the created wetland(s). (LTS)



**APPENDIX A**

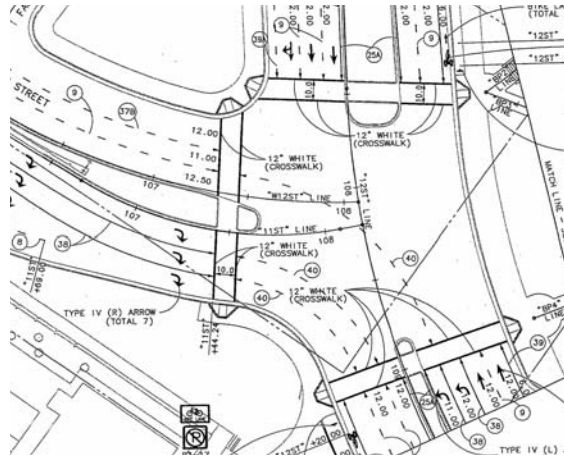
**TRAFFIC DATA**



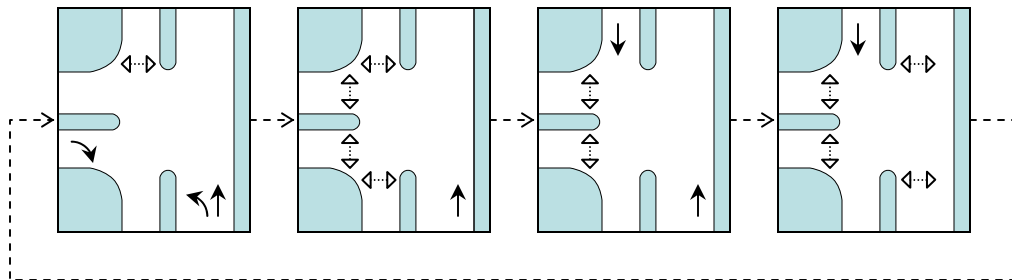
## **APPENDIX A-1**

### **ANALYSIS FOR 11<sup>TH</sup>-12<sup>TH</sup>/14<sup>TH</sup> STREET INTERSECTION**

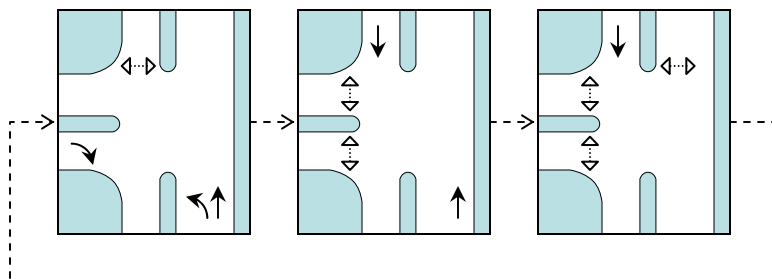
## 11th-12th/14th Street Intersection





## Signal Phasing Sequence With South Crosswalk



## Signal Phasing Sequence Without South Crosswalk



**KEY**

-  Vehicle signal phase  
 Pedestrian signal phase

## **APPENDIX A-2**

### **CUMULATIVE TRAFFIC ANALYSIS FOR TABLE IV-1**



# HCM Signalized Intersection Capacity Analysis

54: 11th-12th St #1#2 & 14th St

12/12/2007



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		←←←	←←	↑↑	↑↑↑	
Volume (vph)	0	414	1805	1780	828	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	
Lane Util. Factor		0.76	0.97	0.95	0.91	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	
Frt		0.85	1.00	1.00	1.00	
Flt Protected		1.00	0.95	1.00	1.00	
Satd. Flow (prot)		3474	3367	3254	4988	
Flt Permitted		1.00	0.95	1.00	1.00	
Satd. Flow (perm)		3474	3367	3254	4988	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	450	1962	1935	900	0
RTOR Reduction (vph)	0	176	0	0	0	0
Lane Group Flow (vph)	0	274	1962	1935	900	0
Confl. Peds. (#/hr)		70				70
Confl. Bikes (#/hr)		16				16
Heavy Vehicles (%)	2%	6%	4%	4%	4%	2%
Parking (#/hr)				5		
Turn Type		Over	Prot			
Protected Phases		5	5	2	6	
Permitted Phases						
Actuated Green, G (s)		60.9	60.9	83.0	26.3	
Effective Green, g (s)		60.9	60.9	83.0	26.3	
Actuated g/C Ratio		0.61	0.61	0.83	0.26	
Clearance Time (s)		4.0	4.0	4.0	4.0	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		2116	2051	2701	1312	
v/s Ratio Prot		0.08	c0.58	c0.59	c0.18	
v/s Ratio Perm						
v/c Ratio		0.13	0.96	0.72	0.69	
Uniform Delay, d1		8.3	18.3	3.6	33.1	
Progression Factor		1.00	0.68	0.84	0.92	
Incremental Delay, d2		0.0	5.8	0.7	2.9	
Delay (s)		8.3	18.3	3.7	33.4	
Level of Service		A	B	A	C	
Approach Delay (s)	8.3			11.1	33.4	
Approach LOS	A			B	C	
<b>Intersection Summary</b>						
HCM Average Control Delay		14.6		HCM Level of Service		B
HCM Volume to Capacity ratio		0.84				
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		4.0
Intersection Capacity Utilization		89.9%		ICU Level of Service		E
Analysis Period (min)		15				
c Critical Lane Group						

# HCM Signalized Intersection Capacity Analysis

54: 11th-12th St #1#2 & 14th St

12/12/2007



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		←←←	←←	↑↑	↑↑↑	
Volume (vph)	0	1253	824	620	2133	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	
Lane Util. Factor		0.76	0.97	0.95	0.91	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	
Frt		0.85	1.00	1.00	1.00	
Flt Protected		1.00	0.95	1.00	1.00	
Satd. Flow (prot)		3474	3367	3254	4988	
Flt Permitted		1.00	0.95	1.00	1.00	
Satd. Flow (perm)		3474	3367	3254	4988	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1362	896	674	2318	0
RTOR Reduction (vph)	0	800	0	0	0	0
Lane Group Flow (vph)	0	562	896	674	2318	0
Confl. Peds. (#/hr)		70				70
Confl. Bikes (#/hr)		16				16
Heavy Vehicles (%)	2%	6%	4%	4%	4%	2%
Parking (#/hr)				5		
Turn Type		Over	Prot			
Protected Phases		5	5	2	6	
Permitted Phases						
Actuated Green, G (s)		13.0	13.0	37.2	21.4	
Effective Green, g (s)		13.0	13.0	37.2	21.4	
Actuated g/C Ratio		0.26	0.26	0.74	0.43	
Clearance Time (s)		4.0	4.0	4.0	4.0	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		903	875	2421	2135	
v/s Ratio Prot		0.16	c0.27	c0.21	c0.46	
v/s Ratio Perm						
v/c Ratio		0.62	1.02	0.28	1.09	
Uniform Delay, d1		16.3	18.5	2.1	14.3	
Progression Factor		1.00	0.88	0.52	0.81	
Incremental Delay, d2		1.0	35.9	0.3	43.4	
Delay (s)		17.3	52.2	1.3	54.9	
Level of Service		B	D	A	D	
Approach Delay (s)	17.3			30.4	54.9	
Approach LOS	B			C	D	
<b>Intersection Summary</b>						
HCM Average Control Delay			37.8		HCM Level of Service	D
HCM Volume to Capacity ratio			0.92			
Actuated Cycle Length (s)			50.0		Sum of lost time (s)	8.0
Intersection Capacity Utilization			87.1%		ICU Level of Service	E
Analysis Period (min)			15			
c Critical Lane Group						

# HCM Signalized Intersection Capacity Analysis

54: 11th-12th St #1#2 & 14th St

12/12/2007



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↰↰↰	↰↰	↱↱	↱↱↱	
Volume (vph)	0	1253	824	620	2133	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	
Lane Util. Factor		0.76	0.97	0.95	0.91	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	
Frt		0.85	1.00	1.00	1.00	
Flt Protected		1.00	0.95	1.00	1.00	
Satd. Flow (prot)		3474	3367	3254	4988	
Flt Permitted		1.00	0.95	1.00	1.00	
Satd. Flow (perm)		3474	3367	3254	4988	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1362	896	674	2318	0
RTOR Reduction (vph)	0	458	0	0	0	0
Lane Group Flow (vph)	0	904	896	674	2318	0
Confl. Peds. (#/hr)		70				70
Confl. Bikes (#/hr)		16				16
Heavy Vehicles (%)	2%	6%	4%	4%	4%	2%
Parking (#/hr)				5		
Turn Type		Over	Prot			
Protected Phases		5	5	2	6	
Permitted Phases						
Actuated Green, G (s)		31.6	31.6	83.8	50.0	
Effective Green, g (s)		31.6	31.6	83.8	50.0	
Actuated g/C Ratio		0.32	0.32	0.84	0.50	
Clearance Time (s)		4.0	4.0	4.0	4.0	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		1098	1064	2727	2494	
v/s Ratio Prot		0.26	c0.27	c0.21	c0.46	
v/s Ratio Perm						
v/c Ratio		0.82	0.84	0.25	0.93	
Uniform Delay, d1		31.6	31.9	1.7	23.4	
Progression Factor		1.00	1.08	1.01	0.95	
Incremental Delay, d2		4.9	5.7	0.2	4.2	
Delay (s)		36.5	40.0	1.9	26.5	
Level of Service		D	D	A	C	
Approach Delay (s)	36.5			23.6	26.5	
Approach LOS	D			C	C	
<b>Intersection Summary</b>						
HCM Average Control Delay		28.2		HCM Level of Service		C
HCM Volume to Capacity ratio		0.82				
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization		87.1%		ICU Level of Service		E
Analysis Period (min)		15				
c Critical Lane Group						



# HCM Signalized Intersection Capacity Analysis

54: 11th-12th St #1#2 & 14th St

12/12/2007



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↰↰	↰↰	↱↱	↱↱↱	
Volume (vph)	0	414	1805	1780	828	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	
Lane Util. Factor		0.88	0.97	0.95	0.91	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	
Frt		0.85	1.00	1.00	1.00	
Flt Protected		1.00	0.95	1.00	1.00	
Satd. Flow (prot)		2787	3367	3254	4988	
Flt Permitted		1.00	0.95	1.00	1.00	
Satd. Flow (perm)		2787	3367	3254	4988	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	100%	94%	100%	100%	100%	100%
Adj. Flow (vph)	0	423	1962	1935	900	0
RTOR Reduction (vph)	0	165	0	0	0	0
Lane Group Flow (vph)	0	258	1962	1935	900	0
Confl. Peds. (#/hr)		70				70
Confl. Bikes (#/hr)		16				16
Heavy Vehicles (%)	2%	2%	4%	4%	4%	2%
Parking (#/hr)				5		
Turn Type		Over	Prot			
Protected Phases		5	5	2	6	
Permitted Phases						
Actuated Green, G (s)		60.9	60.9	87.2	23.5	
Effective Green, g (s)		60.9	60.9	87.2	23.5	
Actuated g/C Ratio		0.61	0.61	0.87	0.24	
Clearance Time (s)		4.0	4.0	4.0	4.0	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		1697	2051	2837	1172	
v/s Ratio Prot		0.09	c0.58	c0.59	c0.18	
v/s Ratio Perm						
v/c Ratio		0.15	0.96	0.68	0.77	
Uniform Delay, d1		8.4	18.3	2.0	35.7	
Progression Factor		1.00	0.68	0.87	0.93	
Incremental Delay, d2		0.0	5.8	0.6	4.8	
Delay (s)		8.4	18.3	2.3	37.9	
Level of Service		A	B	A	D	
Approach Delay (s)	8.4			10.4	37.9	
Approach LOS	A			B	D	
<b>Intersection Summary</b>						
HCM Average Control Delay		14.9		HCM Level of Service	B	
HCM Volume to Capacity ratio		0.89				
Actuated Cycle Length (s)		100.0		Sum of lost time (s)	8.0	
Intersection Capacity Utilization		89.9%		ICU Level of Service	E	
Analysis Period (min)		15				
c Critical Lane Group						

# HCM Signalized Intersection Capacity Analysis

54: 11th-12th St #1#2 & 14th St

12/12/2007



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↰↱	↰↱	↰↱	↰↱↱	
Volume (vph)	0	1253	824	620	2133	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	
Lane Util. Factor		0.88	0.97	0.95	0.91	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	
Frt		0.85	1.00	1.00	1.00	
Flt Protected		1.00	0.95	1.00	1.00	
Satd. Flow (prot)		2787	3367	3254	4988	
Flt Permitted		1.00	0.95	1.00	1.00	
Satd. Flow (perm)		2787	3367	3254	4988	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	100%	94%	100%	100%	100%	100%
Adj. Flow (vph)	0	1280	896	674	2318	0
RTOR Reduction (vph)	0	341	0	0	0	0
Lane Group Flow (vph)	0	939	896	674	2318	0
Confl. Peds. (#/hr)		70				70
Confl. Bikes (#/hr)		16				16
Heavy Vehicles (%)	2%	2%	4%	4%	4%	2%
Parking (#/hr)				5		
Turn Type		Over	Prot			
Protected Phases		5	5	2	6	
Permitted Phases						
Actuated Green, G (s)		34.0	34.0	87.2	50.4	
Effective Green, g (s)		34.0	34.0	87.2	50.4	
Actuated g/C Ratio		0.34	0.34	0.87	0.50	
Clearance Time (s)		4.0	4.0	4.0	4.0	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		948	1145	2837	2514	
v/s Ratio Prot		c0.34	0.27	c0.21	c0.46	
v/s Ratio Perm						
v/c Ratio		0.99	0.78	0.24	0.92	
Uniform Delay, d1		32.8	29.7	1.0	23.0	
Progression Factor		1.00	1.07	0.95	0.94	
Incremental Delay, d2		26.7	3.1	0.2	3.9	
Delay (s)		59.6	35.0	1.2	25.5	
Level of Service		E	C	A	C	
Approach Delay (s)	59.6			20.5	25.5	
Approach LOS	E			C	C	
<b>Intersection Summary</b>						
HCM Average Control Delay		32.4		HCM Level of Service		C
HCM Volume to Capacity ratio		0.89				
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization		94.0%		ICU Level of Service		F
Analysis Period (min)		15				
c Critical Lane Group						

# HCM Signalized Intersection Capacity Analysis

54: 11th-12th St #1#2 & 14th St

12/12/2007



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↔↔	↔↔	↕↕	↕↕↕	
Volume (vph)	0	414	1805	1780	828	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	
Lane Util. Factor		0.88	0.97	0.95	0.91	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	
Frt		0.85	1.00	1.00	1.00	
Flt Protected		1.00	0.95	1.00	1.00	
Satd. Flow (prot)		2787	3367	3254	4988	
Flt Permitted		1.00	0.95	1.00	1.00	
Satd. Flow (perm)		2787	3367	3254	4988	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	100%	94%	100%	100%	100%	100%
Adj. Flow (vph)	0	423	1962	1935	900	0
RTOR Reduction (vph)	0	2	0	0	0	0
Lane Group Flow (vph)	0	421	1962	1935	900	0
Confl. Peds. (#/hr)		70				70
Confl. Bikes (#/hr)		16				16
Heavy Vehicles (%)	2%	2%	4%	4%	4%	2%
Parking (#/hr)				5		
Turn Type		Over	Prot			
Protected Phases		5	5	2	6	
Permitted Phases						
Actuated Green, G (s)		65.7	65.7	87.4	26.3	
Effective Green, g (s)		65.7	65.7	87.4	26.3	
Actuated g/C Ratio		0.66	0.66	0.87	0.26	
Clearance Time (s)		4.0	4.0	4.0	4.0	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		1831	2212	2844	1312	
v/s Ratio Prot		0.15	c0.58	c0.59	c0.18	
v/s Ratio Perm						
v/c Ratio		0.23	0.89	0.68	0.69	
Uniform Delay, d1		6.9	14.1	2.0	33.1	
Progression Factor		1.00	1.39	1.89	1.03	
Incremental Delay, d2		0.0	2.1	0.6	2.9	
Delay (s)		7.0	21.7	4.3	37.2	
Level of Service		A	C	A	D	
Approach Delay (s)	7.0			13.0	37.2	
Approach LOS	A			B	D	

## Intersection Summary

HCM Average Control Delay	16.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	4.0
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



# HCM Signalized Intersection Capacity Analysis

54: 11th-12th St #1#2 & 14th St

12/12/2007























Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↰↱	↰↱	↕↕	↕↕↕	
Volume (vph)	0	1253	824	620	2133	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0	4.0	4.0	
Lane Util. Factor		0.88	0.97	0.95	0.91	
Frpb, ped/bikes		1.00	1.00	1.00	1.00	
Flpb, ped/bikes		1.00	1.00	1.00	1.00	
Frt		0.85	1.00	1.00	1.00	
Flt Protected		1.00	0.95	1.00	1.00	
Satd. Flow (prot)		2787	3367	3254	4988	
Flt Permitted		1.00	0.95	1.00	1.00	
Satd. Flow (perm)		2787	3367	3254	4988	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Growth Factor (vph)	100%	94%	100%	100%	100%	100%
Adj. Flow (vph)	0	1280	896	674	2318	0
RTOR Reduction (vph)	0	1	0	0	0	0
Lane Group Flow (vph)	0	1279	896	674	2318	0
Confl. Peds. (#/hr)		70				70
Confl. Bikes (#/hr)		16				16
Heavy Vehicles (%)	2%	2%	4%	4%	4%	2%
Parking (#/hr)				5		
Turn Type		Over	Prot			
Protected Phases		5	5	2	6	
Permitted Phases						
Actuated Green, G (s)		45.0	45.0	87.4	47.0	
Effective Green, g (s)		45.0	45.0	87.4	47.0	
Actuated g/C Ratio		0.45	0.45	0.87	0.47	
Clearance Time (s)		4.0	4.0	4.0	4.0	
Vehicle Extension (s)		2.0	2.0	2.0	2.0	
Lane Grp Cap (vph)		1254	1515	2844	2344	
v/s Ratio Prot		c0.46	0.27	0.21	c0.46	
v/s Ratio Perm						
v/c Ratio		1.02	0.59	0.24	0.99	
Uniform Delay, d1		27.5	20.6	1.0	26.2	
Progression Factor		1.00	1.15	0.75	0.91	
Incremental Delay, d2		30.6	0.4	0.2	10.9	
Delay (s)		58.1	24.2	0.9	34.8	
Level of Service		E	C	A	C	
Approach Delay (s)	58.1			14.2	34.8	
Approach LOS	E			B	C	
<b>Intersection Summary</b>						
HCM Average Control Delay		34.3		HCM Level of Service		C
HCM Volume to Capacity ratio		1.00				
Actuated Cycle Length (s)		100.0		Sum of lost time (s)		8.0
Intersection Capacity Utilization		94.0%		ICU Level of Service		F
Analysis Period (min)		15				
c Critical Lane Group						

# HCM Signalized Intersection Capacity Analysis

## 6: MacArthur Blvd & Lakeshore Av






















1/15/2008

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	231	559	140	0	0	0	0	405	509	508	760	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						4.0		3.5	4.0	
Lane Util. Factor	0.86	0.86						0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99						0.97		1.00	1.00	
Flpb, ped/bikes	1.00	1.00						1.00		1.00	1.00	
Frt	1.00	0.97						0.92		1.00	1.00	
Flt Protected	0.95	1.00						1.00		0.95	1.00	
Satd. Flow (prot)	1516	4597						2951		1770	3539	
Flt Permitted	0.95	1.00						1.00		0.12	1.00	
Satd. Flow (perm)	1516	4597						2951		216	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	251	608	152	0	0	0	0	440	553	552	826	0
RTOR Reduction (vph)	0	34	0	0	0	0	0	60	0	0	0	0
Lane Group Flow (vph)	226	751	0	0	0	0	0	933	0	552	826	0
Confl. Peds. (#/hr)	3		46						21	21		
Confl. Bikes (#/hr)			2						7			
Parking (#/hr)					0			5				
Turn Type	Perm						pm+pt					
Protected Phases		4						2		1	6	
Permitted Phases	4									6		
Actuated Green, G (s)	31.0	31.0						31.0		66.0	66.0	
Effective Green, g (s)	31.0	31.0						31.0		66.0	66.0	
Actuated g/C Ratio	0.29	0.29						0.29		0.62	0.62	
Clearance Time (s)	5.0	5.0						4.0		3.5	4.0	
Lane Grp Cap (vph)	443	1344						863		596	2204	
v/s Ratio Prot								c0.32		c0.28	0.23	
v/s Ratio Perm	0.15	0.16								0.30		
v/c Ratio	0.51	0.56						1.20dr		0.93	0.37	
Uniform Delay, d1	31.2	31.7						37.5		28.8	9.8	
Progression Factor	1.12	1.13						1.00		1.00	1.00	
Incremental Delay, d2	2.8	1.1						54.9		22.6	0.5	
Delay (s)	37.9	37.1						92.4		51.3	10.3	
Level of Service	D	D						F		D	B	
Approach Delay (s)		37.2			0.0			92.4			26.8	
Approach LOS		D			A			F			C	
<b>Intersection Summary</b>												
HCM Average Control Delay			49.2				HCM Level of Service			D		
HCM Volume to Capacity ratio			0.86									
Actuated Cycle Length (s)			106.0				Sum of lost time (s)			12.5		
Intersection Capacity Utilization			89.3%				ICU Level of Service			E		
Analysis Period (min)			15									
dr Defacto Right Lane. Recode with 1 though lane as a right lane.												
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 29: Embarcadero & 5th Av

1/15/2008



















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	174	91	196	342	119	36	347	429	10	119	118	251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	0.90		1.00	0.98		1.00	1.00		1.00	0.95	
Flpb, ped/bikes	0.95	1.00		0.93	1.00		0.97	1.00		0.96	1.00	
Frt	1.00	0.90		1.00	0.97		1.00	1.00		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1674	2720		1639	3180		1717	1668		3289	1426	
Flt Permitted	0.65	1.00		0.56	1.00		0.43	1.00		0.36	1.00	
Satd. Flow (perm)	1138	2720		970	3180		774	1668		1246	1426	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	189	99	213	372	129	39	377	466	11	129	128	273
RTOR Reduction (vph)	0	128	0	0	23	0	0	1	0	0	118	0
Lane Group Flow (vph)	189	184	0	372	145	0	377	476	0	129	283	0
Confl. Peds. (#/hr)	70		70	70		70	70		70	70		70
Confl. Bikes (#/hr)			16			16			16			16
Parking (#/hr)		0			0			0			0	
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	26.0	26.0		26.0	26.0		31.0	31.0		31.0	31.0	
Effective Green, g (s)	26.0	26.0		26.0	26.0		31.0	31.0		31.0	31.0	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.48	0.48		0.48	0.48	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	455	1088		388	1272		369	796		594	680	
v/s Ratio Prot		0.07			0.05			0.29			0.20	
v/s Ratio Perm	0.17			0.38			0.49			0.10		
v/c Ratio	0.42	0.17		0.96	0.11		1.02	0.60		0.22	0.42	
Uniform Delay, d1	14.0	12.5		19.0	12.3		17.0	12.4		9.9	11.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.84	0.80	
Incremental Delay, d2	2.8	0.3		36.4	0.2		52.5	3.3		0.7	1.7	
Delay (s)	16.8	12.9		55.4	12.4		69.5	15.7		9.1	10.6	
Level of Service	B	B		E	B		E	B		A	B	
Approach Delay (s)		14.4			42.0			39.5			10.2	
Approach LOS		B			D			D			B	
<b>Intersection Summary</b>												
HCM Average Control Delay			28.5			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			65.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			93.2%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												



# HCM Signalized Intersection Capacity Analysis

30: Harrison St & 27th St

1/15/2008

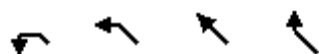
												
Movement	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	SEL	SET	SER	SER2
Lane Configurations												
Volume (vph)	12	487	620	47	163	1145	155	90	81	141	132	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		4.0	5.0			4.0	5.0		5.0
Lane Util. Factor		0.97	0.95		1.00	0.95			0.97	0.95		0.95
Frpb, ped/bikes		1.00	0.99		1.00	0.95			1.00	0.89		0.88
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	1.00		1.00
Frt		1.00	0.99		1.00	0.97			1.00	0.93		0.85
Flt Protected		0.95	1.00		0.95	1.00			0.95	1.00		1.00
Satd. Flow (prot)		3433	3253		1770	3059			3433	1275		1320
Flt Permitted		0.95	1.00		0.95	1.00			0.95	1.00		1.00
Satd. Flow (perm)		3433	3253		1770	3059			3433	1275		1320
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	529	674	51	177	1245	168	98	88	153	143	39
RTOR Reduction (vph)	0	0	4	0	0	3	0	0	0	0	0	25
Lane Group Flow (vph)	0	542	721	0	177	1508	0	0	88	300	0	10
Confl. Peds. (#/hr)				70	70		70	70	70		70	70
Confl. Bikes (#/hr)				16			16	16			16	16
Parking (#/hr)			5			5				5		
Turn Type	Prot	Prot			Prot				Prot			Perm
Protected Phases	5	5	2		1	6			7	4		
Permitted Phases												4
Actuated Green, G (s)		22.0	71.4		18.6	67.0			7.4	32.0		32.0
Effective Green, g (s)		22.0	71.4		18.6	67.0			7.4	32.0		32.0
Actuated g/C Ratio		0.15	0.48		0.12	0.45			0.05	0.21		0.21
Clearance Time (s)		5.0	5.0		4.0	5.0			4.0	5.0		5.0
Vehicle Extension (s)		2.0	2.0		2.0	2.0			2.0	2.0		2.0
Lane Grp Cap (vph)		504	1548		219	1366			169	272		282
v/s Ratio Prot		c0.16	c0.22		0.10	c0.49			0.03	c0.24		
v/s Ratio Perm												0.01
v/c Ratio		1.08	0.47		0.81	1.10			0.52	1.10		0.03
Uniform Delay, d1		64.0	26.5		64.0	41.5			69.6	59.0		46.8
Progression Factor		1.00	1.00		1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		61.9	1.0		18.3	58.0			1.3	85.0		0.0
Delay (s)		125.9	27.5		82.3	99.5			70.9	144.0		46.8
Level of Service		F	C		F	F			E	F		D
Approach Delay (s)			69.6			97.7				120.7		
Approach LOS			E			F				F		
Intersection Summary												
HCM Average Control Delay			88.2		HCM Level of Service					F		
HCM Volume to Capacity ratio			1.17									
Actuated Cycle Length (s)			150.0		Sum of lost time (s)					29.0		
Intersection Capacity Utilization			102.7%		ICU Level of Service					G		
Analysis Period (min)			15									
c Critical Lane Group												

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

30: Harrison St & 27th St

1/15/2008



Movement	NWL2	NWL	NWT	NWR
Lane Configurations				
Volume (vph)	84	31	200	177
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		4.0	5.0	5.0
Lane Util. Factor		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00	0.88
Flpb, ped/bikes		1.00	1.00	1.00
Frt		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00
Satd. Flow (prot)		1770	1863	1391
Flt Permitted		0.95	1.00	1.00
Satd. Flow (perm)		1770	1863	1391
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	34	217	192
RTOR Reduction (vph)	0	0	0	148
Lane Group Flow (vph)	0	125	217	44
Confl. Peds. (#/hr)	70	70		70
Confl. Bikes (#/hr)				16
Parking (#/hr)				
Turn Type	Prot	Prot		Perm
Protected Phases	3	3	8	
Permitted Phases				8
Actuated Green, G (s)		10.0	34.6	34.6
Effective Green, g (s)		10.0	34.6	34.6
Actuated g/C Ratio		0.07	0.23	0.23
Clearance Time (s)		4.0	5.0	5.0
Vehicle Extension (s)		2.0	2.0	2.0
Lane Grp Cap (vph)		118	430	321
v/s Ratio Prot		c0.07	c0.12	
v/s Ratio Perm				0.03
v/c Ratio		1.06	0.50	0.14
Uniform Delay, d1		70.0	50.2	45.8
Progression Factor		1.00	1.00	1.00
Incremental Delay, d2		99.7	0.3	0.1
Delay (s)		169.7	50.6	45.9
Level of Service		F	D	D
Approach Delay (s)			76.8	
Approach LOS			E	
Intersection Summary				

# HCM Signalized Intersection Capacity Analysis

## 31: Grand Av & Harrison St

1/15/2008



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕		↔↔	↕↕			↕↕↕	↕		↕↕↕	
Volume (vph)	116	257	100	618	834	116	265	1193	347	48	1283	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	0.97	0.95		0.97	0.95			0.91	1.00		0.91	
Frpb, ped/bikes	1.00	0.97		1.00	0.98			1.00	0.93		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.98			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		1.00	
Satd. Flow (prot)	3433	3246		3400	3384			4999	1456		4609	
Flt Permitted	0.95	1.00		0.95	1.00			0.67	1.00		0.74	
Satd. Flow (perm)	3433	3246		3400	3384			3380	1456		3418	
Peak-hour factor, PHF	0.98	0.98	0.98	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	118	262	102	672	907	126	288	1297	377	52	1395	320
RTOR Reduction (vph)	0	3	0	0	9	0	0	0	222	0	37	0
Lane Group Flow (vph)	118	361	0	672	1024	0	0	1585	155	0	1730	0
Confl. Peds. (#/hr)	124		81	81		124	84		53	53		84
Confl. Bikes (#/hr)			7			12			5			4
Heavy Vehicles (%)	2%	4%	2%	3%	3%	2%	2%	3%	3%	2%	3%	2%
Parking (#/hr)												5
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	5.0	16.5		24.5	37.0			39.0	39.0		39.0	
Effective Green, g (s)	5.0	16.5		24.5	37.0			39.0	39.0		39.0	
Actuated g/C Ratio	0.05	0.17		0.26	0.39			0.41	0.41		0.41	
Clearance Time (s)	4.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)	181	564		877	1318			1388	598		1403	
v/s Ratio Prot	0.03	c0.11		0.20	c0.30							
v/s Ratio Perm								0.47	0.11		c0.51	
v/c Ratio	0.65	0.64		0.77	0.78			3.65dl	0.26		1.23	
Uniform Delay, d1	44.1	36.5		32.6	25.4			28.0	18.5		28.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	6.3	1.8		3.6	4.5			73.0	0.1		111.2	
Delay (s)	50.4	38.2		36.2	29.9			101.0	18.6		139.2	
Level of Service	D	D		D	C			F	B		F	
Approach Delay (s)		41.2			32.4			85.2			139.2	
Approach LOS		D			C			F			F	

### Intersection Summary


















HCM Average Control Delay	82.5	HCM Level of Service	F
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	117.8%	ICU Level of Service	H
Analysis Period (min)	15		
dl Defacto Left Lane. Recode with 1 though lane as a left lane.			
c Critical Lane Group			



# HCM Signalized Intersection Capacity Analysis

## 6: MacArthur Blvd & Lakeshore Av






















1/15/2008

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	259	1711	168	0	0	0	0	470	929	476	597	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						4.0		3.5	4.0	
Lane Util. Factor	0.86	0.86						0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00						0.92		1.00	1.00	
Flpb, ped/bikes	0.93	1.00						1.00		1.00	1.00	
Frt	1.00	0.99						0.90		1.00	1.00	
Flt Protected	0.95	1.00						1.00		0.95	1.00	
Satd. Flow (prot)	1411	4714						2749		1770	3539	
Flt Permitted	0.95	1.00						1.00		0.10	1.00	
Satd. Flow (perm)	1411	4714						2749		180	3539	
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	276	1820	179	0	0	0	0	495	978	517	649	0
RTOR Reduction (vph)	0	12	0	0	0	0	0	3	0	0	0	0
Lane Group Flow (vph)	248	2015	0	0	0	0	0	1470	0	517	649	0
Confl. Peds. (#/hr)	70		33						70	70		
Confl. Bikes (#/hr)			4						12			
Parking (#/hr)					0			5				
Turn Type	Perm						pm+pt					
Protected Phases		4						2		1	6	
Permitted Phases	4									6		
Actuated Green, G (s)	28.0	28.0						38.0		53.0	53.0	
Effective Green, g (s)	28.0	28.0						38.0		53.0	53.0	
Actuated g/C Ratio	0.31	0.31						0.42		0.59	0.59	
Clearance Time (s)	5.0	5.0						4.0		3.5	4.0	
Lane Grp Cap (vph)	439	1467						1161		309	2084	
v/s Ratio Prot								0.53		c0.21	0.18	
v/s Ratio Perm	0.18	0.43								c0.77		
v/c Ratio	0.56	1.37						1.77dr		1.67	0.31	
Uniform Delay, d1	25.9	31.0						26.0		27.3	9.3	
Progression Factor	1.14	1.10						1.00		1.00	1.00	
Incremental Delay, d2	0.5	168.6						126.6		316.8	0.4	
Delay (s)	29.9	202.8						152.6		344.0	9.7	
Level of Service	C	F						F		F	A	
Approach Delay (s)		183.9			0.0			152.6			157.9	
Approach LOS		F			A			F			F	
<b>Intersection Summary</b>												
HCM Average Control Delay		168.4						HCM Level of Service		F		
HCM Volume to Capacity ratio		1.54										
Actuated Cycle Length (s)		90.0						Sum of lost time (s)		8.5		
Intersection Capacity Utilization		117.2%						ICU Level of Service		H		
Analysis Period (min)		15										
dr Defacto Right Lane. Recode with 1 though lane as a right lane.												
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 29: Embarcadero & 5th Av



















1/15/2008

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	340	146	307	468	337	25	326	134	58	73	469	321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	0.90		1.00	0.99		1.00	0.98		1.00	0.97	
Flpb, ped/bikes	0.96	1.00		0.95	1.00		1.00	1.00		0.93	1.00	
Frt	1.00	0.90		1.00	0.99		1.00	0.95		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1702	2724		1675	3308		1770	1564		3181	1525	
Flt Permitted	0.50	1.00		0.42	1.00		0.12	1.00		0.62	1.00	
Satd. Flow (perm)	887	2724		741	3308		233	1564		2077	1525	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	159	334	509	366	27	354	146	63	79	510	349
RTOR Reduction (vph)	0	119	0	0	9	0	0	24	0	0	38	0
Lane Group Flow (vph)	370	374	0	509	384	0	354	185	0	79	821	0
Confl. Peds. (#/hr)	70		70	70		70	70		70	70		70
Confl. Bikes (#/hr)			16			16			16			16
Parking (#/hr)		0			0			0			0	
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	25.0	25.0		25.0	25.0		32.0	32.0		32.0	32.0	
Effective Green, g (s)	25.0	25.0		25.0	25.0		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.49	0.49		0.49	0.49	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	341	1048		285	1272		115	770		1023	751	
v/s Ratio Prot		0.14			0.12			0.12			0.54	
v/s Ratio Perm	0.42			0.69			1.52			0.04		
v/c Ratio	1.09	0.36		1.79	0.30		3.08	0.24		0.08	1.09	
Uniform Delay, d1	20.0	14.3		20.0	13.9		16.5	9.5		8.7	16.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.99	0.99	
Incremental Delay, d2	73.4	0.9		367.5	0.6		957.9	0.7		0.1	55.8	
Delay (s)	93.4	15.2		387.5	14.5		974.4	10.2		8.8	72.1	
Level of Service	F	B		F	B		F	B		A	E	
Approach Delay (s)		48.7			225.0			616.4			66.8	
Approach LOS		D			F			F			E	
<b>Intersection Summary</b>												
HCM Average Control Delay		200.5			HCM Level of Service			F				
HCM Volume to Capacity ratio		2.52										
Actuated Cycle Length (s)		65.0			Sum of lost time (s)			8.0				
Intersection Capacity Utilization		120.9%			ICU Level of Service			H				
Analysis Period (min)		15										
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

30: Harrison St & 27th St

1/15/2008

												
Movement	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	SEL	SET	SER	SER2
Lane Configurations												
Volume (vph)	10	243	1369	62	180	584	53	83	196	333	154	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		4.0	5.0			4.0	5.0		5.0
Lane Util. Factor		0.97	0.95		1.00	0.95			0.97	0.95		0.95
Frpb, ped/bikes		1.00	0.99		1.00	0.94			1.00	0.93		0.88
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	1.00		1.00
Frt		1.00	0.99		1.00	0.97			1.00	0.95		0.85
Flt Protected		0.95	1.00		0.95	1.00			0.95	1.00		1.00
Satd. Flow (prot)		3433	3278		1770	3040			3433	1371		1327
Flt Permitted		0.95	1.00		0.95	1.00			0.95	1.00		1.00
Satd. Flow (perm)		3433	3278		1770	3040			3433	1371		1327
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	264	1488	67	196	635	58	90	213	362	167	20
RTOR Reduction (vph)	0	0	2	0	0	6	0	0	0	0	0	7
Lane Group Flow (vph)	0	275	1553	0	196	777	0	0	213	531	0	11
Confl. Peds. (#/hr)				70	70		70	70	70		70	70
Confl. Bikes (#/hr)				16			16	16			16	16
Parking (#/hr)			5			5				5		
Turn Type	Prot	Prot			Prot				Prot			Perm
Protected Phases	5	5	2		1	6			7	4		
Permitted Phases												4
Actuated Green, G (s)		15.7	65.0		14.0	62.3			13.1	49.0		49.0
Effective Green, g (s)		15.7	65.0		14.0	62.3			13.1	49.0		49.0
Actuated g/C Ratio		0.10	0.43		0.09	0.42			0.09	0.33		0.33
Clearance Time (s)		5.0	5.0		4.0	5.0			4.0	5.0		5.0
Vehicle Extension (s)		2.0	2.0		2.0	2.0			2.0	2.0		2.0
Lane Grp Cap (vph)		359	1420		165	1263			300	448		433
v/s Ratio Prot		0.08	c0.47		c0.11	0.26			0.06	c0.39		
v/s Ratio Perm												0.01
v/c Ratio		0.77	1.09		1.19	0.61			0.71	1.19		0.02
Uniform Delay, d1		65.4	42.5		68.0	34.4			66.6	50.5		34.3
Progression Factor		1.00	1.00		1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		8.5	53.7		129.6	2.2			6.2	104.0		0.0
Delay (s)		73.9	96.2		197.6	36.7			72.8	154.5		34.3
Level of Service		E	F		F	D			E	F		C
Approach Delay (s)			92.8			68.9				128.8		
Approach LOS			F			E				F		
Intersection Summary												
HCM Average Control Delay			93.8		HCM Level of Service				F			
HCM Volume to Capacity ratio			1.15									
Actuated Cycle Length (s)			150.0		Sum of lost time (s)				18.0			
Intersection Capacity Utilization			99.7%		ICU Level of Service				F			
Analysis Period (min)			15									
c Critical Lane Group												

c Critical Lane Group



# HCM Signalized Intersection Capacity Analysis

30: Harrison St & 27th St

1/15/2008
























Movement	NWL2	NWL	NWT	NWR
Lane Configurations				
Volume (vph)	42	19	137	188
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		4.0	5.0	5.0
Lane Util. Factor		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00	0.88
Flpb, ped/bikes		1.00	1.00	1.00
Frt		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00
Satd. Flow (prot)		1770	1863	1394
Flt Permitted		0.95	1.00	1.00
Satd. Flow (perm)		1770	1863	1394
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	21	149	204
RTOR Reduction (vph)	0	0	0	141
Lane Group Flow (vph)	0	67	149	63
Confl. Peds. (#/hr)	70	70		70
Confl. Bikes (#/hr)				16
Parking (#/hr)				
Turn Type	Prot	Prot		Perm
Protected Phases	3	3	8	
Permitted Phases				8
Actuated Green, G (s)		4.0	39.9	39.9
Effective Green, g (s)		4.0	39.9	39.9
Actuated g/C Ratio		0.03	0.27	0.27
Clearance Time (s)		4.0	5.0	5.0
Vehicle Extension (s)		2.0	2.0	2.0
Lane Grp Cap (vph)		47	496	371
v/s Ratio Prot		c0.04	0.08	
v/s Ratio Perm				0.05
v/c Ratio		1.43	0.30	0.17
Uniform Delay, d1		73.0	43.9	42.3
Progression Factor		1.00	1.00	1.00
Incremental Delay, d2		279.4	0.1	0.1
Delay (s)		352.4	44.0	42.4
Level of Service		F	D	D
Approach Delay (s)			92.4	
Approach LOS			F	
Intersection Summary				

# HCM Signalized Intersection Capacity Analysis

## 31: Grand Av & Harrison St























1/15/2008

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	383	723	163	269	519	52	0	1428	793	0	630	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	0.97	0.95		0.97	0.95			0.91	1.00		0.91	
Frpb, ped/bikes	1.00	0.98		1.00	0.99			1.00	0.94		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.97		1.00	0.99			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		1.00	
Satd. Flow (prot)	3433	3321		3400	3432			5036	1475		4540	
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00		1.00	
Satd. Flow (perm)	3433	3321		3400	3432			5036	1475		4540	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	416	786	177	292	564	57	0	1535	853	0	685	237
RTOR Reduction (vph)	0	21	0	0	6	0	0	0	386	0	65	0
Lane Group Flow (vph)	416	942	0	292	615	0	0	1535	467	0	857	0
Confl. Peds. (#/hr)	68		84	84		68			41			76
Confl. Bikes (#/hr)			13			10			5			1
Heavy Vehicles (%)	2%	4%	2%	3%	3%	2%	2%	3%	3%	2%	3%	2%
Parking (#/hr)												5
Turn Type	Prot			Prot				Perm	Perm			
Protected Phases	1	6		5	2			4			4	
Permitted Phases									4	4		
Actuated Green, G (s)	14.1	28.8		24.3	40.0			26.0	26.0		26.0	
Effective Green, g (s)	14.1	28.8		24.3	40.0			26.0	26.0		26.0	
Actuated g/C Ratio	0.15	0.31		0.26	0.43			0.28	0.28		0.28	
Clearance Time (s)	4.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)	514	1016		878	1459			1391	408		1254	
v/s Ratio Prot	0.12	c0.28		0.09	c0.18			0.30			0.19	
v/s Ratio Perm									c0.32			
v/c Ratio	0.81	0.93		0.33	0.42			1.10	1.15		0.68	
Uniform Delay, d1	38.7	31.6		28.3	18.9			34.0	34.0		30.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	8.6	13.7		0.1	0.9			57.7	90.5		1.2	
Delay (s)	47.3	45.3		28.4	19.8			91.8	124.5		31.6	
Level of Service	D	D		C	B			F	F		C	
Approach Delay (s)		45.9			22.6			103.5			31.6	
Approach LOS		D			C			F			C	
<b>Intersection Summary</b>												
HCM Average Control Delay			64.3			HCM Level of Service			E			
HCM Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			94.1			Sum of lost time (s)			10.0			
Intersection Capacity Utilization			112.6%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 6: MacArthur Blvd & Lakeshore Av

1/15/2008






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  						 			 	
Volume (vph)	220	589	140	0	0	0	0	375	323	739	516	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						4.0		3.5	4.0	
Lane Util. Factor	0.86	0.86						0.95		1.00	0.95	
Frpb, ped/bikes	1.00	0.99						0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00						1.00		1.00	1.00	
Frt	1.00	0.97						0.93		1.00	1.00	
Flt Protected	0.95	1.00						1.00		0.95	1.00	
Satd. Flow (prot)	1516	4605						3012		1770	3539	
Flt Permitted	0.95	1.00						1.00		0.14	1.00	
Satd. Flow (perm)	1516	4605						3012		267	3539	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	640	152	0	0	0	0	408	351	803	561	0
RTOR Reduction (vph)	0	31	0	0	0	0	0	30	0	0	0	0
Lane Group Flow (vph)	215	785	0	0	0	0	0	729	0	803	561	0
Confl. Peds. (#/hr)	3		46						21	21		
Confl. Bikes (#/hr)			2						7			
Parking (#/hr)					0			5				
Turn Type	Perm						pm+pt					
Protected Phases		4						2		1	6	
Permitted Phases	4									6		
Actuated Green, G (s)	31.0	31.0						31.0		66.0	66.0	
Effective Green, g (s)	31.0	31.0						31.0		66.0	66.0	
Actuated g/C Ratio	0.29	0.29						0.29		0.62	0.62	
Clearance Time (s)	5.0	5.0						4.0		3.5	4.0	
Lane Grp Cap (vph)	443	1347						881		613	2204	
v/s Ratio Prot								0.24		c0.39	0.16	
v/s Ratio Perm	0.14	0.17								c0.43		
v/c Ratio	0.49	0.58						0.83		1.31	0.25	
Uniform Delay, d1	30.9	32.0						35.0		28.4	9.0	
Progression Factor	1.01	1.00						1.00		1.00	1.00	
Incremental Delay, d2	2.6	1.3						8.8		150.9	0.3	
Delay (s)	33.8	33.2						43.8		179.3	9.2	
Level of Service	C	C						D		F	A	
Approach Delay (s)		33.3			0.0			43.8			109.4	
Approach LOS		C			A			D			F	
<b>Intersection Summary</b>												
HCM Average Control Delay		68.7			HCM Level of Service			E				
HCM Volume to Capacity ratio		1.06										
Actuated Cycle Length (s)		106.0			Sum of lost time (s)			8.5				
Intersection Capacity Utilization		95.1%			ICU Level of Service			F				
Analysis Period (min)		15										
c Critical Lane Group												



# HCM Signalized Intersection Capacity Analysis

## 29: Embarcadero & 5th Av




















1/15/2008

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	174	91	196	342	119	36	347	429	10	119	118	251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	0.90		1.00	0.98		1.00	1.00		1.00	0.95	
Flpb, ped/bikes	0.95	1.00		0.93	1.00		0.97	1.00		0.96	1.00	
Frt	1.00	0.90		1.00	0.97		1.00	1.00		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1674	2720		1639	3180		1717	1668		3289	1426	
Flt Permitted	0.65	1.00		0.56	1.00		0.43	1.00		0.36	1.00	
Satd. Flow (perm)	1138	2720		970	3180		774	1668		1246	1426	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	189	99	213	372	129	39	377	466	11	129	128	273
RTOR Reduction (vph)	0	128	0	0	23	0	0	1	0	0	118	0
Lane Group Flow (vph)	189	184	0	372	145	0	377	476	0	129	283	0
Confl. Peds. (#/hr)	70		70	70		70	70		70	70		70
Confl. Bikes (#/hr)			16			16			16			16
Parking (#/hr)		0			0			0			0	
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	26.0	26.0		26.0	26.0		31.0	31.0		31.0	31.0	
Effective Green, g (s)	26.0	26.0		26.0	26.0		31.0	31.0		31.0	31.0	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.48	0.48		0.48	0.48	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	455	1088		388	1272		369	796		594	680	
v/s Ratio Prot		0.07			0.05			0.29			0.20	
v/s Ratio Perm	0.17			0.38			0.49			0.10		
v/c Ratio	0.42	0.17		0.96	0.11		1.02	0.60		0.22	0.42	
Uniform Delay, d1	14.0	12.5		19.0	12.3		17.0	12.4		9.9	11.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.95	1.12	
Incremental Delay, d2	2.8	0.3		36.4	0.2		52.5	3.3		0.7	1.7	
Delay (s)	16.8	12.9		55.4	12.4		69.5	15.7		10.1	14.1	
Level of Service	B	B		E	B		E	B		B	B	
Approach Delay (s)		14.4			42.0			39.5			13.1	
Approach LOS		B			D			D			B	
<b>Intersection Summary</b>												
HCM Average Control Delay			29.1			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			65.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			93.2%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

30: Harrison St & 27th St

1/15/2008

												
Movement	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	SEL	SET	SER	SER2
Lane Configurations												
Volume (vph)	12	487	620	47	163	1145	155	90	81	141	32	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		4.0	5.0			4.0	5.0		5.0
Lane Util. Factor		0.97	0.95		1.00	0.95			0.97	0.95		0.95
Frpb, ped/bikes		1.00	0.99		1.00	0.95			1.00	0.95		0.88
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	1.00		1.00
Frt		1.00	0.99		1.00	0.97			1.00	0.97		0.85
Flt Protected		0.95	1.00		0.95	1.00			0.95	1.00		1.00
Satd. Flow (prot)		3433	3254		1770	3068			3433	1433		1322
Flt Permitted		0.95	1.00		0.95	1.00			0.95	1.00		1.00
Satd. Flow (perm)		3433	3254		1770	3068			3433	1433		1322
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	529	674	51	177	1245	168	98	88	153	35	39
RTOR Reduction (vph)	0	0	3	0	0	3	0	0	0	1	0	29
Lane Group Flow (vph)	0	542	722	0	177	1508	0	0	88	191	0	6
Confl. Peds. (#/hr)				70	70		70	70	70		70	70
Confl. Bikes (#/hr)				16			16	16			16	16
Parking (#/hr)			5			5				5		
Turn Type	Prot	Prot			Prot				Prot			Perm
Protected Phases	5	5	2		1	6			7	4		
Permitted Phases												4
Actuated Green, G (s)		22.1	72.3		18.0	67.2			7.3	23.7		23.7
Effective Green, g (s)		22.1	72.3		18.0	67.2			7.3	23.7		23.7
Actuated g/C Ratio		0.16	0.51		0.13	0.47			0.05	0.17		0.17
Clearance Time (s)		5.0	5.0		4.0	5.0			4.0	5.0		5.0
Vehicle Extension (s)		2.0	2.0		2.0	2.0			2.0	2.0		2.0
Lane Grp Cap (vph)		534	1657		224	1452			176	239		221
v/s Ratio Prot		c0.16	0.22		0.10	c0.49			0.03	c0.13		
v/s Ratio Perm												0.00
v/c Ratio		1.01	0.44		0.79	1.04			0.50	0.80		0.03
Uniform Delay, d1		59.9	22.0		60.2	37.4			65.6	56.9		49.5
Progression Factor		1.00	1.00		1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		42.8	0.8		16.0	34.2			0.8	15.9		0.0
Delay (s)		102.7	22.8		76.2	71.6			66.4	72.7		49.5
Level of Service		F	C		E	E			E	E		D
Approach Delay (s)			57.0			72.1				68.4		
Approach LOS			E			E				E		
<b>Intersection Summary</b>												
HCM Average Control Delay			67.1			HCM Level of Service			E			
HCM Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			142.0			Sum of lost time (s)			24.0			
Intersection Capacity Utilization			101.9%			ICU Level of Service			G			
Analysis Period (min)			15									

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

30: Harrison St & 27th St

1/15/2008



Movement	NWL2	NWL	NWT	NWR
Lane Configurations				
Volume (vph)	84	31	200	177
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		4.0	5.0	5.0
Lane Util. Factor		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00	0.88
Flpb, ped/bikes		1.00	1.00	1.00
Frt		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00
Satd. Flow (prot)		1770	1863	1394
Flt Permitted		0.95	1.00	1.00
Satd. Flow (perm)		1770	1863	1394
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	34	217	192
RTOR Reduction (vph)	0	0	0	156
Lane Group Flow (vph)	0	125	217	36
Confl. Peds. (#/hr)	70	70		70
Confl. Bikes (#/hr)				16
Parking (#/hr)				
Turn Type	Prot	Prot		Perm
Protected Phases	3	3	8	
Permitted Phases				8
Actuated Green, G (s)		10.0	26.4	26.4
Effective Green, g (s)		10.0	26.4	26.4
Actuated g/C Ratio		0.07	0.19	0.19
Clearance Time (s)		4.0	5.0	5.0
Vehicle Extension (s)		2.0	2.0	2.0
Lane Grp Cap (vph)		125	346	259
v/s Ratio Prot		c0.07	c0.12	
v/s Ratio Perm				0.03
v/c Ratio		1.00	0.63	0.14
Uniform Delay, d1		66.0	53.3	48.3
Progression Factor		1.00	1.00	1.00
Incremental Delay, d2		80.5	2.6	0.1
Delay (s)		146.5	55.8	48.4
Level of Service		F	E	D
Approach Delay (s)			74.4	
Approach LOS			E	
Intersection Summary				



# HCM Signalized Intersection Capacity Analysis

## 31: Grand Av & Harrison St

1/15/2008



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↔↔	↕↕		↔↔	↕↕			↕↕↕	↕		↕↕↕	
Volume (vph)	116	257	100	618	834	116	265	1023	347	48	1183	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	0.97	0.95		0.97	0.95			0.91	1.00		0.91	
Frpb, ped/bikes	1.00	0.97		1.00	0.98			1.00	0.93		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.98			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		1.00	
Satd. Flow (prot)	3433	3246		3400	3384			4989	1456		4594	
Flt Permitted	0.95	1.00		0.95	1.00			0.67	1.00		0.77	
Satd. Flow (perm)	3433	3246		3400	3384			3387	1456		3533	
Peak-hour factor, PHF	0.98	0.98	0.98	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	118	262	102	672	907	126	288	1112	377	52	1286	320
RTOR Reduction (vph)	0	5	0	0	12	0	0	0	222	0	42	0
Lane Group Flow (vph)	118	359	0	672	1021	0	0	1400	155	0	1616	0
Confl. Peds. (#/hr)	124		81	81		124	84		53	53		84
Confl. Bikes (#/hr)			7			12			5			4
Heavy Vehicles (%)	2%	4%	2%	3%	3%	2%	2%	3%	3%	2%	3%	2%
Parking (#/hr)												5
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	5.0	16.5		24.5	37.0			39.0	39.0		39.0	
Effective Green, g (s)	5.0	16.5		24.5	37.0			39.0	39.0		39.0	
Actuated g/C Ratio	0.05	0.17		0.26	0.39			0.41	0.41		0.41	
Clearance Time (s)	4.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)	181	564		877	1318			1390	598		1450	
v/s Ratio Prot	0.03	c0.11		0.20	c0.30							
v/s Ratio Perm								0.41	0.11		c0.46	
v/c Ratio	0.65	0.64		0.77	0.77			3.65dl	0.26		1.11	
Uniform Delay, d1	44.1	36.5		32.6	25.4			28.0	18.5		28.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	6.3	1.7		3.6	4.5			25.9	0.1		61.5	
Delay (s)	50.4	38.2		36.2	29.9			53.9	18.6		89.5	
Level of Service	D	D		D	C			D	B		F	
Approach Delay (s)		41.2			32.4			46.4			89.5	
Approach LOS		D			C			D			F	


















### Intersection Summary

HCM Average Control Delay	54.4	HCM Level of Service	D
HCM Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	112.7%	ICU Level of Service	H
Analysis Period (min)	15		
dl Defacto Left Lane. Recode with 1 though lane as a left lane.			
c Critical Lane Group			

# HCM Signalized Intersection Capacity Analysis

## 6: MacArthur Blvd & Lakeshore Av

1/15/2008

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	298	1944	168	0	0	0	0	353	880	575	307	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						4.0		3.5	4.0	
Lane Util. Factor	0.86	0.86						0.95		1.00	0.95	
Frpb, ped/bikes	1.00	1.00						0.91		1.00	1.00	
Flpb, ped/bikes	0.93	1.00						1.00		1.00	1.00	
Frt	1.00	0.99						0.89		1.00	1.00	
Flt Protected	0.95	1.00						1.00		0.95	1.00	
Satd. Flow (prot)	1411	4723						2709		1770	3539	
Flt Permitted	0.95	1.00						1.00		0.10	1.00	
Satd. Flow (perm)	1411	4723						2709		180	3539	
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	317	2068	179	0	0	0	0	372	926	625	334	0
RTOR Reduction (vph)	0	10	0	0	0	0	0	1	0	0	0	0
Lane Group Flow (vph)	285	2269	0	0	0	0	0	1297	0	625	334	0
Confl. Peds. (#/hr)	70		33						70	70		
Confl. Bikes (#/hr)			4						12			
Parking (#/hr)					0			5				
Turn Type	Perm						pm+pt					
Protected Phases		4						2		1	6	
Permitted Phases	4									6		
Actuated Green, G (s)	28.0	28.0						38.0		53.0	53.0	
Effective Green, g (s)	28.0	28.0						38.0		53.0	53.0	
Actuated g/C Ratio	0.31	0.31						0.42		0.59	0.59	
Clearance Time (s)	5.0	5.0						4.0		3.5	4.0	
Lane Grp Cap (vph)	439	1469						1144		309	2084	
v/s Ratio Prot								0.48		c0.26	0.09	
v/s Ratio Perm	0.20	0.48								c0.93		
v/c Ratio	0.65	1.54						1.70dr		2.02	0.16	
Uniform Delay, d1	26.8	31.0						26.0		26.4	8.4	
Progression Factor	1.15	1.13						1.00		1.00	1.00	
Incremental Delay, d2	0.7	245.3						71.4		471.4	0.2	
Delay (s)	31.4	280.2						97.4		497.9	8.6	
Level of Service	C	F						F		F	A	
Approach Delay (s)		252.5			0.0			97.4			327.5	
Approach LOS		F			A			F			F	
<b>Intersection Summary</b>												
HCM Average Control Delay		225.7						HCM Level of Service		F		
HCM Volume to Capacity ratio		1.82										
Actuated Cycle Length (s)		90.0						Sum of lost time (s)		8.5		
Intersection Capacity Utilization		122.6%						ICU Level of Service		H		
Analysis Period (min)		15										
dr Defacto Right Lane. Recode with 1 though lane as a right lane.												
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 29: Embarcadero & 5th Av

1/15/2008



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	340	146	307	468	337	25	326	134	58	73	469	321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	0.90		1.00	0.99		1.00	0.98		1.00	0.97	
Flpb, ped/bikes	0.96	1.00		0.95	1.00		1.00	1.00		0.93	1.00	
Frt	1.00	0.90		1.00	0.99		1.00	0.95		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1702	2724		1675	3308		1770	1564		3181	1525	
Flt Permitted	0.50	1.00		0.42	1.00		0.12	1.00		0.62	1.00	
Satd. Flow (perm)	887	2724		741	3308		233	1564		2077	1525	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	159	334	509	366	27	354	146	63	79	510	349
RTOR Reduction (vph)	0	119	0	0	9	0	0	24	0	0	38	0
Lane Group Flow (vph)	370	374	0	509	384	0	354	185	0	79	821	0
Confl. Peds. (#/hr)	70		70	70		70	70		70	70		70
Confl. Bikes (#/hr)			16			16			16			16
Parking (#/hr)		0			0			0			0	
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	25.0	25.0		25.0	25.0		32.0	32.0		32.0	32.0	
Effective Green, g (s)	25.0	25.0		25.0	25.0		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.49	0.49		0.49	0.49	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	341	1048		285	1272		115	770		1023	751	
v/s Ratio Prot		0.14			0.12			0.12			0.54	
v/s Ratio Perm	0.42			0.69			1.52			0.04		
v/c Ratio	1.09	0.36		1.79	0.30		3.08	0.24		0.08	1.09	
Uniform Delay, d1	20.0	14.3		20.0	13.9		16.5	9.5		8.7	16.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.97	1.04	
Incremental Delay, d2	73.4	0.9		367.5	0.6		957.9	0.7		0.1	55.3	
Delay (s)	93.4	15.2		387.5	14.5		974.4	10.2		8.5	72.5	
Level of Service	F	B		F	B		F	B		A	E	
Approach Delay (s)		48.7			225.0			616.4			67.1	
Approach LOS		D			F			F			E	

### Intersection Summary



















HCM Average Control Delay	200.5	HCM Level of Service	F
HCM Volume to Capacity ratio	2.52		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	120.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			



# HCM Signalized Intersection Capacity Analysis

30: Harrison St & 27th St

1/15/2008

												
Movement	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	SEL	SET	SER	SER2
Lane Configurations												
Volume (vph)	10	243	1369	62	180	584	53	83	196	333	51	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		4.0	5.0			4.0	5.0		5.0
Lane Util. Factor		0.97	0.95		1.00	0.95			0.97	0.95		0.95
Frpb, ped/bikes		1.00	0.99		1.00	0.94			1.00	0.97		0.88
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	1.00		1.00
Frt		1.00	0.99		1.00	0.97			1.00	0.98		0.85
Flt Protected		0.95	1.00		0.95	1.00			0.95	1.00		1.00
Satd. Flow (prot)		3433	3278		1770	3041			3433	1471		1325
Flt Permitted		0.95	1.00		0.95	1.00			0.95	1.00		1.00
Satd. Flow (perm)		3433	3278		1770	3041			3433	1471		1325
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	264	1488	67	196	635	58	90	213	362	55	20
RTOR Reduction (vph)	0	0	2	0	0	7	0	0	0	0	0	9
Lane Group Flow (vph)	0	275	1553	0	196	776	0	0	213	419	0	9
Confl. Peds. (#/hr)				70	70		70	70	70		70	70
Confl. Bikes (#/hr)				16			16	16			16	16
Parking (#/hr)			5			5				5		
Turn Type	Prot	Prot			Prot				Prot			Perm
Protected Phases	5	5	2		1	6			7	4		
Permitted Phases												4
Actuated Green, G (s)		15.7	69.0		16.0	68.3			13.1	41.0		41.0
Effective Green, g (s)		15.7	69.0		16.0	68.3			13.1	41.0		41.0
Actuated g/C Ratio		0.10	0.46		0.11	0.46			0.09	0.27		0.27
Clearance Time (s)		5.0	5.0		4.0	5.0			4.0	5.0		5.0
Vehicle Extension (s)		2.0	2.0		2.0	2.0			2.0	2.0		2.0
Lane Grp Cap (vph)		359	1508		189	1385			300	402		362
v/s Ratio Prot		0.08	c0.47		c0.11	0.26			0.06	c0.28		
v/s Ratio Perm												0.01
v/c Ratio		0.77	1.03		1.04	0.56			0.71	1.04		0.02
Uniform Delay, d1		65.4	40.5		67.0	29.9			66.6	54.5		39.9
Progression Factor		1.00	1.00		1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		8.5	31.1		75.5	1.6			6.2	56.3		0.0
Delay (s)		73.9	71.6		142.5	31.5			72.8	110.8		39.9
Level of Service		E	E		F	C			E	F		D
Approach Delay (s)			72.0			53.7				96.4		
Approach LOS			E			D				F		
Intersection Summary												
HCM Average Control Delay			70.7		HCM Level of Service				E			
HCM Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			150.0		Sum of lost time (s)				13.0			
Intersection Capacity Utilization			97.8%		ICU Level of Service				F			
Analysis Period (min)			15									
c Critical Lane Group												

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

30: Harrison St & 27th St

1/15/2008























Movement	NWL2	NWL	NWT	NWR
Lane Configurations				
Volume (vph)	42	19	137	188
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		4.0	5.0	5.0
Lane Util. Factor		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00	0.88
Flpb, ped/bikes		1.00	1.00	1.00
Frt		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00
Satd. Flow (prot)		1770	1863	1391
Flt Permitted		0.95	1.00	1.00
Satd. Flow (perm)		1770	1863	1391
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	21	149	204
RTOR Reduction (vph)	0	0	0	156
Lane Group Flow (vph)	0	67	149	48
Confl. Peds. (#/hr)	70	70		70
Confl. Bikes (#/hr)				16
Parking (#/hr)				
Turn Type	Prot	Prot		Perm
Protected Phases	3	3	8	
Permitted Phases				8
Actuated Green, G (s)		6.0	33.9	33.9
Effective Green, g (s)		6.0	33.9	33.9
Actuated g/C Ratio		0.04	0.23	0.23
Clearance Time (s)		4.0	5.0	5.0
Vehicle Extension (s)		2.0	2.0	2.0
Lane Grp Cap (vph)		71	421	314
v/s Ratio Prot		c0.04	0.08	
v/s Ratio Perm				0.03
v/c Ratio		0.94	0.35	0.15
Uniform Delay, d1		71.8	48.8	46.6
Progression Factor		1.00	1.00	1.00
Incremental Delay, d2		86.1	0.2	0.1
Delay (s)		158.0	49.0	46.6
Level of Service		F	D	D
Approach Delay (s)			65.2	
Approach LOS			E	
Intersection Summary				

# HCM Signalized Intersection Capacity Analysis

## 31: Grand Av & Harrison St

1/15/2008






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	383	723	163	269	519	52	0	1428	793	0	575	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	0.97	0.95		0.97	0.95			0.91	1.00		0.91	
Frpb, ped/bikes	1.00	0.98		1.00	0.99			1.00	0.94		0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.97		1.00	0.99			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		1.00	
Satd. Flow (prot)	3433	3321		3400	3432			5036	1475		4520	
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00		1.00	
Satd. Flow (perm)	3433	3321		3400	3432			5036	1475		4520	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	416	786	177	292	564	57	0	1535	853	0	625	237
RTOR Reduction (vph)	0	21	0	0	6	0	0	0	386	0	72	0
Lane Group Flow (vph)	416	942	0	292	615	0	0	1535	467	0	790	0
Confl. Peds. (#/hr)	68		84	84		68			41			76
Confl. Bikes (#/hr)			13			10			5			1
Heavy Vehicles (%)	2%	4%	2%	3%	3%	2%	2%	3%	3%	2%	3%	2%
Parking (#/hr)												5
Turn Type	Prot			Prot				Perm	Perm			
Protected Phases	1	6		5	2			4			4	
Permitted Phases									4	4		
Actuated Green, G (s)	14.1	28.8		24.3	40.0			26.0	26.0		26.0	
Effective Green, g (s)	14.1	28.8		24.3	40.0			26.0	26.0		26.0	
Actuated g/C Ratio	0.15	0.31		0.26	0.43			0.28	0.28		0.28	
Clearance Time (s)	4.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)	514	1016		878	1459			1391	408		1249	
v/s Ratio Prot	0.12	c0.28		0.09	c0.18			0.30			0.17	
v/s Ratio Perm									c0.32			
v/c Ratio	0.81	0.93		0.33	0.42			1.10	1.15		0.63	
Uniform Delay, d1	38.7	31.6		28.3	18.9			34.0	34.0		29.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	8.6	13.7		0.1	0.9			57.7	90.5		0.8	
Delay (s)	47.3	45.3		28.4	19.8			91.8	124.5		30.6	
Level of Service	D	D		C	B			F	F		C	
Approach Delay (s)		45.9			22.6			103.5			30.6	
Approach LOS		D			C			F			C	
<b>Intersection Summary</b>												
HCM Average Control Delay			64.5			HCM Level of Service			E			
HCM Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			94.1			Sum of lost time (s)			10.0			
Intersection Capacity Utilization			112.6%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												



# HCM Signalized Intersection Capacity Analysis

## 6: MacArthur Blvd & Lakeshore Av






















1/15/2008

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		  						 			 	
Volume (vph)	220	589	140	0	0	0	0	375	323	739	516	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						4.0		3.5	3.5	
Lane Util. Factor	1.00	0.91						0.95		0.91	0.91	
Frpb, ped/bikes	1.00	0.99						0.98		1.00	1.00	
Flpb, ped/bikes	1.00	1.00						1.00		1.00	1.00	
Frt	1.00	0.97						0.93		1.00	1.00	
Flt Protected	0.95	1.00						1.00		0.95	0.98	
Satd. Flow (prot)	1763	4874						3012		1610	3326	
Flt Permitted	0.95	1.00						1.00		0.95	0.98	
Satd. Flow (perm)	1763	4874						3012		1610	3326	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	239	640	152	0	0	0	0	408	351	803	561	0
RTOR Reduction (vph)	0	38	0	0	0	0	0	25	0	0	0	0
Lane Group Flow (vph)	239	754	0	0	0	0	0	734	0	450	914	0
Confl. Peds. (#/hr)	3		46						21	21		
Confl. Bikes (#/hr)			2						7			
Parking (#/hr)					0			5				
Turn Type	Perm						Split					
Protected Phases		4						2		1	1	
Permitted Phases	4											
Actuated Green, G (s)	26.0	26.0						31.0		36.5	36.5	
Effective Green, g (s)	26.0	26.0						31.0		36.5	36.5	
Actuated g/C Ratio	0.25	0.25						0.29		0.34	0.34	
Clearance Time (s)	5.0	5.0						4.0		3.5	3.5	
Lane Grp Cap (vph)	432	1196						881		554	1145	
v/s Ratio Prot		c0.15						c0.24		c0.28	0.27	
v/s Ratio Perm	0.14											
v/c Ratio	0.55	0.63						0.83		0.81	0.80	
Uniform Delay, d1	34.9	35.7						35.1		31.6	31.4	
Progression Factor	0.61	0.59						1.00		1.00	1.00	
Incremental Delay, d2	3.4	1.7						9.1		12.3	5.8	
Delay (s)	24.6	22.7						44.1		43.9	37.3	
Level of Service	C	C						D		D	D	
Approach Delay (s)		23.1			0.0			44.1			39.5	
Approach LOS		C			A			D			D	
<b>Intersection Summary</b>												
HCM Average Control Delay			35.3				HCM Level of Service			D		
HCM Volume to Capacity ratio			0.77									
Actuated Cycle Length (s)			106.0				Sum of lost time (s)			12.5		
Intersection Capacity Utilization			78.0%				ICU Level of Service			D		
Analysis Period (min)			15									
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 29: Embarcadero & 5th Av



















1/15/2008

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	174	91	196	342	119	36	347	429	10	119	118	251
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	0.90		1.00	0.98		1.00	1.00		1.00	0.95	
Flpb, ped/bikes	0.95	1.00		0.93	1.00		0.97	1.00		0.96	1.00	
Frt	1.00	0.90		1.00	0.97		1.00	1.00		1.00	0.90	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1674	2720		1639	3180		1717	1668		3289	1426	
Flt Permitted	0.65	1.00		0.56	1.00		0.43	1.00		0.36	1.00	
Satd. Flow (perm)	1138	2720		970	3180		774	1668		1246	1426	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	189	99	213	372	129	39	377	466	11	129	128	273
RTOR Reduction (vph)	0	128	0	0	23	0	0	1	0	0	118	0
Lane Group Flow (vph)	189	184	0	372	145	0	377	476	0	129	283	0
Confl. Peds. (#/hr)	70		70	70		70	70		70	70		70
Confl. Bikes (#/hr)			16			16			16			16
Parking (#/hr)		0			0			0			0	
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	26.0	26.0		26.0	26.0		31.0	31.0		31.0	31.0	
Effective Green, g (s)	26.0	26.0		26.0	26.0		31.0	31.0		31.0	31.0	
Actuated g/C Ratio	0.40	0.40		0.40	0.40		0.48	0.48		0.48	0.48	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	455	1088		388	1272		369	796		594	680	
v/s Ratio Prot		0.07			0.05			0.29			0.20	
v/s Ratio Perm	0.17			0.38			0.49			0.10		
v/c Ratio	0.42	0.17		0.96	0.11		1.02	0.60		0.22	0.42	
Uniform Delay, d1	14.0	12.5		19.0	12.3		17.0	12.4		9.9	11.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.95	1.12	
Incremental Delay, d2	2.8	0.3		36.4	0.2		52.5	3.3		0.7	1.7	
Delay (s)	16.8	12.9		55.4	12.4		69.5	15.7		10.1	14.1	
Level of Service	B	B		E	B		E	B		B	B	
Approach Delay (s)		14.4			42.0			39.5			13.1	
Approach LOS		B			D			D			B	
<b>Intersection Summary</b>												
HCM Average Control Delay			29.1			HCM Level of Service				C		
HCM Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			65.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			93.2%			ICU Level of Service			F			
Analysis Period (min)			15									
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

30: Harrison St & 27th St

1/15/2008

												
Movement	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	SEL	SET	SER	SER2
Lane Configurations												
Volume (vph)	12	487	620	47	163	1145	155	90	81	141	32	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		4.0	5.0			4.0	5.0		5.0
Lane Util. Factor		0.97	0.95		1.00	0.95			0.97	0.95		0.95
Frpb, ped/bikes		1.00	0.99		1.00	0.95			1.00	0.95		0.88
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	1.00		1.00
Frt		1.00	0.99		1.00	0.97			1.00	0.97		0.85
Flt Protected		0.95	1.00		0.95	1.00			0.95	1.00		1.00
Satd. Flow (prot)		3433	3254		1770	3068			3433	1433		1322
Flt Permitted		0.95	1.00		0.95	1.00			0.95	1.00		1.00
Satd. Flow (perm)		3433	3254		1770	3068			3433	1433		1322
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	529	674	51	177	1245	168	98	88	153	35	39
RTOR Reduction (vph)	0	0	3	0	0	3	0	0	0	1	0	29
Lane Group Flow (vph)	0	542	722	0	177	1508	0	0	88	191	0	6
Confl. Peds. (#/hr)				70	70		70	70	70		70	70
Confl. Bikes (#/hr)				16			16	16			16	16
Parking (#/hr)			5			5				5		
Turn Type	Prot	Prot			Prot				Prot			Perm
Protected Phases	5	5	2		1	6			7	4		
Permitted Phases												4
Actuated Green, G (s)		22.1	72.3		18.0	67.2			7.3	23.7		23.7
Effective Green, g (s)		22.1	72.3		18.0	67.2			7.3	23.7		23.7
Actuated g/C Ratio		0.16	0.51		0.13	0.47			0.05	0.17		0.17
Clearance Time (s)		5.0	5.0		4.0	5.0			4.0	5.0		5.0
Vehicle Extension (s)		2.0	2.0		2.0	2.0			2.0	2.0		2.0
Lane Grp Cap (vph)		534	1657		224	1452			176	239		221
v/s Ratio Prot		c0.16	0.22		0.10	c0.49			0.03	c0.13		
v/s Ratio Perm												0.00
v/c Ratio		1.01	0.44		0.79	1.04			0.50	0.80		0.03
Uniform Delay, d1		59.9	22.0		60.2	37.4			65.6	56.9		49.5
Progression Factor		1.00	1.00		1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		42.8	0.8		16.0	34.2			0.8	15.9		0.0
Delay (s)		102.7	22.8		76.2	71.6			66.4	72.7		49.5
Level of Service		F	C		E	E			E	E		D
Approach Delay (s)			57.0			72.1				68.4		
Approach LOS			E			E				E		
Intersection Summary												
HCM Average Control Delay			67.1		HCM Level of Service				E			
HCM Volume to Capacity ratio			1.02									
Actuated Cycle Length (s)			142.0		Sum of lost time (s)				24.0			
Intersection Capacity Utilization			101.9%		ICU Level of Service				G			
Analysis Period (min)			15									
c Critical Lane Group												

c Critical Lane Group



# HCM Signalized Intersection Capacity Analysis

30: Harrison St & 27th St

1/15/2008























Movement	NWL2	NWL	NWT	NWR
Lane Configurations				
Volume (vph)	84	31	200	177
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		4.0	5.0	5.0
Lane Util. Factor		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00	0.88
Flpb, ped/bikes		1.00	1.00	1.00
Frt		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00
Satd. Flow (prot)		1770	1863	1394
Flt Permitted		0.95	1.00	1.00
Satd. Flow (perm)		1770	1863	1394
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	91	34	217	192
RTOR Reduction (vph)	0	0	0	156
Lane Group Flow (vph)	0	125	217	36
Confl. Peds. (#/hr)	70	70		70
Confl. Bikes (#/hr)				16
Parking (#/hr)				
Turn Type	Prot	Prot		Perm
Protected Phases	3	3	8	
Permitted Phases				8
Actuated Green, G (s)		10.0	26.4	26.4
Effective Green, g (s)		10.0	26.4	26.4
Actuated g/C Ratio		0.07	0.19	0.19
Clearance Time (s)		4.0	5.0	5.0
Vehicle Extension (s)		2.0	2.0	2.0
Lane Grp Cap (vph)		125	346	259
v/s Ratio Prot		c0.07	c0.12	
v/s Ratio Perm				0.03
v/c Ratio		1.00	0.63	0.14
Uniform Delay, d1		66.0	53.3	48.3
Progression Factor		1.00	1.00	1.00
Incremental Delay, d2		80.5	2.6	0.1
Delay (s)		146.5	55.8	48.4
Level of Service		F	E	D
Approach Delay (s)			74.4	
Approach LOS			E	
Intersection Summary				

# HCM Signalized Intersection Capacity Analysis

## 31: Grand Av & Harrison St


















1/15/2008

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	116	257	100	618	834	116	265	1023	347	48	1183	294
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	0.97	0.95		0.97	0.95			0.91	1.00		0.91	
Frpb, ped/bikes	1.00	0.97		1.00	0.98			1.00	0.93		0.98	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.96		1.00	0.98			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99	1.00		1.00	
Satd. Flow (prot)	3433	3246		3400	3384			4989	1456		4594	
Flt Permitted	0.95	1.00		0.95	1.00			0.67	1.00		0.77	
Satd. Flow (perm)	3433	3246		3400	3384			3387	1456		3533	
Peak-hour factor, PHF	0.98	0.98	0.98	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	118	262	102	672	907	126	288	1112	377	52	1286	320
RTOR Reduction (vph)	0	5	0	0	12	0	0	0	222	0	42	0
Lane Group Flow (vph)	118	359	0	672	1021	0	0	1400	155	0	1616	0
Confl. Peds. (#/hr)	124		81	81		124	84		53	53		84
Confl. Bikes (#/hr)			7			12			5			4
Heavy Vehicles (%)	2%	4%	2%	3%	3%	2%	2%	3%	3%	2%	3%	2%
Parking (#/hr)												5
Turn Type	Prot			Prot			Perm		Perm	Perm		
Protected Phases	1	6		5	2			4			4	
Permitted Phases							4		4	4		
Actuated Green, G (s)	5.0	16.5		24.5	37.0			39.0	39.0		39.0	
Effective Green, g (s)	5.0	16.5		24.5	37.0			39.0	39.0		39.0	
Actuated g/C Ratio	0.05	0.17		0.26	0.39			0.41	0.41		0.41	
Clearance Time (s)	4.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)	181	564		877	1318			1390	598		1450	
v/s Ratio Prot	0.03	c0.11		0.20	c0.30							
v/s Ratio Perm								0.41	0.11		c0.46	
v/c Ratio	0.65	0.64		0.77	0.77			3.65dl	0.26		1.11	
Uniform Delay, d1	44.1	36.5		32.6	25.4			28.0	18.5		28.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	6.3	1.7		3.6	4.5			25.9	0.1		61.5	
Delay (s)	50.4	38.2		36.2	29.9			53.9	18.6		89.5	
Level of Service	D	D		D	C			D	B		F	
Approach Delay (s)		41.2			32.4			46.4			89.5	
Approach LOS		D			C			D			F	
<b>Intersection Summary</b>												
HCM Average Control Delay			54.4			HCM Level of Service			D			
HCM Volume to Capacity ratio			0.95									
Actuated Cycle Length (s)			95.0			Sum of lost time (s)			15.0			
Intersection Capacity Utilization			112.7%			ICU Level of Service			H			
Analysis Period (min)			15									
dl Defacto Left Lane. Recode with 1 though lane as a left lane.												
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

## 6: MacArthur Blvd & Lakeshore Av

1/15/2008






















												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	298	1944	168	0	0	0	0	353	880	575	307	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.0	5.0						4.0		4.0	4.0	
Lane Util. Factor	1.00	0.91						0.95		0.91	0.91	
Frpb, ped/bikes	1.00	1.00						0.91		1.00	1.00	
Flpb, ped/bikes	0.93	1.00						1.00		1.00	1.00	
Frt	1.00	0.99						0.89		1.00	1.00	
Flt Protected	0.95	1.00						1.00		0.95	0.98	
Satd. Flow (prot)	1641	5005						2706		1610	3310	
Flt Permitted	0.95	1.00						1.00		0.95	0.98	
Satd. Flow (perm)	1641	5005						2706		1610	3310	
Peak-hour factor, PHF	0.94	0.94	0.94	0.92	0.92	0.92	0.95	0.95	0.95	0.92	0.92	0.92
Adj. Flow (vph)	317	2068	179	0	0	0	0	372	926	625	334	0
RTOR Reduction (vph)	0	11	0	0	0	0	0	4	0	0	0	0
Lane Group Flow (vph)	317	2236	0	0	0	0	0	1294	0	312	647	0
Confl. Peds. (#/hr)	70		33						70	70		
Confl. Bikes (#/hr)			4						12			
Parking (#/hr)					0			5				
Turn Type	Perm						Split					
Protected Phases		4						2		1	1	
Permitted Phases	4											
Actuated Green, G (s)	30.0	30.0						29.0		18.0	18.0	
Effective Green, g (s)	30.0	30.0						29.0		18.0	18.0	
Actuated g/C Ratio	0.33	0.33						0.32		0.20	0.20	
Clearance Time (s)	5.0	5.0						4.0		4.0	4.0	
Lane Grp Cap (vph)	547	1668						872		322	662	
v/s Ratio Prot		c0.45						c0.48		0.19	c0.20	
v/s Ratio Perm	0.19											
v/c Ratio	0.58	1.34						2.21dr		0.97	0.98	
Uniform Delay, d1	24.8	30.0						30.5		35.7	35.8	
Progression Factor	0.78	0.80						1.00		1.00	1.00	
Incremental Delay, d2	1.2	154.2						223.9		42.9	29.9	
Delay (s)	20.6	178.3						254.4		78.6	65.7	
Level of Service	C	F						F		E	E	
Approach Delay (s)		158.8			0.0			254.4			69.9	
Approach LOS		F			A			F			E	
<b>Intersection Summary</b>												
HCM Average Control Delay		166.9						HCM Level of Service		F		
HCM Volume to Capacity ratio		1.31										
Actuated Cycle Length (s)		90.0						Sum of lost time (s)		13.0		
Intersection Capacity Utilization		110.9%						ICU Level of Service		H		
Analysis Period (min)		15										
dr Defacto Right Lane. Recode with 1 though lane as a right lane.												
c Critical Lane Group												



# HCM Signalized Intersection Capacity Analysis

## 29: Embarcadero & 5th Av



















1/15/2008

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	340	146	307	468	337	25	326	134	58	73	469	321
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00		0.97	1.00	
Frpb, ped/bikes	1.00	0.90		1.00	0.99		1.00	0.98		1.00	0.97	
Flpb, ped/bikes	0.96	1.00		0.95	1.00		1.00	1.00		0.93	1.00	
Frt	1.00	0.90		1.00	0.99		1.00	0.95		1.00	0.94	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1702	2724		1675	3308		1770	1564		3181	1525	
Flt Permitted	0.50	1.00		0.42	1.00		0.12	1.00		0.62	1.00	
Satd. Flow (perm)	887	2724		741	3308		233	1564		2077	1525	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	370	159	334	509	366	27	354	146	63	79	510	349
RTOR Reduction (vph)	0	119	0	0	9	0	0	24	0	0	38	0
Lane Group Flow (vph)	370	374	0	509	384	0	354	185	0	79	821	0
Confl. Peds. (#/hr)	70		70	70		70	70		70	70		70
Confl. Bikes (#/hr)			16			16			16			16
Parking (#/hr)		0			0			0			0	
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)	25.0	25.0		25.0	25.0		32.0	32.0		32.0	32.0	
Effective Green, g (s)	25.0	25.0		25.0	25.0		32.0	32.0		32.0	32.0	
Actuated g/C Ratio	0.38	0.38		0.38	0.38		0.49	0.49		0.49	0.49	
Clearance Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
Lane Grp Cap (vph)	341	1048		285	1272		115	770		1023	751	
v/s Ratio Prot		0.14			0.12			0.12			0.54	
v/s Ratio Perm	0.42			c0.69			c1.52			0.04		
v/c Ratio	1.09	0.36		1.79	0.30		3.08	0.24		0.08	1.09	
Uniform Delay, d1	20.0	14.3		20.0	13.9		16.5	9.5		8.7	16.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		0.97	1.04	
Incremental Delay, d2	73.4	0.9		367.5	0.6		957.9	0.7		0.1	55.3	
Delay (s)	93.4	15.2		387.5	14.5		974.4	10.2		8.5	72.5	
Level of Service	F	B		F	B		F	B		A	E	
Approach Delay (s)		48.7			225.0			616.4			67.1	
Approach LOS		D			F			F			E	
Intersection Summary												
HCM Average Control Delay	200.5			HCM Level of Service			F					
HCM Volume to Capacity ratio	2.52											
Actuated Cycle Length (s)	65.0			Sum of lost time (s)			8.0					
Intersection Capacity Utilization	120.9%			ICU Level of Service			H					
Analysis Period (min)	15											
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis

30: Harrison St & 27th St

1/15/2008

												
Movement	NBL2	NBL	NBT	NBR	SBL	SBT	SBR	SBR2	SEL	SET	SER	SER2
Lane Configurations												
Volume (vph)	10	243	1369	62	180	584	53	83	196	333	51	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0		4.0	5.0			4.0	5.0		5.0
Lane Util. Factor		0.97	0.95		1.00	0.95			0.97	0.95		0.95
Frpb, ped/bikes		1.00	0.99		1.00	0.94			1.00	0.97		0.88
Flpb, ped/bikes		1.00	1.00		1.00	1.00			1.00	1.00		1.00
Frt		1.00	0.99		1.00	0.97			1.00	0.98		0.85
Flt Protected		0.95	1.00		0.95	1.00			0.95	1.00		1.00
Satd. Flow (prot)		3433	3278		1770	3041			3433	1471		1325
Flt Permitted		0.95	1.00		0.95	1.00			0.95	1.00		1.00
Satd. Flow (perm)		3433	3278		1770	3041			3433	1471		1325
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	11	264	1488	67	196	635	58	90	213	362	55	20
RTOR Reduction (vph)	0	0	2	0	0	7	0	0	0	0	0	9
Lane Group Flow (vph)	0	275	1553	0	196	776	0	0	213	419	0	9
Confl. Peds. (#/hr)				70	70		70	70	70		70	70
Confl. Bikes (#/hr)				16			16	16			16	16
Parking (#/hr)			5			5				5		
Turn Type	Prot	Prot			Prot				Prot			Perm
Protected Phases	5	5	2		1	6			7	4		
Permitted Phases												4
Actuated Green, G (s)		15.7	69.0		16.0	68.3			13.1	41.0		41.0
Effective Green, g (s)		15.7	69.0		16.0	68.3			13.1	41.0		41.0
Actuated g/C Ratio		0.10	0.46		0.11	0.46			0.09	0.27		0.27
Clearance Time (s)		5.0	5.0		4.0	5.0			4.0	5.0		5.0
Vehicle Extension (s)		2.0	2.0		2.0	2.0			2.0	2.0		2.0
Lane Grp Cap (vph)		359	1508		189	1385			300	402		362
v/s Ratio Prot		0.08	c0.47		c0.11	0.26			0.06	c0.28		
v/s Ratio Perm												0.01
v/c Ratio		0.77	1.03		1.04	0.56			0.71	1.04		0.02
Uniform Delay, d1		65.4	40.5		67.0	29.9			66.6	54.5		39.9
Progression Factor		1.00	1.00		1.00	1.00			1.00	1.00		1.00
Incremental Delay, d2		8.5	31.1		75.5	1.6			6.2	56.3		0.0
Delay (s)		73.9	71.6		142.5	31.5			72.8	110.8		39.9
Level of Service		E	E		F	C			E	F		D
Approach Delay (s)			72.0			53.7				96.4		
Approach LOS			E			D				F		
Intersection Summary												
HCM Average Control Delay			70.7		HCM Level of Service				E			
HCM Volume to Capacity ratio			0.99									
Actuated Cycle Length (s)			150.0		Sum of lost time (s)				13.0			
Intersection Capacity Utilization			97.8%		ICU Level of Service				F			
Analysis Period (min)			15									
c Critical Lane Group												

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis

30: Harrison St & 27th St

1/15/2008























Movement	NWL2	NWL	NWT	NWR
Lane Configurations				
Volume (vph)	42	19	137	188
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)		4.0	5.0	5.0
Lane Util. Factor		1.00	1.00	1.00
Frpb, ped/bikes		1.00	1.00	0.88
Flpb, ped/bikes		1.00	1.00	1.00
Frt		1.00	1.00	0.85
Flt Protected		0.95	1.00	1.00
Satd. Flow (prot)		1770	1863	1391
Flt Permitted		0.95	1.00	1.00
Satd. Flow (perm)		1770	1863	1391
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	46	21	149	204
RTOR Reduction (vph)	0	0	0	156
Lane Group Flow (vph)	0	67	149	48
Confl. Peds. (#/hr)	70	70		70
Confl. Bikes (#/hr)				16
Parking (#/hr)				
Turn Type	Prot	Prot		Perm
Protected Phases	3	3	8	
Permitted Phases				8
Actuated Green, G (s)		6.0	33.9	33.9
Effective Green, g (s)		6.0	33.9	33.9
Actuated g/C Ratio		0.04	0.23	0.23
Clearance Time (s)		4.0	5.0	5.0
Vehicle Extension (s)		2.0	2.0	2.0
Lane Grp Cap (vph)		71	421	314
v/s Ratio Prot		c0.04	0.08	
v/s Ratio Perm				0.03
v/c Ratio		0.94	0.35	0.15
Uniform Delay, d1		71.8	48.8	46.6
Progression Factor		1.00	1.00	1.00
Incremental Delay, d2		86.1	0.2	0.1
Delay (s)		158.0	49.0	46.6
Level of Service		F	D	D
Approach Delay (s)			65.2	
Approach LOS			E	
Intersection Summary				



# HCM Signalized Intersection Capacity Analysis

## 31: Grand Av & Harrison St

1/15/2008

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	383	723	163	269	519	52	0	1428	793	0	575	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	5.0		5.0	5.0			5.0	5.0		5.0	
Lane Util. Factor	0.97	0.95		0.97	0.95			0.91	1.00		0.91	
Frpb, ped/bikes	1.00	0.98		1.00	0.99			1.00	0.94		0.97	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Frt	1.00	0.97		1.00	0.99			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			1.00	1.00		1.00	
Satd. Flow (prot)	3433	3321		3400	3432			5036	1475		4520	
Flt Permitted	0.95	1.00		0.95	1.00			1.00	1.00		1.00	
Satd. Flow (perm)	3433	3321		3400	3432			5036	1475		4520	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.93	0.93	0.93	0.92	0.92	0.92
Adj. Flow (vph)	416	786	177	292	564	57	0	1535	853	0	625	237
RTOR Reduction (vph)	0	21	0	0	6	0	0	0	386	0	72	0
Lane Group Flow (vph)	416	942	0	292	615	0	0	1535	467	0	790	0
Confl. Peds. (#/hr)	68		84	84		68			41			76
Confl. Bikes (#/hr)			13			10			5			1
Heavy Vehicles (%)	2%	4%	2%	3%	3%	2%	2%	3%	3%	2%	3%	2%
Parking (#/hr)												5
Turn Type	Prot			Prot				Perm	Perm			
Protected Phases	1	6		5	2			4			4	
Permitted Phases								4	4			
Actuated Green, G (s)	14.1	28.8		24.3	40.0			26.0	26.0		26.0	
Effective Green, g (s)	14.1	28.8		24.3	40.0			26.0	26.0		26.0	
Actuated g/C Ratio	0.15	0.31		0.26	0.43			0.28	0.28		0.28	
Clearance Time (s)	4.0	5.0		5.0	5.0			5.0	5.0		5.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0			2.0	2.0		2.0	
Lane Grp Cap (vph)	514	1016		878	1459			1391	408		1249	
v/s Ratio Prot	0.12	c0.28		0.09	c0.18			0.30			0.17	
v/s Ratio Perm									c0.32			
v/c Ratio	0.81	0.93		0.33	0.42			1.10	1.15		0.63	
Uniform Delay, d1	38.7	31.6		28.3	18.9			34.0	34.0		29.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	8.6	13.7		0.1	0.9			57.7	90.5		0.8	
Delay (s)	47.3	45.3		28.4	19.8			91.8	124.5		30.6	
Level of Service	D	D		C	B			F	F		C	
Approach Delay (s)		45.9			22.6			103.5			30.6	
Approach LOS		D			C			F			C	
<b>Intersection Summary</b>												
HCM Average Control Delay			64.5			HCM Level of Service			E			
HCM Volume to Capacity ratio			0.81									
Actuated Cycle Length (s)			94.1			Sum of lost time (s)			10.0			
Intersection Capacity Utilization			112.6%			ICU Level of Service			H			
Analysis Period (min)			15									
c Critical Lane Group												