

325 SEVENTH STREET PROJECT

Draft Environmental Impact Report

SCH No. 200712205

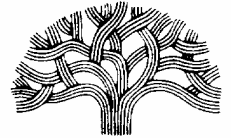


Oakland, Ca 94604
Oct. 2010
City of Oakland
250 Frank Ogawa Plaza



LAMPHIER - GREGORY
URBAN PLANNING, ENVIRONMENTAL ANALYSIS & PROJECT MANAGEMENT | 510.535.6690

CITY OF OAKLAND



250 FRANK H. OGAWA PLAZA, SUITE 3315 • OAKLAND, CALIFORNIA 94612-2032

Community and Economic Development Agency
Planning & Zoning Division

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COMBINED NOTICE OF AVAILABILITY AND RELEASE OF A DRAFT ENVIRONMENTAL IMPACT REPORT (DEIR) AND NOTICE OF PUBLIC HEARINGS ON THE DEIR FOR THE 325 7TH STREET PROJECT

TO: All Interested Parties

PROJECT NAME: 325 7th Street Project

PROJECT LOCATION: 325-335 7th Street; 320-330 6th Street; 621-635 Harrison Street, Oakland, CA 94612

PROJECT SPONSOR: BALCO Properties, Ltd., LLC

CASE FILE NO: ER 07-002; CEQA State Clearinghouse No. 2007122056

REVIEW PERIOD: October 18, 2010 through December 1, 2010

PROJECT LOCATION: The Project would be built on a 35,500 square-foot site located at 325-335 7th Street, 320-330 6th Street and 621-635 Harrison Streets in the Chinatown neighborhood of downtown Oakland. The site currently contains vacant lots, a surface parking lot, residential units and commercial buildings. The Project site is not on the Cortese List of hazardous sites.

PROJECT DESCRIPTION: The Project includes construction of 380 residential condominium units and 9,110 square feet of ground-floor office and retail space in a building featuring two tall towers situated on a four-story podium, with one tower reaching a height of 27 stories and the other tower reaching a height of 20 stories.

The Project Site is within the Central Business District land use designation identified in the Oakland General Plan. The zoning on the Project Site at the time the Project application was deemed complete was C-40 Community Thoroughfare Combining Zone, which is combined with the S-17 Downtown Residential Open Space Combining Zone¹. A portion of the Project Site is also located within an Area of Secondary Importance (ASI) - the 7th Street/Harrison Square Residential Historic District.

ENVIRONMENTAL REVIEW: The City issued a Notice of Preparation (NOP) of a DEIR and an Initial Study on December 18, 2007 and considered by the Oakland Planning Commission on January 9, 2008. A DEIR now has been prepared for the Project, under the requirements of the California Environmental Quality Act (CEQA), pursuant to Public Resources Code Section 21000 et seq. The DEIR analyzes potentially significant environmental impacts in the following environmental categories: Visual Quality, Wind and Shadows; Transportation, Circulation and Parking; Air Quality; Climate Change; Hazards and Hazardous Materials; Wastewater Infrastructure Capacity; and Cultural Resources. All other impacts are either less than significant or mitigated to less than significant through implementation of Uniformly Applied Development Standards and Standard Conditions of Approval as

¹ Effective July 21, 2009, the zoning along the northern portion of the Project Site was changed to CBD-P Central Business District Pedestrian Retail Commercial Zone and the southern portion of the Project Site was changed to CBD-X Central Business District Mixed Commercial Zone. However, pursuant to Section 6 of the rezoning ordinance, the Proposed Project is "grandfathered" under the C-40 and S-17 zones, and thus, the City is processing the application as such.

detailed in the Initial Study and Draft EIR. The Draft EIR identifies significant unavoidable environmental impacts related to Transportation and Cultural Resources.

Copies of the DEIR are available for review or distribution to interested parties at no charge at the Community and Economic Development Agency, Planning Division, 250 Frank H. Ogawa Plaza, Suite 3315, Oakland, CA 94612, Monday through Friday, 8:30 a.m. to 5:00 p.m. The DEIR may also be reviewed at the following website: <http://www2.oaklandnet.com/Government/o/CEDA/o/PlanningZoning/s/Application/DOWD009157>. This project is document number 11.

PUBLIC HEARINGS ON DEIR:

1. The Oakland Landmarks Preservation Advisory Board will conduct a public hearing on the historic resource aspect of the DEIR on **November 8, 2010**, at **6:00 p.m.** in Hearing Room 1, City Hall, 1 Frank H. Ogawa Plaza; and
2. The Oakland City Planning Commission will conduct a public hearing on the DEIR on **December 1, 2010**, at **6:00 p.m.** in Hearing Room 1, City Hall, 1 Frank H. Ogawa Plaza; and

The City of Oakland is hereby releasing this DEIR, finding it to be accurate and complete and ready for public review. Members of the public are invited to comment on the DEIR. There is no fee for commenting, and all comments received will be considered by the City prior to finalizing the EIR and making a decision on the Project. In light of the EIR's purpose to provide useful and accurate information about such factors, comments on the DEIR should focus on the sufficiency of the DEIR in discussing possible impacts on the physical environment, ways in which potential adverse effects might be minimized, and alternatives to the Project. Comments may be made at the public hearing described above or in writing. Please address all written comments to: Heather Klein, City of Oakland, Community and Economic Development Agency, Major Projects, Planning Division, 250 Frank H. Ogawa Plaza, Suite 3315, Oakland, CA 94612; (510) 238-3658 (fax); or emailed to hklein@oaklandnet.com. Comments should be received no later than **4:00 p.m. on December 1, 2010**. Please reference case number **ER 07-002** in all correspondence.

If you challenge the EIR or Project in court, you may be limited to raising only those issues raised at the Planning Commission public hearing described above, or in written correspondence received by the Community and Economic Development Agency on or prior to 4:00 p.m. on **December 1, 2010**.

After all comments are received, a Response to Comments/Final EIR will be prepared and the Planning Commission will consider certification of the Final EIR and render a decision on the Project at a meeting date to be scheduled. For further information, please contact Heather Klein at (510) 238-3659 or at hklein@oaklandnet.com.


ERIC ANGSTADT

Date of Notice: **October 18, 2010**
File Number ER 07-002

Deputy Director, Community and Economic Development Agency

Notice of Completion & Environmental Document Transmittal

Mail to: State Clearinghouse, P.O. Box 3044, Sacramento, CA 95812-3044 (916) 445-0613
 For Hand Delivery/Street Address: 1400 Tenth Street, Sacramento, CA 95814

SCH #2007122056

Project Title: 325 7th Street Project

Lead Agency: City of Oakland Comm. and Economic Development Agency

Contact Person: Heather Klein, Planner III

Mailing Address: 250 Frank H. Ogawa Plaza, Suite 3315

Phone: (510) 238-3659

City: Oakland, CA

Zip: 94612

County: Alameda

Project Location: County: Alameda

City/Nearest Community: Oakland

Cross Streets: 7th Street and Harrison Street

Zip Code: 94607

Longitude/Latitude (degrees, minutes and seconds): _____ ° _____ ' _____ " N / _____ ° _____ ' _____ " W Total Acres: 0.81

Assessor's Parcel No.: 001-18900-500, 600, 700, 800, 900

Section: _____

Twp.: _____

Range: _____

Base: _____

Within 2 Miles: State Hwy #: I-880, I-980

Waterways: Oakland Estuary

Airports: _____

Railways: BART

Schools: _____

Document Type:

CEQA: ☐ NOP
☐ Early Cons
☐ Neg Dec
☐ Mit Neg Dec

☒ Draft EIR
☐ Supplement/Subsequent EIR
 (Prior SCH No.) _____
 Other: _____

NEPA: ☐ NOI
☐ EA
☐ Draft EIS
☐ FONSI

Other: ☐ Joint Document
☐ Final Document
☐ Other: _____

Local Action Type:

☐ General Plan Update
☐ General Plan Amendment
☐ General Plan Element
☐ Community Plan

☐ Specific Plan
☐ Master Plan
☐ Planned Unit Development
☒ Site Plan

☐ Rezone
☐ Prezone
☒ Use Permit
☐ Land Division (Subdivision, etc.)

☐ Annexation
☐ Redevelopment
☐ Coastal Permit
☐ Other: _____

Development Type:☒ Residential: Units 380 Acres 0.81☒ Office: Sq.ft. 2315

Acres _____

Employees _____

☒ Commercial: Sq.ft. 6795

Acres _____

Employees _____

☐ Industrial: Sq.ft. _____

Acres _____

Employees _____

☐ Educational: _____☐ Recreational: _____☐ Water Facilities: Type _____

MGD _____

☐ Transportation: Type _____☐ Mining: Mineral _____☐ Power: Type _____

MW _____

☐ Waste Treatment: Type _____

MGD _____

☐ Hazardous Waste: Type _____☐ Other: _____**Project Issues Discussed in Document:**

☒ Aesthetic/Visual
☐ Agricultural Land
☒ Air Quality
☒ Archeological/Historical
☐ Biological Resources
☐ Coastal Zone
☐ Drainage/Absorption
☐ Economic/Jobs

☐ Fiscal
☐ Flood Plain/Flooding
☐ Forest Land/Fire Hazard
☐ Geologic/Seismic
☐ Minerals
☐ Noise
☐ Population/Housing Balance
☐ Public Services/Facilities

☐ Recreation/Parks
☐ Schools/Universities
☐ Septic Systems
☒ Sewer Capacity
☐ Soil Erosion/Compaction/Grading
☐ Solid Waste
☒ Toxic/Hazardous
☒ Traffic/Circulation

☐ Vegetation
☐ Water Quality
☐ Water Supply/Groundwater
☐ Wetland/Riparian
☒ Growth Inducement
☐ Land Use
☒ Cumulative Effects
☒ Other: GHG

Present Land Use/Zoning/General Plan Designation:

Office, warehouse, residential, parking lot and vacant/C-40: Community Thoroughfare Commercial/Central Business District

Project Description: (please use a separate page if necessary)

Following demolition of existing structures, the Project applicant would redevelop the Project site with construction of 380 residential condominium units and 9,110 square feet of street-level retail space, in addition to 399 off-street parking spaces. The building is designed as two tall towers situated on a four-story podium. Tower 1 would reach a total height of 27 stories and Tower 2 would reach a total height of 20 stories.

Reviewing Agencies Checklist

Lead Agencies may recommend State Clearinghouse distribution by marking agencies below with and "X". If you have already sent your document to the agency please denote that with an "S".

X	Air Resources Board
	Boating & Waterways, Department of
	California Highway Patrol
X	Caltrans District #4
X	Caltrans Division of Aeronautics
X	Caltrans Planning
	Central Valley Flood Protection Board
	Coachella Valley Mtns. Conservancy
	Coastal Commission
	Colorado River Board
	Conservation, Department of
	Corrections, Department of
	Delta Protection Commission
	Education, Department of
	Energy Commission
	Fish & Game Region #
	Food & Agriculture, Department of
	Forestry and Fire Protection, Department of
	General Services, Department of
	Health Services, Department of
	Housing & Community Development
	Integrated Waste Management Board
	Native American Heritage Commission

	Office of Emergency Services
X	Office of Historic Preservation
	Office of Public School Construction
	Parks & Recreation, Department of
	Pesticide Regulation, Department of
	Public Utilities Commission
X	Regional WQCB # <u>2</u>
	Resources Agency
	S.F. Bay Conservation & Development Comm.
	San Gabriel & Lower L.A. Rivers & Mtns. Conservancy
	San Joaquin River Conservancy
	Santa Monica Mtns. Conservancy
	State Lands Commission
	SWRCB: Clean Water Grants
	SWRCB: Water Quality
	SWRCB: Water Rights
	Tahoe Regional Planning Agency
X	Toxic Substances Control, Department of
	Water Resources, Department of
	Other: _____
	Other: _____

Local Public Review Period (to be filled in by lead agency)

Starting Date October 18, 2010

Ending Date December 1, 2010

Lead Agency (Complete if applicable):

Consulting Firm: Lamphier-Gregory
Address: 1944 Embarcadero
City/State/Zip: Oakland, CA 94606
Contact: Scott Gregory
Phone: 510-535-6690

Applicant: BALCO Properties, Ltd., LLC attn. Reed Westphal
Address: 1624 Franklin Street
City/State/Zip: Oakland, CA 94612
Phone: _____

Signature of Lead Agency Representative:

Scott Miller

Date:

10-14-10

Authority cited: Section 21083, Public Resources Code. Reference: Section 21161, Public Resources Code.

325 7TH STREET PROJECT DRAFT EIR

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INTRODUCTION

PURPOSE OF EIR

In compliance with the California Environmental Quality Act (CEQA), this Draft Environmental Impact Report (EIR) is a public information document that identifies and evaluates the environmental consequences of the proposed 325 7th Street project (Project). This EIR is designed to inform City staff, the Planning Commission, City Council, other interested agencies, and the general public of:

- the proposed Project and the potential environmental consequences of the Project,
- standard conditions of approval and mitigation measures recommended to lessen or avoid significant adverse impacts, and
- a reasonable range of feasible alternatives to the Project.

The information contained in the EIR will be reviewed and considered by public agencies prior to making a decision to approve, reject, or modify the proposed Project. The City of Oakland (City) is the lead agency for environmental review of the proposed Project.

PROPOSED PROJECT

LOCATION

The Project site, located at 325 7th Street in Oakland, CA, is approximately 0.81 acre in size, comprised of seven (7) separate parcels. There are five (5) existing buildings on the Project site: two office buildings, two warehouses and a residence. There are also a parking lot and a vacant commercial lot on the site. The Project site is located in the Chinatown neighborhood of Downtown Oakland. Across Harrison Street from the Project site to the east is the Chinese Garden Park. To the south is I-880, a multi-lane elevated freeway adjacent to 6th Street. To the west and north of the Project site are several commercial establishments, some within the same block as the proposed Project, and others across 7th Street opposite the Project site (see **Figure 1.1**).



Figure 1-1
Project Location



PROJECT AS DESCRIBED IN THE NOP

The description of the Project has been modified since publication of the Notice of Preparation (NOP) in December of 2007. At that time, the Project applicant had proposed redevelopment of the Project site as follows:

“The Project applicant, BALCO Properties Ltd., proposes to demolish all of the existing structures at the site, with the exception of the existing residential structure currently located at 617-621 Harrison Street. This residential structure would be relocated to a new site near 14th Street and Peralta Street. The applicant would then redevelop the Project site with construction of 382 condominium units and ground floor commercial space. Two towers would be situated on a four-story podium, each tower reaching a total height of 23 stories (approximately 237 feet to the top of the roofline, approximately 286 feet to the top of the tower feature on Tower 1, and approximately 280 feet to the top of the architectural feature on Tower 2). Commercial spaces would be provided at street level along the Harrison Street/Seventh Street corner (approximately 5,913 square feet of general retail space and approximately 2,999 square feet of office/administration space). On the fourth floor podium, three community rooms and a 6,619 square foot courtyard would be provided. On the twentieth floor of Tower 1, a 1,200 square foot courtyard would be provided. A total of 397 off-street parking spaces would be provided within a parking garage (one story underground and three stories above ground).”

CURRENTLY PROPOSED PROJECT

The Project as currently proposed is briefly described below. A more detailed description of the Project can be found in Chapter 3: Project Description of this Draft EIR.

The Project applicant, BALCO Properties Ltd., proposes to demolish all of the existing structures at the site, including the existing residential structure currently located at 617-621 Harrison Street, which is identified in the City of Oakland Cultural Heritage Survey as a Potentially Designated Historic Property and a contributor to the 7th Street / Harrison Square Residential Historic District and as such, an historic resource under CEQA.

The applicant would then redevelop the Project site with construction of 380 residential condominium units and 9,110 square feet of street-level retail/office space, in addition to 399 off-street parking spaces.

The building is designed as two tall towers situated on a four-story podium. Tower 1 would reach a total height of 27 stories (275 feet to the top of roof), and Tower 2 would reach a total height of 20 stories (207 feet to the top of roof). The top of the building would include a prominent architectural feature. The towers are entirely residential with associated open space.

A total of 6,795 square feet of retail and 2,315 square feet of commercial office space (9,110 total commercial space) would be provided at street level along the Harrison Street and the Harrison Street/7th Street corner.

A total of 399 off-street parking spaces would be provided within a parking garage (one story underground and three stories above ground level). The majority of the parking spaces are proposed as

mechanical, multi-parking systems that provide independent, movable parking spaces for cars, one on top of the other and side by side.

Access to the parking areas would be via one entrance located on 7th Street (serving the above-ground parking areas) and one entrance located on 6th Street (serving the underground parking area). No vehicle access to the proposed parking areas would be provided along Harrison Street. A loading area would be located along 6th Street.

A summary comparison of the project as anticipated and described in the December 2007 Notice of Preparation compared to the currently proposed Project is shown in Table 1-1 below.

TABLE 1-1: COMPARISON OF 2007 NOP PROJECT VERSUS CURRENT PROJECT		
	December 2007 NOP Project	Currently Proposed Project
Demolition	Entire site, with the exception of the existing building at 617-621 Harrison Street (a CEQA historic resource), proposed to be relocated	Entire site, including 617-621 Harrison Street (a CEQA historic resource)
New Residential Units	382 units	380 units
Bldg. Height (floors/feet)	Tower 1: 23 stories (237 feet to roofline)	Tower 1: 27 stories (275 feet to roofline)
	Tower 2: 23 stories (237 feet to roofline)	Tower 2: 20 stories (207 feet to roofline)
Commercial Space	5,913 sq ft retail and 2,999 sq ft office at ground level	6,795 sq ft retail and 2,315 sq ft office at ground level
Off-Street Parking Spaces	397 spaces	399 spaces

ENVIRONMENTAL REVIEW PROCESS

INITIATING THE ENVIRONMENTAL REVIEW PROCESS

Subsequent to receiving the application for environmental review, the City of Oakland Community and Economic Development Agency (CEDA) determined that the proposed Project was subject to CEQA, and decided at the outset that an EIR would be required for the environmental review, but that the scope of that EIR could potentially be limited to a number of specific issues pertaining to traffic and circulation, air quality, and others depending upon the conclusions of an Initial Study.

EIR SCOPE

The City of Oakland circulated a Notice of Preparation (NOP), which included an Initial Study Checklist that indicated those topic areas which would require evaluation in the EIR. The NOP was published on December 18, 2007, and the public comment period for the scope of the EIR lasted from December 18,

2007 through January 16, 2008. The NOP was sent to property owners within 300 feet of the Project site. The NOP was also sent to trustee agencies, organizations and interested individuals. Additionally, the NOP was sent to the State Clearinghouse.

A scoping session was held for the Project on January 9, 2008. Comments received by the City on the NOP were taken into account during the preparation of the EIR. The NOP and written comments received are included in **Appendices A and B**.

The analysis contained in the December 2007 Initial Study concluded that, with implementation of the City of Oakland's Standard Conditions of Approval, the Project would result in less than significant impacts for the majority of the checklist topics, including: agriculture; air quality; biological resources; cultural resources; geology; hydrology and water quality; land use and planning policy; mineral resources; noise; population and housing; public services and recreation; and utilities. The Notice of Preparation indicated that an EIR would be prepared, focusing on the topics of aesthetics, hazards and hazardous materials, and traffic.

However, based on comments on the NOP/IS that were received from several public agencies, on-going consideration of new air quality thresholds and a change in the Project Description, the scope of this Draft EIR has been expanded. The following environmental topics are addressed in this EIR:

4.1 – Aesthetics

- Shadow, wind and cumulative visual impacts are addressed, as was anticipated in the NOP

4.2 - Transportation, Circulation and Parking

- The December 2007 NOP/IS determined that transportation and traffic impacts associated with the Project were potentially significant. Therefore, this Draft EIR provides a detailed traffic and circulation impact assessment as was anticipated in the NOP.

4.3 - Air Quality

- The Bay Area Air Quality Management District (BAAQMD) provides guidance for consideration by lead agencies, consultants, and other parties for evaluating air quality impacts conducted pursuant to CEQA. The version of the BAAQMD CEQA Guidelines which was relied upon in preparation of the Initial Study in December of 2007 was published in December 1999. However, the BAAQMD has recently published new Guidelines and thresholds for determining the significance of air quality and greenhouse gas emissions impacts. The Air District recommends that lead agencies within the District use these new thresholds when considering air quality impacts of projects. This Draft EIR provides a full discussion of potential air quality impacts using these newly adopted (June 2010) thresholds and Guidelines.
- Additionally, during their review of the December 2007 NOP/IS, the BAAQMD raised other issues related to the potential effects of toxic air contaminants. Therefore, this Draft EIR provides a more detailed assessment of potential impacts related to toxic air contaminants in response to those comments.

4.4 - Greenhouse Gas Emissions

- The BAAQMD commented on the December 2007 NOP/IS, indicating that although the District had not at that time established significance thresholds for greenhouse gas (GHG) emissions, analytical

methodologies and tools should be used to quantify GHG emissions associated with the Project. However, the BAAQMD has recently published new Guidelines and thresholds for determining the significance of greenhouse gas emission impacts. The Air District recommends that lead agencies within the District use these new thresholds when considering the potential climate change impacts of projects. This Draft EIR provides a full discussion of potential climate change impacts using these newly adopted (June 2010) thresholds and Guidelines, and identifies efforts by the City and the Project sponsor to minimize the Project's contribution to climate change including feasible mitigation measures to reduce GHG emissions.

4.5 - Public Health and Hazards

- Issues were raised by the California Department of Toxic Substances Control (DTSC) in reviewing the December 2007 NOP/IS related to the potential presence of hazardous materials and other hazards on and near the project site. Therefore, this Draft EIR provides a more detailed assessment of potential impacts to public health and safety in response to those comments.

4.6 - Wastewater Collection Infrastructure

- Issues were raised by the East Bay Municipal Utilities District during their review of the December 2007 NOP/IS as related to wastewater collection infrastructure, and so this EIR includes a more detailed analysis of this issue.

4.7 - Historic Resources

- The December 2007 NOP/IS determined that the project would not have a significant impacts on historic resources based on the proposal at that time to relocate the existing residential structure located at 617-621 Harrison Street (identified as an historic resource under CEQA) to a new site. However, the project applicant now proposes to demolish this building. Therefore, this Draft EIR evaluates the impacts of demolishing this historic resource.

ORGANIZATION OF THE DRAFT EIR

The EIR is organized into the following chapters:

Chapter 1 - Introduction

- Provides a summary of the proposed Project; and discusses the environmental review process including an explanation of the purpose of the EIR, a description of the EIR scope and organization of the document..

Chapter 2 - Summary

- Provides a summary of the significant environmental impacts that would result from implementation of the proposed Project, and describes Standard Conditions of Approval and mitigation measures recommended to avoid or reduce significant impacts.

Chapter 3 – Project Description

- Provides a description of the Project objectives, Project site, site development history, the proposed Project development, and the required approval process.

Chapter 4 – Setting, Impacts, Standard Conditions of Approval, and Mitigation Measures

- Describes the following for each environmental technical topic: existing conditions (setting); Standard Conditions of Approval; significance criteria; potential environmental impacts and their level of significance; Standard Conditions of Approval relied upon to ensure significant impacts would not occur; and mitigation measures recommended when necessary to mitigate identified impacts. Cumulative impacts are also discussed in each technical topic section. Potential adverse impacts are identified by level of significance, as follows: less-than-significant impact (LTS), significant impact (S), and significant and unavoidable impact (SU). The significance level is identified for each impact before and after implementation of the recommended mitigation measure(s).

Chapter 5 – Alternatives

- Provides an evaluation of five alternatives to the proposed Project. Three of the alternatives are included to meet the CEQA requirement that require an EIR to describe a range of reasonable alternatives to the Project that would feasibly attain most of the basic objectives of the Project, but would avoid or substantially lessen any of the significant effects of the Project. These CEQA alternatives include:
 - the No Project/No Development Alternative
 - the Reduced Density Alternative
 - the Reduced Site Alternative.

Two additional planning alternatives to the Project are also considered:

- the Project with an alternative circulation system and site access as derived from the August 2008 Draft Project Study Report (PSR) for the I-880/Broadway/Jackson Interchange project as prepared for the Alameda County Transportation Improvement Authority (ACTIA),¹ and
- a Point Tower Alternative.

Chapter 6 – CEQA-Required Assessment Conclusions

- Provides the required analysis of growth-inducing impacts; significant irreversible changes; effects found not to be significant; and significant unavoidable and cumulative impacts.

Chapter 7 – Report Preparation

- Identifies preparers of the EIR, references used, and the persons and organizations contacted.

Appendices

- The appendices contain the NOP and written comments submitted on the NOP, a Wind Assessment and a Health Risk Assessment and other technical background documents.

¹ In July 2010 the Alameda County Transportation Improvement Authority (ACTIA) and the Alameda County Congestion Management Agency (CMA) merged as the Alameda County Transportation Commission.

PUBLIC REVIEW

This Draft EIR is available for public review and comment during the period identified on the Notice of Release / Availability of a Draft EIR accompanying this document. This Draft EIR and all supporting technical documents and the reference documents are available for public review at the City of Oakland Community and Economic Development Agency (CEDA), Planning Division, under case ER #07-002.

During this time, written comments on the Draft EIR may be submitted to the City of Oakland Community and Economic Development Agency, Planning Division, at the address indicated on the attached notice. Oral comments on the Draft EIR may be stated at the public hearing which shall be held and indicated on the notice.

Following the public review and comment period, CEDA will prepare responses to all comments received on the environmental analysis in this Draft EIR during the specified review period. The responses and any other revisions to the Draft EIR will be prepared as a Response to Comments document. The Draft EIR and its appendices, together with the Response to Comments document will constitute the Final EIR for the proposed Project.

USE OF THE EIR

Pursuant to CEQA, this is a public information document for use by governmental agencies and the general public. The information contained in this Draft EIR is subject to review and consideration by the City of Oakland and any other responsible agency prior to the City's decision to approve, reject or modify the proposed Project.

The City of Oakland Planning Commission must ultimately certify that it has reviewed and considered the information in the EIR and that the EIR has been completed in conformity with the requirements of CEQA before making any decision of the proposed Project. The City cannot approve a project which would result in a significant environmental effect unless it makes one or more of the following findings:

- That changes or alternations have been required in, or incorporated into the Project which avoid or substantially lessen the significant environmental effects as identified in the EIR,
- That such changes or alterations are within the responsibility and jurisdiction of another public agency (not the City of Oakland), and that such changes have been adopted by such other public agency, or can and should be adopted by such other agency.
- Specified economic, legal, social, technological or other considerations make infeasible the mitigation measures or project alternatives identified in the EIR.

EXECUTIVE SUMMARY AND IMPACT OVERVIEW

PROPOSED PROJECT

The Project Applicant (BALCO Properties Ltd., LLC) seeks to develop 380 residential condominium units and 9,110 square feet of ground-floor office and retail space in a building featuring two tall towers situated on a four-story podium, with one tower reaching a height of 27 stories and the other tower reaching a height of 20 stories. The Project would be built on a 35,500 square-foot site located at 325 7th Street in the Chinatown neighborhood of downtown Oakland. The proposed Project is described in detail in Chapter 3: Project Description.

IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES

This summary provides an overview of the analyses presented in Chapter 4 of this document, which provides a description of the existing setting, identifies potential environmental impacts associated with Project implementation, and recommends mitigation measures and requires standard Conditions of Approval to reduce or avoid potentially significant impacts that could occur as a result of Project implementation. **Table 2-1** at the end of this chapter lists a summary statement of each impact, applicable Standard Conditions of Approval (SCA) and corresponding mitigation measures (if any), as well as the level of significance after mitigation.

Significant environmental impacts require the implementation of mitigation measures or alternatives (where feasible) to reduce those impacts, or a finding by the Lead Agency that possible mitigation measures are infeasible for specific reasons. For some of the significant impacts, mitigation measures may not be effective in reducing the impacts to a less than significant level. These impacts are designated as significant and unavoidable (SU).

SIGNIFICANT AND UNAVOIDABLE PROJECT AND CUMULATIVE IMPACTS

Traffic and Circulation

Under all studied scenarios (Existing + Project, 2015 + Project and 2030 + Project) the intersections at 5th Street/Oak Street (Intersection #1) and 6th Street/Jackson Street (Intersection #4) would operate at unacceptable levels, and the Project would generate traffic at these intersections that would exceed the thresholds of significance. Mitigation measures have been recommended that would optimize the signal timing at these intersections, effectively reducing these impacts to a less than significant level. Even though these mitigation measures would not require an encroachment permit from Caltrans since the signal hardware and timing is operated and maintained by the City of Oakland through a service agreement contract, the City of Oakland could not implement the mitigation measures at these intersections without the prior approval of Caltrans. Such approval has not yet been granted and it is

unknown whether such approvals would ultimately be granted. Therefore, both Project-specific and cumulative traffic impacts at 5th Street/Oak Street and 6th Street/Jackson Street are conservatively considered *significant and unavoidable*.

Historic Resources

A residential structure located at 617-621 Harrison Street is considered an historic resource pursuant to CEQA criteria. Under the proposed Project, this historic structure will be demolished to enable development of the Project site as proposed. The Project's proposed design is dependent upon use of the property at 617-621 Harrison Street. City Standard Conditions of Approval requires the Project applicant to make good faith efforts to relocate this structure to another location consistent with its historical or architectural character. If such relocation efforts were successful, the impact to this structure would be reduced to less than significant. Conservatively assuming that relocation efforts may be unsuccessful and demolition of this building would occur, there are no additional feasible mitigation measures to reduce the loss of this historic resource to a less than significant level. The demolition of the historic structure at 617-621 Harrison Street would be a *significant and unavoidable* impact of the Project.

This EIR also includes a CEQA alternative specifically intended to avoid this impact by developing an alternative project design which is not reliant upon the property at 617-621 Harrison Street.

IMPACT REDUCED TO LESS THAN SIGNIFICANT WITH IMPLEMENTATION OF RECOMMENDED MITIGATION MEASURES

Traffic and Circulation

Under all studied scenarios (Existing + Project, 2015 + Project and 2030 + Project) the intersection at 8th Street/Webster Street (Intersection #9) would operate at unacceptable levels and the Project would generate traffic at this intersection that would exceed the thresholds of significance. Mitigation measures have been recommended that would optimize the signal timing at this intersection, effectively reducing this Project-specific and cumulative traffic impact to a less than significant level. No Caltrans approval would be required to implement this mitigation measure.

Air Quality

The exposure risk to nearby sensitive receptors to toxic air contaminants generated during the Project's construction period would exceed the thresholds of significance under BAAQMD and City of Oakland criterion. The results of a construction-period HRA prepared for the Project indicate that the maximum exposed adult inhalation cancer risk over a 70 year averaging time would be an inhalation cancer risk of 8.25 in 1 million, but when adjusted to account for the special sensitivity of infants, children and adolescents, the averaged age sensitive inhalation cancer risk is 13.97 in 1 million. This risk level exceeds the threshold of 10 in a million and therefore the potential for increased cancer risk would be significant. Additionally, the maximum exposed individual could be exposed to annual average PM_{2.5} concentration of 0.322 ug/m³ during the construction period, which is greater than the threshold of 0.3 ug/m³. Standard Conditions of Approval assumed for the Project require use of Best Available Control Technologies, CARB's most recent diesel engine certification standards and other emission reduction requirements. However, these measures are not capable of reducing DPM emissions or PM_{2.5} exposure from the Project's construction activities to a level that would be below current thresholds of significance.

Mitigation measures have been recommended that would require the construction contractor to implement additional diesel emission reduction measures (including, but not limited to alternatively fueled

equipment, engine retrofit technology, after-treatment products and add-on devices such as particulate filters, and/or other options as they become available) capable of achieving a project wide fleet-average of 85 percent particulate matter (PM) reduction compared to the most recent California Air Resources Board (CARB) fleet average. Implementation of these additional measures would reduce emission of diesel particulate matter and PM_{2.5} to a less than significant level.

IMPACTS FOUND TO BE LESS THAN SIGNIFICANT

The December 2007 Initial Study determined that for a number of environmental topic areas, the Project would have no impact or less than significant impacts. Other potentially significant environmental effects would not rise to the level of significant as a result of implementation of City of Oakland Standard Conditions of Approval. These issues are fully discussed in the Initial Study (see **Appendix A**) and relate to: certain aesthetics impacts, certain air quality impacts, biological resource impacts, certain cultural resource impacts, geology and soils impacts, certain hazardous materials impacts, hydrology and water quality impacts, noise impacts, public service impacts, and certain utilities impacts.

This Draft EIR further analyzed the following environmental topic areas; visual resources, wind and shadows; transportation, circulation and parking; air quality and toxic air contaminants; climate change and greenhouse gas emissions; public health and hazards; wastewater collection infrastructure; and historic resources. With the exception of those issues described above pertaining to traffic and historic resources, this EIR concludes that there are no impacts that would be significant or would remain significant following implementation of City of Oakland Standard Conditions of Approval.

ALTERNATIVES

Chapter 5 includes an analysis of three CEQA alternatives to the proposed Project to meet the requirements of CEQA to analyze a reasonable range of alternatives to the Project that would feasibly attain most of the Project's basic objectives but that avoid or substantially lessen any of the significant effects of the Project:

- Alternative 1 - No Project/No Development Alternative, which assumes continuation of existing conditions at the Project site
- Alternative 2 – Reduced Density Alternative to meet the effective C-40/R-70 zoning standards
- Alternative 3 – Reduced Site Alternative to avoid impacts to existing historic resources

In addition, two planning alternatives are discussed in the Draft EIR:

- Alternative 4 – The Alternative Circulation – I-880/Broadway/Jackson Interchange Project Alternative, and
- Alternative 5 – Point Tower Alternative with an alternative architectural and urban design approach.

AREAS OF CONTROVERSY

The following topics were raised in written or oral comments received in response to the December 2007 Notice of Preparation of this EIR. The summary list is compiled based on written comments received (which are included in Appendix B to this EIR) and comments stated during the scoping meeting held by

the Oakland Planning Commission. Each of these comments is addressed in the Draft EIR. The areas of potential controversy associated with this Project include, but are not limited to the following:

Aesthetics

- Project-related and cumulative aesthetic effects on the Oakland skyline

Traffic and Circulation

- Project traffic trip generation, distribution and assignment to the roadway network
- Potential increases in traffic that may lead to daily or peak hour traffic congestion on affected streets or highways
- Consideration of alternative solutions to circulation problems that do not rely on increased highway construction
- Development and application of pedestrian and bicycle performance measures to improve alternative modes of transportation, thereby reducing traffic impacts (including impacts on state highways)
- Consideration of the potential construction of the “Harrison Street to Northbound 6th Street Left Turn Alternative” as outlined in the August 2008 I-88/Broadway/Jackson Project Study Report (PSR)

Air Quality and Greenhouse Gas Emissions

- Quantification of the health risks associated with toxic air contaminant exposure to a residential project in immediate proximity to the I-880 freeway
- Quantification of greenhouse gas emissions from the project
- Addressing new air quality and greenhouse gas emission thresholds as established by the Bay Area Air Quality Management District

Hazards and Hazardous Materials

- Address potential information gaps contained in the existing Phase I and Phase II hazards reports, including investigation, sampling and analysis

Wastewater

- Availability of capacity within the wastewater sub-basin flow allocation for the Project
- Address the potential for replacement or rehabilitation of the existing sanitary sewer collection system to prevent an increase in inflow and infiltration

Historic Resources

- Loss of an historic resource and potential impacts to an Historic District

SUMMARY TABLE

Information in Table 2-1, Summary of Impacts, City Standard Conditions of Approval and Mitigation Measures has been organized to correspond with environmental issues discussed in Chapter 4 of this Draft EIR, as well as all issues previously addressed in the December 2007 Initial Study. The table is organized as follows:

- Significant and unavoidable effects analyzed in this Draft EIR
- Potentially significant effects found to be less than significant with implementation of mitigation measures recommended in this Draft EIR, and
- Effects found in the December 2007 Initial Study and in this Draft EIR to be less than significant with implementation of City of Oakland Standard Conditions of Approval
- Other effects found in this EIR to be less than significant

Table 2-1 is arranged in three columns: (1) impacts; (2) required Standard Conditions of Approval and/or recommended mitigation measures; and (3) level of significance after implementation of Standard Conditions of Approval and/or mitigation. Levels of significance are categorized as follows: LTS = Less Than Significant; S = Significant; and SU = Significant and Unavoidable. For a complete description of potential impacts, Standard Conditions of Approval and recommended mitigation measures, please refer to the specific discussions in Chapter 4.

TABLE 2-1: SUMMARY OF PROJECT IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES FOR THE 325 7TH STREET PROJECT

Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
SIGNIFICANT AND UNAVOIDABLE EFFECTS		
Traffic		
Existing Plus Project		
<p>Impact Traf-7: LOS F conditions at the intersection of 5th Street/Oak Street would prevail during the PM peak hour under the Existing + Project condition. The LOS would worsen with the addition of Project traffic. The Project generated increases in vehicle delay on the critical movement (eastbound through) would exceed the four-second threshold. (S)</p>	<p>Mitigation Measure Traf-7: Optimize the traffic signal timing at the intersection of 5th Street/Oak Street. Optimization of traffic signal timing shall include adjusting the signal cycle length from 45 seconds to 60 seconds, and determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches. Coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group. To implement this measure, the Project sponsor shall submit the following to City of Oakland's Transportation Service Division and Caltrans for review and approval:</p> <ul style="list-style-type: none"> a) Plans, Specifications, and Estimates (PS&E) to modify the intersection. All elements shall be designed to City standards in effect at the time of construction and all new and upgraded signals should include these enhancements. All other facilities supporting vehicle travel and alternative modes through the intersection should be brought up to both City standards and ADA standards (according to Federal and State Access Board guideline) at the time of construction. Current City Standards call for among other items the elements listed below: <ul style="list-style-type: none"> - 2070L Type Controller - Full signal actuation (includes video detection, bicycle detection, pedestrian push buttons) - Fiber signal interconnect for corridors identified in the City's ITS Master Plan for a maximum of 600 feet - GPS communication clock - Accessible pedestrian crosswalks according to Federal and State Access Board Guidelines - Accessible pedestrian signals audible and tactile according to Federal Access Board guidelines - Countdown Pedestrian Signals b) Signal timing plans for the signals in the coordination group. <p>The Project sponsor shall fund, prepare and install the approved plans and improvements.</p>	<p>If implemented the average delay would be lower than under the Existing (No Project) condition, and the impact would be less than significant (LTS)</p> <p>Although this mitigation measure would not require an encroachment permit from Caltrans, the City of Oakland cannot implement the mitigation measure without Caltrans' approval. Thus, the impact is conservatively considered significant and unavoidable (SU)</p>
<p>Impact Traf-8: The intersection of 6th Street/Jackson Street would operate at LOS E in the AM and PM peak hours. During the AM peak hour, the addition of Project traffic would cause an increase in the average delay for the critical movements (southbound right and westbound</p>	<p>Mitigation Measure Traf-8: Optimize the traffic signal timing at the intersection of 6th Street/Jackson Street. Optimization of traffic signal timing would include adjusting cycle length from 60 seconds to 75 seconds, and determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches. Coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group. To implement this measure, the Project sponsor shall submit the following to City of</p>	<p>If implemented the intersection would operate at an acceptable LOS D during the PM hour and the Project impact would therefore be mitigated to a</p>

TABLE 2-1: SUMMARY OF PROJECT IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES FOR THE 325 7TH STREET PROJECT

Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
through) of 5.9 seconds, less than the City's six second threshold of significance. Therefore, the Project impact in the AM peak hour would be less than significant. During the PM peak hour, the Project generated increases in the average delay for the critical movements (7 seconds for southbound right and 2.6 seconds for westbound through) would exceed the City's six-second threshold of significance. (S)	<p>Oakland's Transportation Service Division and Caltrans for review and approval:</p> <p>a) Plans, Specifications, and Estimates (PS&E) to modify the intersection. All elements shall be designed to City standards in effect at the time of construction and all new and upgraded signals should include these enhancements. All other facilities supporting vehicle travel and alternative modes through the intersection should be brought up to both City standards and ADA standards (according to Federal and State Access Board guideline) at the time of construction. Current City Standards call for among other items the elements listed below:</p> <ul style="list-style-type: none"> - 2070L Type Controller - Full signal actuation (includes video detection, bicycle detection, pedestrian push buttons) - Fiber signal interconnect for corridors identified in the City's ITS Master Plan for a maximum of 600 feet - GPS communication clock - Accessible pedestrian crosswalks according to Federal and State Access Board Guidelines - Accessible pedestrian signals audible and tactile according to Federal Access Board guidelines - Countdown Pedestrian Signals <p>b) Signal timing plans for the signals in the coordination group.</p> <p>The Project sponsor shall fund, prepare and install the approved plans and improvements.</p>	<p>less than significant level (LTS)</p> <p>Although this mitigation measure would not require an encroachment permit from Caltrans, the City of Oakland cannot implement the mitigation measure without Caltrans' approval. Thus, the impact is conservatively considered significant and unavoidable (SU)</p>
<p>2015 Base Case + Project</p> <p>Cumulative Impact Traf-10: The LOS E and F conditions at the intersection of 5th and Oak Streets during the AM and PM peak hours under the 2015 Short-Term with Project condition, would worsen with the addition of traffic generated by the project. The Project generated increases in vehicle delay on the critical movement (eastbound through) of 12.4 seconds during the AM peak hour 29.1 seconds during the PM peak hour would exceed the City's threshold of significance. (S)</p>	<p>Mitigation Measure Traf-10: Implement Mitigation Measure Traf-7.</p>	<p>(SU)</p> <p>see Impact Traf-7</p>
<p>Cumulative Impact Traf-11: The intersection of 6th Street/Jackson Street would continue to operate at LOS F in year 2015 during the AM Peak hour and LOS E during the PM Peak hour</p>	<p>Mitigation Measure Traf-11: Implement Mitigation Measure Traf-8</p>	<p>(SU)</p> <p>see Impact Traf-8</p>

TABLE 2-1: SUMMARY OF PROJECT IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES FOR THE 325 7TH STREET PROJECT

Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
with the addition of Project traffic. The Project generated increases in vehicle delay on the critical movement (southbound right) of 4.8 seconds during the AM peak hour and 6.9 seconds during the PM peak hour would exceed the City's threshold of significance.		
2030 Cumulative + Project Cumulative Impact Traf-13: The LOS F conditions at the intersection of 5th Street/Oak Street during the AM and PM peak hours under the Cumulative conditions would worsen with the addition of traffic generated by the Project. The total intersection vehicle delay would exceed the City's two-second threshold of significance with the addition of traffic generated by the Project. (S)	Mitigation Measure Traf-13: Implement Mitigation Measure Traf-7.	(SU) see Impact Traf-7
Cumulative Impact Traf-14: The intersection of 6th Street/Jackson Street would operate at LOS F during the AM and PM peak hours. The 2030 Future Cumulative conditions would worsen with the addition of traffic generated by the project. The total intersection vehicle delay would exceed the City's threshold of significance with the addition of traffic generated by the project.	Mitigation Measure Traf-14: Implement Mitigation Measure Traf-8	(SU) see Impact Traf-8
Historic Resources		
Impact Hist-2: Demolition of the residential structure currently located at 617-621 Harrison Street, which is an historic resource, would be a significant impact of the Project. (S)	SCA Hist-2: Compliance with Policy 3.7 of the Historic Preservation Element (Property Relocation Rather than Demolition). <i>Prior to issuance of a demolition permit.</i> The project applicant shall make a good faith effort to relocate the building located at 617-621 Harrison Street to a site acceptable to the Planning and Zoning Division and the Oakland Cultural Heritage Survey. Good faith efforts include, at a minimum, the following: a. Advertising the availability of the building by: (1) posting of large visible signs (such as banners, at a minimum of 3'x 6' size or larger) at the site; (2) placement of advertisements in Bay Area news media acceptable to the City ;and (3) contacting neighborhood associations and for-profit and not-for-profit housing and preservation organizations; b. Maintaining a log of all the good faith efforts and submitting that along with photos of the subject building showing the large signs (banners) to the Planning and Zoning Division;	If relocation efforts prove successful, the impacts would be less than significant (LTS) If relocation efforts are not successful, demolition of 617-621 Harrison Street is conservatively assumed, and the impact would remain significant and unavoidable (SU)

TABLE 2-1: SUMMARY OF PROJECT IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES FOR THE 325 7TH STREET PROJECT

Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
	<p>c. Maintaining the signs and advertising in place for a minimum of 90 days; and</p> <p>d. Making the building available at no or nominal cost (the amount to be reviewed by the Oakland Cultural Heritage Survey) until removal is necessary for construction of a replacement project, but in no case for less than a period of 90 days after such advertisement.</p> <p>If relocation efforts prove unsuccessful, the following mitigation measures would apply:</p> <p>Mitigation Measure Hist-2a: If the building cannot be successfully relocated, the Project applicant shall retain a qualified historic architect to prepare a Deconstruction and Salvage Plan (Plan) that identifies which, if any, of the interior and exterior elements from the building can be retained and re-used either on or off-site. Those features to be retained/reused could include but are not limited to doors, windows, wood members, timbers, roof trusses, siding, and specific architectural elements, etc. The Plan shall be submitted prior to demolition of the building for review and approval by the Landmarks Preservation Advisory Board. A demolition permit shall not be issued until the Plan has been approved and all deconstructed and salvageable features or materials that have been identified in the approved Plan have been appropriately preserved. The approved Plan shall be implemented by a person experienced in deconstruction techniques to ensure proper deconstruction techniques/processes are followed. This person shall be under the supervision of a qualified historic architect. All deconstructed materials shall be properly stored and promptly recycled back into the construction market.</p> <p>Mitigation Measure Hist-2b: If the building cannot be successfully relocated, the Project applicant shall, prior to issuance of a Certificate of Occupancy, make a monetary contribution to the City which shall exclusively be used for (a) development of an Historic Interpretive and Improvement Program, and (b) an historic resource related program such as the Façade Improvement Program or the Property Relocation Assistance Program, as detailed below.</p> <p>a. The Historic Interpretive and Improvement Program will include interpretive materials such as information plaques depicting the history of the 7th Street / Harrison Square Historic District, district identification features and a printed guide to the 7th Street / Harrison Square Historic District with educational features. The Program shall be high quality and provide high public visibility. The Program shall be developed by a qualified historic consultant in consultation with the LPAB and historic preservation staff, based on a City-approved scope of work and submitted to the City for review and approval. The proposed Program will be approved by the Landmarks Preservation Advisory Board and installed prior to issuance of a Certificate of Occupancy.</p> <p>b. Any remaining funds after implementing the Historic Interpretive and Improvement Program shall be applied towards a historic resource related program, which can be used to fund other historic preservation projects in the 7th Street/ Harrison Square Historic District or in the immediate vicinity. Such programs include, without limitation, a Façade Improvement Program or the Property Relocation Assistance Program. The project applicant shall make the monetary contribution prior to Certificate of Occupancy.</p>	

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Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
POTENTIALLY SIGNIFICANT EFFECTS MITIGATED TO LESS THAN SIGNIFICANT		
Traffic		
<p>Existing + Project</p> <p>Impact Traf-9: The LOS F conditions at the intersection of 8th Street/Webster Street would prevail during the PM peak hour under the Existing + Project condition. The LOS would worsen with the addition of Project traffic. The Project generated increases in vehicle delay on the critical movement (southbound through) would exceed the four-second threshold. (S)</p>	<p>Mitigation Measure Traf-9: Optimize the traffic signal timing at the intersection of 8th Street/Webster Street. Optimization of traffic signal timing would include determination of allocation of green time within the current 90 second signal cycle length for each intersection approach in tune with the relative traffic volumes on those approaches, and implementing signal actuation. Coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group. To implement this measure, the Project sponsor shall submit the following to City of Oakland's Transportation Service Division and Caltrans for review and approval:</p> <p>a) Plans, Specifications, and Estimates (PS&E) to modify the intersection. All elements shall be designed to City standards in effect at the time of construction and all new and upgraded signals should include these enhancements. All other facilities supporting vehicle travel and alternative modes through the intersection should be brought up to both City standards and ADA standards (according to Federal and State Access Board guideline) at the time of construction. Current City Standards call for among other items the elements listed below:</p> <ul style="list-style-type: none"> - 2070L Type Controller - Full signal actuation (includes video detection, bicycle detection, pedestrian push buttons) - Fiber signal interconnect for corridors identified in the City's ITS Master Plan for a maximum of 600 feet - GPS communication clock - Accessible pedestrian crosswalks according to Federal and State Access Board Guidelines - Accessible pedestrian signals audible and tactile according to Federal Access Board guidelines - Countdown Pedestrian Signals <p>b) Signal timing plans for the signals in the coordination group.</p> <p>The Project sponsor shall fund, prepare and install the approved plans and improvements.</p>	LTS
<p>2015 Base Case + Project</p> <p>Cumulative Impact Traf-12: The LOS F conditions at the intersection of 8th Street/Webster Street would prevail during the PM peak hour under the 2015 Base case +</p>	<p>Mitigation Measure Traf-12: Implement Mitigation Measure Traf-9</p>	LTS

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Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
Project condition. The LOS would worsen with the addition of Project traffic. The project-generated increases in vehicle delay on the critical movement (southbound through) would exceed the four-second threshold. (S)		
2030 Cumulative + Project: Cumulative Impact Traf-15: The LOS F conditions at the intersection of 8th Street/Webster Street during the AM and PM peak hours under the Future Cumulative conditions would worsen with the addition of Project traffic. The Project traffic would increase total intersection average vehicle delay by more than two seconds, exceeding the City's threshold of significance during both the AM and PM peak hours. (S)	Mitigation Measure Traf-15: Implement Mitigation Measure Traf-9	LTS
Air Quality		
Impact Air-7: The exposure risk to nearby sensitive receptors to toxic air contaminants during the construction period would exceed the thresholds of significance under BAAQMD criterion for cancer and PM _{2.5} exposure. This would be a potentially significant impact. (PS)	SCA Air-1: Construction-Related Air Pollution Controls (Dust and Equipment Emissions). <i>Ongoing throughout demolition, grading, and/or construction.</i> During construction, the project applicant shall require the construction contractor to implement all of the following applicable measures recommended by the Bay Area Air Quality Management District (BAAQMD): (see Impact Air-1 below for measures a through s, pertaining to fugitive dust emissions) t. Minimize the idling time of diesel-powered construction equipment to two minutes. u. The project applicant shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NOx reduction and 45 percent particulate matter (PM) reduction compared to the most recent California Air Resources Board (CARB) fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as they become available. v. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., BAAQMD Regulation 8, Rule 3: Architectural Coatings). w. All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NOx and PM.	LTS

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	<p>x. Off-road heavy diesel engines shall meet the CARB's most recent certification standard.</p> <p>Mitigation Measure Air-7: The Project applicant shall develop a Diesel Emission Reduction Plan including, but not limited to alternatively fueled equipment, engine retrofit technology, after-treatment products and add-on devices such as particulate filters, and/or other options as they become available, capable of achieving a project wide fleet-average of 85 percent particulate matter (PM) reduction compared to the most recent California Air Resources Board (CARB) fleet average. This fleet-wide average reduction is consistent with the 1st Tier (highest possible) reduction measures specified in the URBEMIS model's output calculations. This Plan shall be submitted for review and approval by the City, and the Project applicant shall implement the approved Plan.</p>	
<p>Impact Air-8: The Project's individual emissions would contribute to existing cumulatively significant adverse air quality impacts. In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. For the Project, the inhalation cancer risk to nearby sensitive receptors due to construction-period concentrations of toxic air contaminants (DPM) and concentrations of PM_{2.5} has been found to be significant, and would thus contribute to a cumulatively significant adverse air quality impact. (PS)</p>	<p>SCA Air-1 for cumulative criteria pollutant emissions, SCA Air-2 and -3 for cumulative exposure of new residents to toxic air contaminants, and SCA Traf-1 for reductions cumulative vehicle emissions</p> <p>SCA Air-1 and Mitigation Measure Air-7 above for cumulative construction-period emissions</p>	LTS
POTENTIAL EFFECTS ANALYZED IN THIS DRAFT EIR – LESS THAN SIGNIFICANT WITH IMPLEMENTATION OF STANDARD CONDITIONS OF APPROVAL		
Traffic and Circulation		
<p>Impact Traf-1: Construction activities could cause significant disruptions to transportation and pedestrian movement at the Project site, and could substantially reduce the availability of parking opportunities. These potential impacts would be reduced or avoided through implementation of the City's Standard Conditions of Approval that require preparation of a Construction Traffic and Parking Management Plan. (LTS, with Standard</p>	<p>SCA Traf-2: Construction Traffic and Parking. <i>Prior to the issuance of a demolition, grading or building permit.</i> The project applicant and construction contractor shall meet with appropriate City of Oakland agencies to determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion and the effects of parking demand by construction workers during construction of this project and other nearby projects that could be simultaneously under construction. The project applicant shall develop a construction management plan for review and approval by the Planning and Zoning Division, the Building Services Division, and the Transportation Services Division. The plan shall include at least the following requirements:</p> <p>a. A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs,</p>	LTS

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	<p>cones for drivers, and designated construction access routes.</p> <p>b. Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur.</p> <p>c. Location of construction staging areas for materials, equipment, and vehicles at an approved location.</p> <p>d. A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager. The manager shall determine the cause of the complaints and shall take prompt action to correct the problem. Planning and Zoning shall be informed who the Manager is prior to the issuance of the first permit issued by Building Services.</p> <p>e. Provision for accommodation of pedestrian flow.</p> <p>f. Provision for parking management and spaces for all construction workers to ensure that construction workers do not park in on-street spaces.</p> <p>g. Any damage to the street caused by heavy equipment, or as a result of this construction, shall be repaired, at the applicant's expense, within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to issuance of a final inspection of the building permit. All damage that is a threat to public health or safety shall be repaired immediately. The street shall be restored to its condition prior to the new construction as established by the City Building Inspector and/or photo documentation, at the applicant's expense, before the issuance of a Certificate of Occupancy.</p> <p>h. Any heavy equipment brought to the construction site shall be transported by truck, where feasible.</p> <p>i. No materials or equipment shall be stored on the traveled roadway at any time.</p> <p>j. Prior to construction, a portable toilet facility and a debris box shall be installed on the site, and properly maintained through project completion.</p> <p>k. All equipment shall be equipped with mufflers.</p> <p>l. Prior to the end of each work day during construction, the contractor or contractors shall pick up and properly dispose of all litter resulting from or related to the project, whether located on the property, within the public rights-of-way, or properties of adjacent or nearby neighbors.</p>	
Impact Traf-5: The proposed Project would not conflict with adopted transportation policies, plans and programs supporting alternative transportation, and would be required to comply with City Standard Conditions of Approval that	SCA Traf-1: Parking and Transportation Demand Management. <i>Prior to issuance of a final inspection of the building permit.</i> The applicant shall submit for review and approval by the Planning and Zoning Division a Transportation Demand Management (TDM) plan containing strategies to reduce on-site parking demand and single occupancy vehicle travel. The applicant shall implement the approved TDM plan. The TDM shall include strategies to increase bicycle, pedestrian, transit, and	LTS

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require preparation and implementation of a Parking and Transportation Demand Management Plan. (LTS, with Standard Conditions of Approval)	<p>carpools/vanpool use. All four modes of travel shall be considered. Strategies to consider include the following:</p> <ul style="list-style-type: none"> a. Inclusion of additional bicycle parking, shower, and locker facilities that exceed the requirement b. Construction of bike lanes per the Bicycle Master Plan; Priority Bikeway Projects c. Signage and striping onsite to encourage bike safety d. Installation of safety elements per the Pedestrian Master Plan (such as cross walk striping, curb ramps, count down signals, bulb outs, etc.) to encourage convenient crossing at arterials e. Installation of amenities such as lighting, street trees, trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan. f. Direct transit sales or subsidized transit passes g. Guaranteed ride home program h. Pre-tax commuter benefits (checks) i. On-site car-sharing program (such as City Car Share, Zip Car, etc.) j. On-site carpooling program k. Distribution of information concerning alternative transportation options l. Parking spaces sold/leased separately m. Parking management strategies; including attendant/valet parking and shared parking spaces. <p>To further implement this Standard Condition of Approval, the Project applicant shall:</p> <ul style="list-style-type: none"> n. Investigate the possibility of contracting with off-site locations to provide additional parking o. All good-faith efforts made by the applicant to identify potential off-site parking shall be submitted to the City for review and approval. 	
Air Quality		
Impact Air-1: During construction, the proposed Project would generate fugitive dust from demolition, grading, hauling and construction activities. The fugitive dust emissions associated with these construction activities would be effectively reduced to a level of less than significant based on implementation of required City of Oakland Standard Conditions of	<p>SCA Air-1: Construction-Related Air Pollution Controls (Dust and Equipment Emissions). <i>Ongoing throughout demolition, grading, and/or construction.</i> During construction, the project applicant shall require the construction contractor to implement all of the following applicable measures recommended by the Bay Area Air Quality Management District (BAAQMD):</p> <ul style="list-style-type: none"> a. Water all exposed surfaces of active construction areas at least twice daily (using reclaimed water if possible). Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. 	LTS

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Approval. (LTS, with Standard Conditions of Approval)	<p>Reclaimed water should be used whenever possible.</p> <ul style="list-style-type: none"> b. Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer). c. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited. d. Pave all roadways, driveways, sidewalks, etc. as soon as feasible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used. e. Enclose, cover, water twice daily or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.). f. Limit vehicle speeds on unpaved roads to 15 miles per hour. g. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485, of the California Code of Regulations. Clear signage to this effect shall be provided for construction workers at all access points. h. All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. i. Post a publicly visible sign that includes the contractor's name and telephone number to contact regarding dust complaints. When contacted, the contractor shall respond and take corrective action within 48 hours. The telephone numbers of contacts at the City and BAAQMD shall also be visible. This information may be posted on other required on-site signage. j. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe. k. All excavation, grading, and demolition activities shall be suspended when average wind speeds exceed 20 mph. l. Install sandbags or other erosion control measures to prevent silt runoff to public roadways. m. Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for one month or more). n. Designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. o. Install appropriate wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed 	

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	<p>areas of the construction site to minimize wind blown dust. Wind breaks must have a maximum 50 percent air porosity.</p> <p>p. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.</p> <p>q. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.</p> <p>r. All trucks and equipment, including tires, shall be washed off prior to leaving the site.</p> <p>s. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.</p> <p>t. Minimize the idling time of diesel-powered construction equipment to two minutes.</p> <p>u. The project applicant shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NO_x reduction and 45 percent particulate matter (PM) reduction compared to the most recent California Air Resources Board (CARB) fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as they become available.</p> <p>v. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., BAAQMD Regulation 8, Rule 3: Architectural Coatings).</p> <p>w. All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NO_x and PM.</p> <p>x. Off-road heavy diesel engines shall meet the CARB's most recent certification standard.</p> <p>SCA Air-4: Asbestos Removal in Structures. <i>Prior to issuance of a demolition permit.</i> If asbestos-containing materials (ACM) are found to be present in building materials to be removed, demolition and disposal, the project applicant shall submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health & Safety Code 25915-25919.7; and Bay Area Air Quality Management District, Regulation 11, Rule 2, as may be amended.</p>	
Public Health and Hazards		

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Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
<p>Impact Haz-1: Risks associated with possible exposure to contaminated groundwater, metals that may be found in the soil or other chemicals that may have been released during prior junkyard operations at the Project site will be reduced to a level of less than significant based on implementation of required Standard Conditions of Approval. (LTS, with Standard Conditions of Approval)</p>	<p>SCA Haz-1: Phase I and/or Phase II Reports. <i>Prior to issuance of a demolition, grading, or building permit.</i> Prior to issuance of demolition, grading, or building permits the project applicant shall submit to the Fire Prevention Bureau, Hazardous Materials Unit, a Phase I environmental site assessment report, and a Phase II report if warranted by the Phase I report for the project site. The reports shall make recommendations for remedial action, if appropriate, and should be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer.</p> <p>To further implement SCA Haz-1 the Project applicant shall submit follow-up subsurface investigations as recommended by the Phase II Subsurface Investigation report for the Project site, including the types of analyses as recommended by DTSC. These investigations shall be documented in a report which shall make recommendations for remedial action if appropriate and necessary, and shall be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer. The follow-up subsurface investigation shall include an analysis of soil and groundwater samples to determine:</p> <ol style="list-style-type: none"> the lateral and vertical extent of the two areas of groundwater contamination, the presence or absence of metals, and the presence or absence of other chemicals that may have been released during junkyard operations. <p>SCA Haz-2: Site Review by the Fire Services Division. <i>Prior to the issuance of demolition, grading or building permit.</i> The project applicant shall submit plans for site review and approval to the Fire Prevention Bureau Hazardous Materials Unit. Property owner may be required to obtain or perform a Phase II hazard assessment.</p> <p>SCA Haz-3: Lead-Based Paint/Coatings, Asbestos, or PCB Occurrence Assessment. <i>Prior to issuance of any demolition, grading or building permit.</i> The project applicant shall submit a comprehensive assessment report to the Fire Prevention Bureau, Hazardous Materials Unit, signed by a qualified environmental professional, documenting the presence or lack thereof of asbestos-containing materials (ACM), lead-based paint, and any other building materials or stored materials classified as hazardous waste by State or federal law.</p> <p>SCA Haz-4: Other Materials Classified as Hazardous Waste. <i>Prior to issuance of any demolition, grading or building permit.</i> If other materials classified as hazardous waste by State or federal law are present, the project applicant shall submit written confirmation to Fire Prevention Bureau, Hazardous Materials Unit that all State and federal laws and regulations shall be followed when profiling, handling, treating, transporting and/or disposing of such materials.</p> <p>SCA Haz-5: Environmental Site Assessment Reports / Remediation. <i>Prior to issuance of a demolition, grading, or building permit.</i> If the environmental site assessment reports recommend remedial action, the project applicant shall:</p> <ol style="list-style-type: none"> Consult with the appropriate local, State, and federal environmental regulatory agencies to ensure 	LTS

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	<p>sufficient minimization of risk to human health and environmental resources, both during and after construction, posed by soil contamination, groundwater contamination, or other surface hazards including, but not limited to, underground storage tanks, fuel distribution lines, waste pits and sumps.</p> <p>b. Obtain and submit written evidence of approval for any remedial action if required by a local, State, or federal environmental regulatory agency.</p> <p>c. Submit a copy of all applicable documentation required by local, State, and federal environmental regulatory agencies, including but not limited to: permit applications, Phase I and II environmental site assessments, human health and ecological risk assessments, remedial action plans, risk management plans, soil management plans, and groundwater management plans.</p> <p>SCA Haz-6: Hazards Best Management Practices. <i>Prior to commencement of demolition, grading, or construction.</i> The project applicant and construction contractor shall ensure that Best Management Practices (BMPs) are implemented as part of construction to minimize the potential negative effects to groundwater and soils. These shall include the following:</p> <p>a. Follow manufacture's recommendations on use, storage, and disposal of chemical products used in construction;</p> <p>b. Avoid overtopping construction equipment fuel gas tanks;</p> <p>c. During routine maintenance of construction equipment, properly contain and remove grease and oils;</p> <p>d. Properly dispose of discarded containers of fuels and other chemicals.</p> <p>e. Ensure that construction would not have a significant impact on the environment or pose a substantial health risk to construction workers and the occupants of the proposed development. Soil sampling and chemical analyses of samples shall be performed to determine the extent of potential contamination beneath all UST's, elevator shafts, clarifiers, and subsurface hydraulic lifts when on-site demolition, or construction activities would potentially affect a particular development or building.</p> <p>f. If soil, groundwater or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums or other hazardous materials or wastes are encountered), the applicant shall cease work in the vicinity of the suspect material, the area shall be secured as necessary, and the applicant shall take all appropriate measures to protect human health and the environment. Appropriate measures shall include notification of regulatory agency(ies) and implementation of the actions described in the City's Standard Conditions of Approval, as necessary, to identify the nature and extent of contamination. Work shall not resume in the area(s) affected until the measures have been implemented under the oversight of the City or regulatory agency, as appropriate.</p>	

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	<p>SCA Haz-7: Lead-Based Paint Remediation. <i>Prior to issuance of any demolition, grading or building permit.</i> If lead-based paint is present, the project applicant shall submit specifications to the Fire Prevention Bureau, Hazardous Materials Unit signed by a certified Lead Supervisor, Project Monitor, or Project Designer for the stabilization and/or removal of the identified lead paint in accordance with all applicable laws and regulations, including but not necessarily limited to: Cal/OSHA's Construction Lead Standard, 8 CCR1532.1 and DHS regulation 17 CCR Sections 35001 through 36100, as may be amended.</p> <p>SCA Haz-8: Health and Safety Plan per Assessment. <i>Prior to issuance of any demolition, grading or building permit.</i> If the required lead-based paint/coatings, asbestos, or PCB assessment finds presence of such materials, the project applicant shall create and implement a health and safety plan to protect workers from risks associated with hazardous materials during demolition, renovation of affected structures, and transport and disposal.</p> <p>SCA Haz-9: Best Management Practices for Soil and Groundwater Hazards. <i>Ongoing throughout demolition, grading, and construction activities.</i> The project applicant shall implement all of the following Best Management Practices (BMPs) regarding potential soil and groundwater hazards.</p> <ol style="list-style-type: none"> Soil generated by construction activities shall be stockpiled onsite in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Specific sampling and handling and transport procedures for reuse or disposal shall be in accordance with applicable local, state and federal agencies laws, in particular, the Regional Water Quality Control Board (RWQCB) and/or the Alameda County Department of Environmental Health (ACDEH) and policies of the City of Oakland. Groundwater pumped from the subsurface shall be contained onsite in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies of the City of Oakland, the RWQCB and/or the ACDEH. Engineering controls shall be utilized, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building (pursuant to the Standard Condition of Approval regarding Radon or Vapor Intrusion from Soil and Groundwater Sources Prior to issuance of any demolition, grading, or building permit, the applicant shall submit for review and approval by the City of Oakland, written verification that the appropriate federal, state or county oversight authorities, including but not limited to the RWQCB and/or the ACDEH, have granted all required clearances and confirmed that the all applicable standards, regulations and conditions for all previous contamination at the site. The applicant also shall provide evidence from the City's Fire Department, Office of Emergency Services, indicating compliance with the Standard Condition of Approval requiring a Site Review by the Fire Services Division pursuant to City Ordinance No. 12323, and compliance with the Standard Condition of Approval requiring a Phase I and/or Phase II Reports. 	

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Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
	SCA Haz-10: Radon or Vapor Intrusion from Soil or Groundwater Sources. <i>Ongoing.</i> The project applicant shall submit documentation to determine whether radon or vapor intrusion from the groundwater and soil is located on-site as part of the Phase I documents. The Phase I analysis shall be submitted to the Fire Prevention Bureau, Hazardous Materials Unit, for review and approval, along with a Phase II report if warranted by the Phase I report for the project site. The reports shall make recommendations for remedial action, if appropriate, and should be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer. Applicant shall implement the approved recommendations.	
Historic Resources		
Impact Hist-1: The Project would involve construction and demolition adjacent to two buildings identified as contributors to the 7 th Street/Harrison Square Residential Historic District that are proposed to remain. Construction effects could potentially damage, but would not materially impair these historic resources. (LTS , with Standard Conditions of Approval)	<p>SCA Hist-1: Construction Adjacent to Historic Structures. <i>Prior to issuance of a demolition, grading or building permit.</i> The project applicant shall retain a structural engineer or other appropriate professional to determine threshold levels of vibration and cracking that could damage the adjacent residential structures at 607 and 611 Harrison Street and design means and methods of construction that shall be utilized to not exceed the thresholds.</p> <p>To further implement Standard Condition of Approval Hist-1:</p> <ol style="list-style-type: none"> The applicant shall retain an historic preservation architect (who meets the Secretary of the Interior's Standards and Guidelines for Historic Preservation Professional Qualifications) and a structural engineer (Monitoring Team), who shall undertake an Existing Conditions Study (Study) of 617-621 Harrison Street. The purpose of the Study is to establish the baseline condition of the building(s) prior to construction of the Project, including but not limited to the location and extent of any visible cracks or spalls on the building(s), and condition of the roof. The Study shall include written descriptions and photographs of the building(s) and include, without limitation, those physical characteristics that justify their inclusion on or eligibility for the Local Register. The Study shall be reviewed and approved by the City of Oakland's CEDA Deputy Director and Building Official. Initial construction activities shall be monitored by the Monitoring Team and if vibrations are above threshold levels, appropriate measures shall be taken to reduce vibrations to below established levels. The Monitoring Team shall continue to regularly monitor the buildings during construction and report any changes to the existing conditions, including but not limited to, expansion of cracks, new spalls, or other exterior deterioration, including roof damage. If there are such changes, appropriate corrective measures shall be taken to reduce vibrations to below established levels, or other measures taken to prevent damage to the building(s). Written monitoring reports shall be submitted to the City's CEDA Deputy Director and Building Official on a periodic basis as determined by the Monitoring Team. The structural engineer shall consult with the historic preservation architect, especially if any problems with character defining features of a historic resource are discovered. If in the opinion of the structural engineer, in consultation with the historic preservation architect, substantial adverse impacts to historic 	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES FOR THE 325 7TH STREET PROJECT

Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
	<p>resources related to construction activities are found during construction, the Monitoring Team shall immediately inform, both orally and in writing, the project sponsor and/or the project sponsor's designated representative responsible for construction activities and the City Planning and Zoning Division. The project sponsor shall follow the Monitoring Team's recommendations for corrective measures, including halting construction activities in situations where further construction work would damage historic resources, or taking other measures to protect the building. The historic preservation officer shall establish the frequency of monitoring and reporting prior to the issuance of a demolition, grading, or building permit.</p> <p>d. The project sponsor shall respond to any claims of damage by inspecting the affected property promptly, but in no case more than five working days after the claim was filed and received by the project sponsor's designated representative. Any new cracks or other changes in the structures, including roof damage, shall be compared to pre-construction conditions and a determination shall be made as to whether the proposed project could have caused the damage. In the event that the project is demonstrated to have caused any damage, such damage shall be repaired to the pre-existing condition, provided the property owner approves of such.</p> <p>e. The historic preservation architect shall establish a training program for construction workers involved in the project that emphasizes the importance of protecting historic resources. The program shall include information on recognizing historic materials and directions on how to exercise care when working around and operating equipment near historic structures, including storage of materials away from historic buildings. It shall also include information on means to reduce vibrations from demolition and construction, and preventing other damage, and monitoring and reporting any potential problems that could affect the historic resources in the area. A provision for establishing this training program shall be included in the construction contract, and the contract provisions shall be reviewed and approved by the City of Oakland.</p>	
POTENTIAL EFFECTS DETERMINED IN THE DECEMBER 2007 INITIAL STUDY TO BE LESS THAN SIGNIFICANT WITH IMPLEMENTATION OF STANDARD CONDITIONS OF APPROVAL ¹		
Aesthetics		
Light and Glare: The development of the Project site as proposed would result in the creation of a new source of light or glare since these towers would replace existing structures at the site that generate relatively little light or	SCA Aesth-1: Lighting Plan .Prior to the issuance of an electrical or building permit. The proposed lighting fixtures shall be adequately shielded to a point below the light bulb and reflector and that prevent unnecessary glare onto adjacent properties. Plans shall be submitted to the Planning and Zoning Division and the Electrical Services Division of the Public Works Agency for review and approval. All lighting shall be architecturally integrated into the site.	LTS

¹ The Initial Study for this project was issued in December of 2007. Since that time, the City has updated and revised its list of *Conditions of Approval and Uniformly Applied Development Standards* in January of 2008 and September of 2008. As such, the following list of Standard Conditions of Approval tracks with the most currently applicable Standard Conditions of Approval and may includes updates, changes and additions to those Standard Conditions of Approval indicate din the previous December 2007 Initial Study.

TABLE 2-1: SUMMARY OF PROJECT IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES FOR THE 325 7TH STREET PROJECT

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glare. Exterior lighting, windows that would be illuminated at night or reflect sunlight during the day, and the use of building materials that may reflect sunlight during the day have the potential to create a new source of substantial light or glare.	Other standard conditions would also serve to reduce impacts to light and glare including: SCA Bio-5 Bird Collision Reduction	
Biological Resources		
<p>Tree Removal: There are two street trees that are proposed for removal to enable development. One is a liquid amber tree approximately 20 inches dbh along the Seventh Street frontage (which meets the definition of a protected tree due to its diameter) and the other is a <i>Lophostemon confertus</i> (formerly known as <i>Tristania conferta</i>, or Brisbane Box) approximately 8 inches dbh growing in a driveway along the Harrison Street frontage.</p>	<p>SCA Bio-1: Tree Removal Permit. <i>Prior to issuance of a demolition, grading, or building permit.</i> Prior to removal of any protected trees, per the Protected Tree Ordinance, located on the project site or in the public right-of-way adjacent to the project, the project applicant must secure a tree removal permit from the Tree Division of the Public Works Agency, and abide by the conditions of that permit.</p> <p>SCA Bio-2: Tree Replacement Plantings. <i>Prior to issuance of a final inspection of the building permit.</i> Replacement plantings shall be required for erosion control, groundwater replenishment, visual screening and wildlife habitat, and in order to prevent excessive loss of shade, in accordance with the following criteria:</p> <ul style="list-style-type: none"> a) No tree replacement shall be required for the removal of nonnative species, for the removal of trees which is required for the benefit of remaining trees, or where insufficient planting area exists for a mature tree of the species being considered. b) Replacement tree species shall consist of <i>Sequoia sempervirens</i> (Coast Redwood), <i>Quercus agrifolia</i> (Coast Live Oak), <i>Arbutus menziesii</i> (Madrone), <i>Aesculus californica</i> (California Buckeye) or <i>Umbellularia californica</i> (California Bay Laurel) or other tree species acceptable to the Tree Services Division. c) Replacement trees shall be at least of twenty-four (24) inch box size, unless a smaller size is recommended by the arborist, except that three fifteen (15) gallon size trees may be substituted for each twenty-four (24) inch box size tree where appropriate. d) Minimum planting areas must be available on site as follows: <ul style="list-style-type: none"> i. For <i>Sequoia sempervirens</i>, three hundred fifteen square feet per tree; ii. For all other species listed in #2 above, seven hundred (700) square feet per tree. e) In the event that replacement trees are required but cannot be planted due to site constraints, an in lieu fee as determined by the master fee schedule of the city may be substituted for required replacement plantings, with all such revenues applied toward tree planting in city parks, streets and medians. f) Plantings shall be installed prior to the issuance of a final inspection of the building permit, subject to seasonal constraints, and shall be maintained by the project applicant until established. 	LTS

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Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
	<p>The Tree Reviewer of the Tree Division of the Public Works Agency may require a landscape plan showing the replacement planting and the method of irrigation. Any replacement planting which fails to become established within one year of planting shall be replanted at the project applicant's expense.</p> <p>SCA Bio-3: Tree Protection During Construction. <i>Prior to issuance of a demolition, grading, or building permit.</i> Adequate protection shall be provided during the construction period for any trees which are to remain standing, including the following, plus any recommendations of an arborist:</p> <ul style="list-style-type: none"> a) Before the start of any clearing, excavation, construction or other work on the site, every protected tree deemed to be potentially endangered by said site work shall be securely fenced off at a distance from the base of the tree to be determined by the City Tree Reviewer. Such fences shall remain in place for duration of all such work. All trees to be removed shall be clearly marked. A scheme shall be established for the removal and disposal of logs, brush, earth and other debris which will avoid injury to any protected tree. b) Where proposed development or other site work is to encroach upon the protected perimeter of any protected tree, special measures shall be incorporated to allow the roots to breathe and obtain water and nutrients. Any excavation, cutting, filing, or compaction of the existing ground surface within the protected perimeter shall be minimized. No change in existing ground level shall occur within a distance to be determined by the City Tree Reviewer from the base of any protected tree at any time. No burning or use of equipment with an open flame shall occur near or within the protected perimeter of any protected tree. c) No storage or dumping of oil, gas, chemicals, or other substances that may be harmful to trees shall occur within the distance to be determined by the Tree Reviewer from the base of any protected trees, or any other location on the site from which such substances might enter the protected perimeter. No heavy construction equipment or construction materials shall be operated or stored within a distance from the base of any protected trees to be determined by the tree reviewer. Wires, ropes, or other devices shall not be attached to any protected tree, except as needed for support of the tree. No sign, other than a tag showing the botanical classification, shall be attached to any protected tree. d) Periodically during construction, the leaves of protected trees shall be thoroughly sprayed with water to prevent buildup of dust and other pollution that would inhibit leaf transpiration. e) If any damage to a protected tree should occur during or as a result of work on the site, the project applicant shall immediately notify the Public Works Agency of such damage. If, in the professional opinion of the Tree Reviewer, such tree cannot be preserved in a healthy state, the Tree Reviewer shall require replacement of any tree removed with another tree or trees on the same site deemed adequate by the Tree Reviewer to compensate for the loss of the tree that is removed. f) All debris created as a result of any tree removal work shall be removed by the project applicant 	

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	<p>from the property within two weeks of debris creation, and such debris shall be properly disposed of by the project applicant in accordance with all applicable laws, ordinances, and regulations.</p> <p>SCA Bio-4: Tree Removal During Breeding Season. <i>Prior to issuance of a tree removal permit.</i> To the extent feasible, removal of any tree and/or other vegetation suitable for nesting of raptors shall not occur during the breeding season of March 15 and August 15. If tree removal must occur during the breeding season, all sites shall be surveyed by a qualified biologist to verify the presence or absence of nesting raptors or other birds. Pre-removal surveys shall be conducted within 15 days prior to start of work from March 15 through May 31, and within 30 days prior to the start of work from June 1 through August 15. The pre-removal surveys shall be submitted to the Planning and Zoning Division and the Tree Services Division of the Public Works Agency. If the survey indicates the potential presences of nesting raptors or other birds, the biologist shall determine an appropriately sized buffer around the nest in which no work will be allowed until the young have successfully fledged. The size of the nest buffer will be determined by the biologist in consultation with the CDFG, and will be based to a large extent on the nesting species and its sensitivity to disturbance. In general, buffer sizes of 200 feet for raptors and 50 feet for other birds should suffice to prevent disturbance to birds nesting in the urban environment, but these buffers may be increased or decreased, as appropriate, depending on the bird species and the level of disturbance anticipated near the nest.</p>	
<p>Bird Collisions: Project construction and operations have the potential to affect migratory and breeding birds, and wildlife, corridors, and nursery sites, through building collisions, increases in night lighting, increases in noise pollution due to Project construction, shading of existing habitat, and vegetation removal.</p>	<p>SCA BIO-5: Bird Collision Reduction. These development standards apply to ALL new construction, including telecommunication towers, which include large uninterrupted expanses of glass that account for more than 40 percent of any one side of the building's exterior AND at least one of the following:</p> <ul style="list-style-type: none"> a) The project is located immediately adjacent to a substantial water body (i.e., Oakland Estuary, San Francisco Bay, Lake Merritt or other substantial lake, reservoir, or wetland; OR b) The project is located immediately adjacent to a substantial recreation area or park (i.e., Region-Serving Park, Resource Conservation Areas, Community Parks, Neighborhood Parks, and Linear Parks and Special Use Parks over 1 acre in size), which contain substantial vegetation; OR c) The project includes a substantial vegetated or greenroof (roofs with growing medium and plants taking the place of asphalt, tile, gravel, or shingles, but excluding container gardens): <p><i>Concurrent with submittal of planning applications or a building permit, whichever occurs first, and ongoing.</i> The Project applicant or his or her successor shall submit plans to the Planning and Zoning Division, for review and approval, indicating how they intend to reduce potential bird collisions to the maximum feasible extent. The applicant shall implement the approved plan, including all mandatory measures, as well as applicable and specific project Best Management Practice (BMP) strategies to reduce bird strike impacts to the maximum feasible extent.</p> <p>Mandatory measures include all of the following:</p> <ul style="list-style-type: none"> 1. Comply with federal aviation safety regulations for large buildings by installing minimum 	

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	<p>intensity white strobe lighting with three second flash instead of blinking red or rotating lights.</p> <ol style="list-style-type: none"> Minimize the number of and co-locate rooftop-antennas and other rooftop structures. Monopole structures or antennas shall not include guy wires. Avoid the use of mirrors in landscape design. Avoid placement of bird-friendly attractants (i.e. landscaped areas, vegetated roofs, water features) near glass. <p>Additional BMP strategies to consider include the following:</p> <ol style="list-style-type: none"> Make clear or reflective glass visible to birds using visual noise techniques. Examples include: <ol style="list-style-type: none"> Use of opaque or transparent glass in window panes instead of reflective glass. Uniformly cover the outside clear glass surface with patterns (e.g., dots, decals, images, abstract patterns). Patterns must be separated by a minimum 10 centimeters (cm). Apply striping on glass surface. If the striping is less than 2 cm wide it must be applied vertically at a maximum of 10 cm apart (or 1 cm wide strips at 5 cm distance) Install paned glass with fenestration patterns with vertical and horizontal mullions of 10 cm or less. Place decorative grilles or louvers with spacing of 10 cm or less. Apply one-way transparent film laminates to outside glass surface to make the window appear opaque on the outside. Install internal screens through non-reflective glass (as close to the glass as possible) for birds to perceive windows as solid objects. Install windows which have the screen on the outside of the glass. Use UV-reflective glass. Most birds can see ultraviolet light, which is invisible to humans. If it is not possible to apply glass treatments to the entire building, the treatment should be applied to windows at the top of the surrounding tree canopy or the anticipated height of the surrounding vegetation at maturity. Mute reflections in glass. Examples include: <ol style="list-style-type: none"> Angle glass panes toward ground or sky so that the reflection is not in a direct line-of-sight (minimum angle of 20 degrees with optimum angle of 40 degrees). Awnings, overhangs, and sunshades provide birds a visual indication of a barrier and may reduce image reflections on glass, but do not entirely eliminate reflections. 	

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	<p>12. Reduce Light Pollution. Examples include:</p> <ul style="list-style-type: none"> a. Turn off all unnecessary interior lights from 11 p.m. to sunrise. b. Install motion-sensitive lighting in lobbies, work stations, walkways, and corridors, or any area visible from the exterior and retrofitting operation systems that automatically turn lights off during after-work hours. <p>13. Reduce perimeter lighting whenever possible.</p> <p>14. Institute a building operation and management manual that promotes bird safety. Example text in the manual includes:</p> <ul style="list-style-type: none"> a. Donation of discovered dead bird specimens to authorized bird conservation organization or museums to aid in species identification and to benefit scientific study, as per all federal, state and local laws. b. Production of educational materials on bird-safe practices for the building occupants c. Asking employees to turn off task lighting at their work stations and draw office blinds or curtains at end of work day. d. Schedule nightly maintenance during the day or to conclude before 11 p.m., if possible. 	
Cultural Resources		
<p>Potentially Unknown Resources: No archaeological resources, paleontological resources or human remains are known to exist within the Project area. However, the possibility of discovery of buried resources during site preparation and construction activities exists.</p>	<p>SCA Cultrl-1: Archaeological Resources. <i>Ongoing throughout demolition, grading, and/or construction.</i> Pursuant to CEQA Guidelines section 15064.5 (f), “provisions for historical or unique archaeological resources accidentally discovered during construction” should be instituted. Therefore, in the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 50 feet of the resources shall be halted and the project applicant and/or lead agency shall consult with a qualified archaeologist or paleontologist to assess the significance of the find. If any find is determined to be significant, representatives of the project proponent and/or lead agency and the qualified archaeologist would meet to determine the appropriate avoidance measures or other appropriate measure, with the ultimate determination to be made by the City of Oakland. All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and a report prepared by the qualified archaeologist according to current professional standards.</p> <p>a) In considering any suggested measure proposed by the consulting archaeologist in order to mitigate impacts to historical resources or unique archaeological resources, the project applicant shall determine whether avoidance is necessary and feasible in light of factors such as the nature of the find, project design, costs, and other considerations. If avoidance is unnecessary or infeasible, other appropriate measures (e.g., data recovery) shall be instituted. Work may proceed on other parts of the project site while measure for historical resources or unique archaeological</p>	LTS

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	<p>resources is carried out.</p> <p>b) Should an archaeological artifact or feature be discovered on-site during project construction, all activities within a 50-foot radius of the find would be halted until the findings can be fully investigated by a qualified archaeologist to evaluate the find and assess the significance of the find according to the CEQA definition of a historical or unique archaeological resource. If the deposit is determined to be significant, the project applicant and the qualified archaeologist shall meet to determine the appropriate avoidance measures or other appropriate measure, subject to approval by the City of Oakland, which shall assure implementation of appropriate measure measures recommended by the archaeologist. Should archaeologically-significant materials be recovered, the qualified archaeologist shall recommend appropriate analysis and treatment, and shall prepare a report on the findings for submittal to the Northwest Information Center.</p> <p>SCA Cultrl-2: Human Remains. <i>Ongoing throughout demolition, grading, and/or construction.</i> In the event that human skeletal remains are uncovered at the project site during construction or ground-breaking activities, all work shall immediately halt and the Alameda County Coroner shall be contacted to evaluate the remains, and following the procedures and protocols pursuant to Section 15064.5 (e)(1) of the CEQA Guidelines. If the County Coroner determines that the remains are Native American, the City shall contact the California Native American Heritage Commission (NAHC), pursuant to subdivision (c) of Section 7050.5 of the Health and Safety Code, and all excavation and site preparation activities shall cease within a 50-foot radius of the find until appropriate arrangements are made. If the agencies determine that avoidance is not feasible, then an alternative plan shall be prepared with specific steps and timeframe required to resume construction activities. Monitoring, data recovery, determination of significance and avoidance measures (if applicable) shall be completed expeditiously.</p> <p>SCA Cultrl-3: Paleontological Resources. <i>Ongoing throughout demolition, grading, and/or construction.</i> In the event of an unanticipated discovery of a paleontological resource during construction, excavations within 50 feet of the find shall be temporarily halted or diverted until the discovery is examined by a qualified paleontologist (per Society of Vertebrate Paleontology standards (SVP 1995,1996)). The qualified paleontologist shall document the discovery as needed, evaluate the potential resource, and assess the significance of the find. The paleontologist shall notify the appropriate agencies to determine procedures that would be followed before construction is allowed to resume at the location of the find. If the City determines that avoidance is not feasible, the paleontologist shall prepare an excavation plan for mitigating the effect of the project on the qualities that make the resource important, and such plan shall be implemented. The plan shall be submitted to the City for review and approval.</p>	
Geology and Soils		
Seismicity: The Project site is located in a seismically active region. The closest fault (the Hayward Fault), is approximately four miles	SCA Geo-1: Soils Report. <i>Required as part of the submittal of a Tentative Tract or Tentative Parcel Map.</i> A preliminary soils report for each construction site within the project area shall be required as part if this project and submitted for review and approval by the Building Services Division. The soils	LTS

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from the Project site. The Project site is not located within an Alquist-Priolo Special Studies zone. However, according to the Association of Bay Area Government's (ABAG) online interactive hazards mapping website, the Project site would be subject to very strong seismic ground shaking, and according to the Phase I Environmental Site Assessment prepared by Schutze & Associates, Inc., the site has a high liquefaction hazard potential. Additionally, expansive soils may be present at the Project site.	<p>reports shall be based, at least in part, on information obtained from on-site testing. Specifically the minimum contents of the report should include:</p> <ul style="list-style-type: none"> a) Logs of borings and/or profiles of test pits and trenches: <ul style="list-style-type: none"> - The minimum number of borings acceptable, when not used in combination with test pits or trenches, shall be two (2), when in the opinion of the Soils Engineer such borings shall be sufficient to establish a soils profile suitable for the design of all the footings, foundations, and retaining structures. - The depth of each boring shall be sufficient to provide adequate design criteria for all proposed structures. - All boring logs shall be included in the soils report. b) Test pits and trenches <ul style="list-style-type: none"> - Test pits and trenches shall be of sufficient length and depth to establish a suitable soils profile for the design of all proposed structures. - Soils profiles of all test pits and trenches shall be included in the soils report. c) A plat shall be included which shows the relationship of all the borings, test pits, and trenches to the exterior boundary of the site. The plat shall also show the location of all proposed site improvements. All proposed improvements shall be labeled. d) Copies of all data generated by the field and/or laboratory testing to determine allowable soil bearing pressures, sheer strength, active and passive pressures, maximum allowable slopes where applicable and any other information which may be required for the proper design of foundations, retaining walls, and other structures to be erected subsequent to or concurrent with work done under the grading permit. e) Soils Report. A written report shall be submitted which shall include, but is not limited to, the following: <ul style="list-style-type: none"> - Site description; - Local and site geology; - Review of previous field and laboratory investigations for the site; - Review of information on or in the vicinity of the site on file at the Information Counter, City of Oakland, Office of Planning and Building; - Site stability shall be addressed with particular attention to existing conditions and proposed corrective attention to existing conditions and proposed corrective actions at locations where land stability problems exist; 	

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	<ul style="list-style-type: none"> - Conclusions and recommendations for foundations and retaining structures, resistance to lateral loading, slopes, and specifications, for fills, and pavement design as required; - Conclusions and recommendations for temporary and permanent erosion control and drainage. If not provided in a separate report they shall be appended to the required soils report; - All other items which a Soils Engineer deems necessary; - The signature and registration number of the Civil Engineer preparing the report. <p>f) The Director of Planning and Building may reject a report that she/he believes is not sufficient. The Director of Planning and Building may refuse to accept a soils report if the certification date of the responsible soils engineer on said document is more than three years old. In this instance, the Director may require that the old soils report be recertified, that an addendum to the soils report be submitted, or that a new soils report be provided.</p> <p>SCA Geo-2: Geotechnical Report. <i>Required as part of the submittal of a tentative Tract Map or tentative Parcel Map</i></p> <p>a. A site-specific, design level, Landslide or Liquefaction geotechnical investigation for each construction site within the project area shall be required as part of this project and submitted for review and approval by the Building Services Division. Specifically:</p> <ul style="list-style-type: none"> i. Each investigation shall include an analysis of expected ground motions at the site from identified faults. The analyses shall be in accordance with applicable City ordinances and policies, and consistent with the most recent version of the California Building Code, which requires structural design that can accommodate ground accelerations expected from identified faults. ii. The investigations shall determine final design parameters for the walls, foundations, foundation slabs, surrounding related improvements, and infrastructure (utilities, roadways, parking lots, and sidewalks). iii. The investigations shall be reviewed and approved by a registered geotechnical engineer. All recommendations by the project engineer, geotechnical engineer, shall be included in the final design, as approved by the City of Oakland. iv. The geotechnical report shall include a map prepared by a land surveyor or civil engineer that shows all field work and location of the "No Build" zone. The map shall include a statement that the locations and limitations of the geologic features are accurate representations of said features as they exist on the ground, were placed on this map by the surveyor, the civil engineer or under their supervision, and are accurate to the best of their knowledge. v. Recommendations that are applicable to foundation design, earthwork, and site preparation that were prepared prior to or during the project's design phase, shall be incorporated in the project. 	

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	<p>vi. Final seismic considerations for the site shall be submitted to and approved by the City of Oakland Building Services Division prior to commencement of the project.</p> <p>vii. A peer review is required for the Geotechnical Report. Personnel reviewing the geologic report shall approve the report, reject it, or withhold approval pending the submission by the applicant or subdivider of further geologic and engineering studies to more adequately define active fault traces.</p> <p>b. Tentative Tract or Parcel Map approvals shall require, but not be limited to, approval of the Geotechnical Report.</p>	
<p>Erosion: Although the Project site has been previously developed or paved, and there is little or no visible topsoil remaining, site preparation and construction activity associated with the proposed development could result in soil erosion or the loss of any remaining topsoil at the site.</p>	<p>SCA Geo-3: Erosion and Sedimentation Control Plan. <i>Prior to any grading activities.</i> The project applicant shall obtain a grading permit if required by the Oakland Grading Regulations pursuant to Section 15.04.780 of the Oakland Municipal Code. The grading permit application shall include an erosion and sedimentation control plan for review and approval by the Building Services Division. The erosion and sedimentation control plan shall include all necessary measures to be taken to prevent excessive stormwater runoff or carrying by stormwater runoff of solid materials on to lands of adjacent property owners, public streets, or to creeks as a result of conditions created by grading operations. The plan shall include, but not be limited to, such measures as short-term erosion control planting, waterproof slope covering, check dams, interceptor ditches, benches, storm drains, dissipation structures, diversion dikes, retarding berms and barriers, devices to trap, store and filter out sediment, and stormwater retention basins. Off-site work by the project applicant may be necessary. The project applicant shall obtain permission or easements necessary for off-site work. There shall be a clear notation that the plan is subject to changes as changing conditions occur. Calculations of anticipated stormwater runoff and sediment volumes shall be included, if required by the Director of Development or designee. The plan shall specify that, after construction is complete, the project applicant shall ensure that the storm drain system shall be inspected and that the project applicant shall clear the system of any debris or sediment.</p> <p><i>Ongoing throughout grading and construction activities</i> The project applicant shall implement the approved erosion and sedimentation plan. No grading shall occur during the wet weather season (October 15 through April 15) unless specifically authorized in writing by the Building Services Division.</p>	LTS
Hydrology and Water Quality		
<p>Construction-Period Water Quality: Site preparation and construction activity associated with the proposed development could result in adverse stormwater quality effects.</p>	<p>SCA Hydro-1: Stormwater Pollution Prevention Plan (SWPPP). <i>Prior to and ongoing throughout demolition, grading, and/or construction activities.</i> The project applicant must obtain coverage under the General Construction Activity Storm Water Permit (General Construction Permit) issued by the State Water Resources Control Board (SWRCB). The project applicant must file a notice of intent (NOI) with the SWRCB. The project applicant will be required to prepare a stormwater pollution prevention plan (SWPPP) and submit the plan for review and approval by the Building Services Division. At a minimum, the SWPPP shall include a description of construction materials, practices,</p>	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES FOR THE 325 7TH STREET PROJECT

Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
	and equipment storage and maintenance; a list of pollutants likely to contact stormwater; site-specific erosion and sedimentation control practices; a list of provisions to eliminate or reduce discharge of materials to stormwater; Best Management Practices (BMPs), and an inspection and monitoring program. Prior to the issuance of any construction-related permits, the project applicant shall submit to the Building Services Division a copy of the SWPPP and evidence of submittal of the NOI to the SWRCB. Implementation of the SWPPP shall start with the commencement of construction and continue through the completion of the project. After construction is completed, the project applicant shall submit a notice of termination to the SWRCB.	
Operational Water Quality: Future residents of the Project could contribute pollutants into the stormwater runoff as a result of vehicular use, landscaping maintenance and other operational characteristics.	<p>SCA Hydro-2: Post-Construction Stormwater Management Plan. <i>Prior to issuance of building permit or other construction-related permit.</i> The applicant shall comply with the requirements of Provision C.3 of the National Pollutant Discharge Elimination System (NPDES) permit issued to the Alameda Countywide Clean Water Program. The applicant shall submit with the application for a building permit (or other construction-related permit) a completed Construction-Permit-Phase Stormwater Supplemental Form to the Building Services Division. The project drawings submitted for the building permit (or other construction-related permit) shall contain a stormwater management plan, for review and approval by the City, to manage stormwater run-off and to limit the discharge of pollutants in stormwater after construction of the project to the maximum extent practicable.</p> <p>The post-construction stormwater management plan shall include and identify the following:</p> <ul style="list-style-type: none"> a) All proposed impervious surface on the site; b) Anticipated directional flows of on-site stormwater runoff; and c) Site design measures to reduce the amount of impervious surface area and directly connected impervious surfaces; and d) Source control measures to limit the potential for stormwater pollution; e) Stormwater treatment measures to remove pollutants from stormwater runoff; and f) Hydromodification management measures so that post-project stormwater runoff does not exceed the flow and duration of pre-project runoff, if required under the NPDES permit. <p>The following additional information shall be submitted with the post-construction stormwater management plan:</p> <ul style="list-style-type: none"> a) Detailed hydraulic sizing calculations for each stormwater treatment measure proposed; and b) Pollutant removal information demonstrating that any proposed manufactured/mechanical (i.e. non-landscape-based) stormwater treatment measure, when not used in combination with a landscape-based treatment measure, is capable of removing the range of pollutants typically removed by landscape-based treatment measures and/or the range of pollutants expected to be generated by the project. 	LTS

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	<p>c) All proposed stormwater treatment measures shall incorporate appropriate planting materials for stormwater treatment (for landscape-based treatment measures) and shall be designed with considerations for vector/mosquito control. Proposed planting materials for all proposed landscape-based stormwater treatment measures shall be included on the landscape and irrigation plan for the project. The applicant is not required to include on-site stormwater treatment measures in the post-construction stormwater management plan if he or she secures approval from Planning and Zoning of a proposal that demonstrates compliance with the requirements of the City's Alternative Compliance Program.</p> <p><i>Prior to final permit inspection.</i> The applicant shall implement the approved stormwater management plan.</p> <p>SCA Hyrdo-3: Maintenance Agreement for Stormwater Treatment Measures. <i>Prior to final zoning inspection.</i> For projects incorporating stormwater treatment measures, the applicant shall enter into the "Standard City of Oakland Stormwater Treatment Measures Maintenance Agreement," in accordance with Provision C.3.e of the NPDES permit, which provides, in part, for the following:</p> <p>a) The applicant accepting responsibility for the adequate installation/construction, operation, maintenance, inspection, and reporting of any on-site stormwater treatment measures being incorporated into the project until the responsibility is legally transferred to another entity; and</p> <p>b) Legal access to the on-site stormwater treatment measures for representatives of the City, the local vector control district, and staff of the Regional Water Quality Control Board, San Francisco Region, for the purpose of verifying the implementation, operation, and maintenance of the on-site stormwater treatment measures and to take corrective action if necessary. The agreement shall be recorded at the County Recorder's Office at the applicant's expense.</p>	
Noise		
<p>Interior Noise: The Project site is within approximately 60 feet of the edge of the elevated portion of I-880 freeway. This location results in a noise environment that exceeds the City's acceptable noise level standard for multi-family residential land uses. This is a severe noise environment which could expose those persons living in the nearest adjacent units to noise level in excess of standards established in the Oakland General Plan or applicable state standards</p>	<p>SCA Noise-1: Interior Noise. <i>Prior to issuance of a building permit and Certificate of Occupancy.</i> If necessary to comply with the interior noise requirements of the City of Oakland's General Plan Noise Element and achieve an acceptable interior noise level, noise reduction in the form of sound-rated assemblies (i.e., windows, exterior doors, and walls), and/or other appropriate features/measures, shall be incorporated into project building design, based upon recommendations of a qualified acoustical engineer and submitted to the Building Services Division for review and approval prior to issuance of building permit. Final recommendations for sound-rated assemblies, and/or other appropriate features/measures, will depend on the specific building designs and layout of buildings on the site and shall be determined during the design phases.</p> <p>Written confirmation by the acoustical consultant, HVAC or HERS specialist, shall be submitted for City review and approval, prior to Certificate of Occupancy (or equivalent) that:</p> <p>a) Quality control was exercised during construction to ensure all air-gaps and penetrations of the building shell are controlled and sealed; and</p>	LTS

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	<p>b) Demonstrates compliance with interior noise standards based upon performance testing of a sample unit.</p> <p>c) Inclusion of a Statement of Disclosure Notice in the CC&R's on the lease or title to all new tenants or owners of the units acknowledging the noise generating activity. Potential features/measures to reduce interior noise could include, but are not limited to, the following:</p> <p>Installation of an alternative form of ventilation in all units identified in the acoustical analysis as not being able to meet the interior noise requirements due to adjacency to a noise generating activity, filtration of ambient make-up air in each unit and analysis of ventilation noise if ventilation is included in the recommendations by the acoustical analysis.</p>	
Operational Noise: Although there would be some noise generated through routine activity in the commercial space and residential units proposed at the Project site, this development would be unlikely to generate noise in violation of the City's Noise Ordinance.	SCA Noise-2: Operational Noise-General. Ongoing. Noise levels from the activity, property, or any mechanical equipment on site shall comply with the performance standards of Section 17.120 of the Oakland Planning Code and Section 8.18 of the Oakland Municipal Code. If noise levels exceed these standards, the activity causing the noise shall be abated until appropriate noise reduction measures have been installed and compliance verified by the Planning and Zoning Division and Building Services.	LTS
Construction Noise: Construction activity at the Project site would be expected to generate noise which could affect those living and working nearby.	<p>SCA Noise-3: Days/Hours of Construction Operation. <i>Ongoing throughout demolition, grading, and/or construction</i> The project applicant shall require construction contractors to limit standard construction activities as follows:</p> <p>a) Construction activities are limited to between 7:00 AM and 7:00 PM Monday through Friday, except that pile driving and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m. Monday through Friday.</p> <p>b) Any construction activity proposed to occur outside of the standard hours of 7:00 am to 7:00 pm Monday through Friday for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened and such construction activities shall only be allowed with the prior written authorization of the Building Services Division.</p> <p>c) Construction activity shall not occur on Saturdays, with the following possible exceptions:</p> <p>i. Prior to the building being enclosed, requests for Saturday construction for special activities (such as concrete pouring which may require more continuous amounts of time), shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened. Such construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division.</p>	LTS

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	<p>ii. After the building is enclosed, requests for Saturday construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division, and only then within the interior of the building with the doors and windows closed.</p> <p>d) No extreme noise generating activities (greater than 90 dBA) shall be allowed on Saturdays, with no exceptions.</p> <p>e) No construction activity shall take place on Sundays or Federal holidays.</p> <p>f) Construction activities include but are not limited to: truck idling, moving equipment (including trucks, elevators, etc) or materials, deliveries, and construction meetings held on-site in a non-enclosed area.</p> <p>g) Applicant shall use temporary power poles instead of generators where feasible.</p> <p>SCA Noise -4: Noise Control. <i>Ongoing throughout demolition, grading, and/or construction.</i> To reduce noise impacts due to construction, the project applicant shall require construction contractors to implement a site-specific noise reduction program, subject to the Planning and Zoning Division and the Building Services Division review and approval, which includes the following measures:</p> <p>a) Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible).</p> <p>b) Except as provided herein, Impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, if such jackets are commercially available and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.</p> <p>c) Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or use other measures as determined by the City to provide equivalent noise reduction.</p> <p>d) The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determines an extension is necessary and all available noise reduction controls are implemented.</p> <p>SCA Noise-5: Noise Complaint Procedures. <i>Ongoing throughout demolition, grading, and/or construction.</i> Prior to the issuance of each building permit, along with the submission of construction documents, the project applicant shall submit to the Building Services Division a list of measures to</p>	

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Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
	<p>respond to and track complaints pertaining to construction noise. These measures shall include:</p> <ul style="list-style-type: none"> a) A procedure and phone numbers for notifying the Building Services Division staff and Oakland Police Department; (during regular construction hours and off-hours); b) A sign posted on-site pertaining with permitted construction days and hours and complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the City and construction contractor's telephone numbers (during regular construction hours and off-hours); c) The designation of an on-site construction complaint and enforcement manager for the project; d) Notification of neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of extreme noise generating activities about the estimated duration of the activity; and e) A preconstruction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed. <p>SCA Noise-6: Pile Driving and Other Extreme Noise Generators. <i>Ongoing throughout demolition, grading, and/or construction.</i> To further reduce potential pier drilling, pile driving and/or other extreme noise generating construction impacts greater than 90dBA, a set of site-specific noise attenuation measures shall be completed under the supervision of a qualified acoustical consultant. Prior to commencing construction, a plan for such measures shall be submitted for review and approval by the Planning and Zoning Division and the Building Services Division to ensure that maximum feasible noise attenuation will be achieved. This plan shall be based on the final design of the project. A third-party peer review, paid for by the project applicant, may be required to assist the City in evaluating the feasibility and effectiveness of the noise reduction plan submitted by the project applicant. The criterion for approving the plan shall be a determination that maximum feasible noise attenuation will be achieved. A special inspection deposit is required to ensure compliance with the noise reduction plan. The amount of the deposit shall be determined by the Building Official, and the deposit shall be submitted by the project applicant concurrent with submittal of the noise reduction plan. The noise reduction plan shall include, but not be limited to, an evaluation of implementing the following measures. These attenuation measures shall include as many of the following control strategies as applicable to the site and construction activity:</p> <ul style="list-style-type: none"> a) Erect temporary plywood noise barriers around the construction site, particularly along on sites adjacent to residential buildings; b) Implement "quiet" pile driving technology (such as pre-drilling of piles, the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions; c) Utilize noise control blankets on the building structure as the building is erected to reduce noise 	

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	<p>emission from the site;</p> <p>d) Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets for example and implement such measure if such measures are feasible and would noticeably reduce noise impacts; and</p> <p>e) Monitor the effectiveness of noise attenuation measures by taking noise measurements.</p>	
Public Services		
Service Demand: The Project site is located in an urban area where public services are already provided. The Community Services Analysis prepared for the Land Use and Transportation Element of the General Plan stated that future in-fill development through the General Plan horizon year of 2015 would not be likely to impose a burden on existing public services.	In accordance with standard City practices, the proposed Project would be designed in compliance with Oakland's Building Code, and the Fire Department would review the Project plans at the time of building permit issuance to ensure adequate fire and life safety measures are designed into the Project, and that it is in compliance with all applicable state and city fire safety requirements. In particular, as a residential high-rise structure, the Project would be required to be of fire-resistive construction and fully sprinklered, and to have a firefighter's control room to allow responding crews to monitor building alarms and override elevator controls.	LTS
Waste Generation: Although development of the Project site as proposed would result in an increased demand for solid waste collection and disposal relative to that associated with current uses at the site, the Community Services Analysis prepared for the Land use and Transportation Element of the General Plan stated that future in-fill development through the General Plan horizon year of 2015 would not be likely to impose a burden on existing utilities and service systems	<p>SCA Util-1: Waste Reduction and Recycling. The project applicant will submit a Construction & Demolition Waste Reduction and Recycling Plan (WRRP) and an Operational Diversion Plan (ODP) for review and approval by the Public Works Agency.</p> <p>a) <i>Prior to issuance of demolition, grading, or building permit.</i> Chapter 15.34 of the Oakland Municipal Code outlines requirements for reducing waste and optimizing construction and demolition (C&D) recycling. Affected projects include all new construction, renovations/alterations/modifications with construction values of \$50,000 or more (except R-3), and all demolition (including soft demo). The WRRP must specify the methods by which the development will divert C&D debris waste generated by the proposed project from landfill disposal in accordance with current City requirements. Current standards, FAQs, and forms are available at www.oaklandpw.com/Page39.aspx or in the Green Building Resource Center. After approval of the plan, the project applicant shall implement the plan.</p> <p>b) <i>Ongoing.</i> The ODP will identify how the project complies with the Recycling Space Allocation Ordinance, (Chapter 17.118 of the Oakland Municipal Code), including capacity calculations, and specify the methods by which the development will meet the current diversion of solid waste generated by operation of the proposed project from landfill disposal in accordance with current City requirements. The proposed program shall be implemented and maintained for the duration of the proposed activity or facility. Changes to the plan may be re-submitted to the Environmental Services Division of the Public Works Agency for review and approval. Any incentive programs shall remain fully operational as long as residents and businesses exist at the project site.</p>	LTS

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Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
LESS THAN SIGNIFICANT EFFECTS AS ANALYZED IN THIS DRAFT EIR		
Aesthetics		
Impact Aesth-1: The Project would have a less than significant impact on shading solar energy collection features in the vicinity, given the apparent absence of such features. (LTS)	None necessary	LTS
Impact Aesth-2: The shadows created by the proposed Project would have a less than significant effect in terms of impairment of the use of the Chinese Garden Park. (LTS)	None necessary	LTS
Impact Aesth-3: Given the limited duration of the Project's shadows, the Project would not in any material way alter the historic significance of historic resources, including the Asian Resource Center, the Chinese Garden Park or the 7 th Street/ Harrison Square Residential Historic District, and this would be regarded as a less than significant impact. (LTS)	None necessary	LTS
Impact Aesth-4: Wind conditions in pedestrian areas on and around the proposed development would not be expected to exceed the City of Oakland significance criterion for wind creation, and the Project-related impact on wind in the immediate vicinity of the Project site would be less than significant. (LTS)	<p>None necessary</p> <p>Although wind related impacts are less than significant under CEQA thresholds, the following additional measure is recommended to address windy conditions at the Project's upper courtyards:</p> <p>Recommended Condition Aesth-4: Wind Reduction Plan. As noted above, lower wind speeds could be desired at the Level 4 and 18 courtyards around seating areas. The project applicant shall develop a wind reduction plan, to be included as part of the landscape plan, for further wind control. This plan shall be subject to review and approval by the City and the applicant shall implement the approved plan. The plan shall include features such as tree plantings, arbors, canopies, lattice fencing. In addition, a full height wind screen (from floor level to the underside of the canopy) is also recommended along the western edge of the pedestrian walkway. Vertical wind control measures considered shall face perpendicular to local wind flow for the dominant west winds to be most effective.</p>	LTS
Impact Aesth-5: Although visible from many vantage points, the Project's proposed height, massing and design would not constitute a demonstrable negative aesthetic effect, and the Project-related visual impacts would be less than	None necessary	LTS

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significant. (LTS)		
Cumulative Impact Aesth-6: The Project's contribution to overall cumulative increase in building height and massing would not constitute a demonstrably negative cumulative aesthetic effect, and the cumulative visual impact would be less than significant. (LTS)	None necessary	LTS
Cumulative Impact Aesth-7: The Project's contribution to increased shadows would not have an adverse cumulative effect on solar collection, beneficial uses of parks or shadowing of historic resources and the cumulative shadow impact would be less than significant. (LTS)	None necessary	LTS
Cumulative Impact Aesth-8: The Project's contribution to increased wind conditions would be less than significant. (LTS)	None necessary	LTS
Traffic and Circulation		
Impact Traf-2: The Project would not result in inadequate emergency access routes. (LTS)	None necessary	LTS
Impact Traf-3: Although the Project would increase both pedestrian activity and vehicular traffic in and around the Project area, the increase in vehicular traffic at the study intersections would not cause significant impacts on pedestrian movements, and additional pedestrian volumes generated by the proposed Project would continue to be accommodated by existing sidewalks and crosswalks. (LTS)	<p>None necessary</p> <p>Although not necessary to address a significant CEQA impact, the following conditions are recommended to improve pedestrian access and flow within the Project site and immediate vicinity:</p> <p>Recommended Condition Traf-3: Pedestrian Enhancements. The Project is anticipated to generate approximately 553 daily walking trips. It is likely that most of these walking trips would be toward the Lake Merritt or 12th Street BART, or toward Chinatown. In order to improve pedestrian flow, it is recommended that the following intersections be upgraded as follows:</p> <ol style="list-style-type: none"> Audible signals should be installed at the intersection of 7th Street/Broadway, both westbound and eastbound. Pedestrian countdown signals should be installed at the intersection of 7th Street/Harrison Street. Enhancement of pedestrian crosswalks and installation of ADA compliant ramps with domes should be conducted at the intersections of 7th Street/Webster Street, 7th Street/Harrison Street, and 8th Street/Harrison Street. 	LTS
Impact Traf-4: The proposed Project would not increase peak hour travel times along most	None necessary	LTS

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nearby transit corridors by more than a few seconds, and would have a minimal effect on transit travel times outside of the peak hours. Even on the most affected transit corridors, Project-related increases in travel time along key transit corridors would represent only a fraction of the increase in travel time caused by other existing and cumulative traffic. (LTS)		
Impact Traf-6: The proposed Project would not cause a significant impact on the Alameda County Congestion Management Program or the Metropolitan Transportation System roadways in the Project vicinity. (LTS)	None necessary	LTS
Air Quality		
Impact Air-2: During construction, the proposed Project would generate regional ozone precursor emissions and regional particulate matter emissions from construction equipment exhaust. However, Project-related construction emissions are not expected to generate emissions of criteria air pollutants that would exceed the June 2010 BAAQMD <i>CEQA Thresholds of Significance</i> . (LTS)	None needed. However, the Project would be required to comply with Standard Conditions of Approval Air-1 and Traf-2, which would further reduce this less than significant effect	LTS
Impact Air-3: Once complete and occupied, the proposed Project would generate emissions of criteria pollutants (ROG, NO _x and PM ₁₀) primarily as a result of increased motor vehicle traffic as well as area source emissions. However, Project-related traffic emissions, combined with anticipated area source emissions is not expected to generate emissions of criteria air pollutants that would exceed the June 2010 BAAQMD <i>CEQA Thresholds of Significance</i> . (LTS)	None needed However, the Project would be required to comply with Standard Conditions of Approval Traf-1: Parking and Transportation Demand Management, which would further reduce this less than significant effect	LTS
Impact Air-4: New vehicle trips associated with the proposed Project would add to carbon monoxide concentrations near streets that provide access to the Project site. The carbon monoxide emission levels associated with the Project's	None needed	LTS

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vehicle trips would not exceed June 2010 BAAQMD CEQA Thresholds of Significance. (LTS)		
<p>Impact Air-5: The exposure risk to future residents of the Project to substantial pollutant concentrations and toxic air contaminants would not exceed the thresholds of significance under BAAQMD criterion for cancer or acute health risks. It is unlikely that future residents of the Project site would be exposed to a health risk which would be substantially greater than the average in California. This would be a less than significant impact. (LTS)</p>	<p>None needed.</p> <p>However, the Project would be required to comply with the following City standard Conditions of Approval:</p> <p>SCA Air-2: Exposure to Air Pollution (Toxic Air Contaminants: Particulate Matter). <i>Prior to issuance of a demolition, grading, or building permit.</i></p> <p>Indoor Air Quality: In accordance with the recommendations of the California Air Resources Board (CARB) and the Bay Area Air Quality Management District, appropriate measures shall be incorporated into the project design in order to reduce the potential health risk due to exposure to diesel particulate matter to achieve an acceptable interior air quality level for sensitive receptors. The appropriate measures shall include one of the following methods:</p> <ol style="list-style-type: none"> 1. The project applicant shall retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with the CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to air pollutants prior to issuance of a demolition, grading, or building permit. The HRA shall be submitted to the Planning and Zoning Division for review and approval. The applicant shall implement the approved HRA recommendations, if any. If the HRA concludes that the air quality risks from nearby sources are at or below acceptable levels, then additional measures are not required. 2. The applicant shall implement all of the following features that have been found to reduce the air quality risk to sensitive receptors and shall be included in the project construction plans. These features shall be submitted to the Planning and Zoning Division and the Building Services Division for review and approval prior to the issuance of a demolition, grading, or building permit and shall be maintained on an ongoing basis during operation of the project. <ol style="list-style-type: none"> a. Redesign the site layout to locate sensitive receptors as far as possible from any freeways, major roadways, or other sources of air pollution (e.g., loading docks, parking lots). b. Do not locate sensitive receptors near distribution center's entry and exit points. c. Incorporate tiered plantings of trees (redwood, deodar cedar, live oak, and/or oleander) to the maximum extent feasible between the sources of pollution and the sensitive receptors. d. Install, operate and maintain in good working order a central heating and ventilation (HV) system or other air take system in the building, or in each individual residential unit, that meets or exceeds an efficiency standard of MERV 13. The HV system shall include the following features: Installation of a high efficiency filter and/or carbon filter to filter 	LTS

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	<p>particulates and other chemical matter from entering the building. Either HEPA filters or ASHRAE 85% supply filters shall be used.</p> <p>e. Retain a qualified HV consultant or HERS rater during the design phase of the project to locate the HV system based on exposure modeling from the pollutant sources.</p> <p>f. Install indoor air quality monitoring units in buildings.</p> <p>g. Project applicant shall maintain, repair and/or replace HV system on an ongoing and as needed basis or shall prepare an operation and maintenance manual for the HV system and the filter. The manual shall include the operating instructions and the maintenance and replacement schedule. This manual shall be included in the CC&Rs for residential projects and distributed to the building maintenance staff. In addition, the applicant shall prepare a separate homeowners manual. The manual shall contain the operating instructions and the maintenance and replacement schedule for the HV system and the filters.</p> <p><u>Exterior Air Quality:</u> To the maximum extent practicable, individual and common exterior open space, including playgrounds, patios, and decks, shall either be shielded from the source of air pollution by buildings or otherwise buffered to further reduce air pollution for project occupants.</p> <p>SCA Air-3: Exposure to Air Pollution (Toxic Air Contaminants: Gaseous Emissions). <i>Prior to issuance of a demolition, grading, or building permit.</i></p> <p><u>Indoor Air Quality:</u> In accordance with the recommendations of the California Air Resources Board (CARB) and the Bay Area Air Quality Management District, appropriate measures shall be incorporated into the project design in order to reduce the potential risk due to exposure to toxic air contaminants to achieve an acceptable interior air quality level for sensitive receptors. The project applicant shall retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with the CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to air pollutants prior to issuance of a demolition, grading, or building permit. The HRA shall be submitted to the Planning and Zoning Division for review and approval. The applicant shall implement the approved HRA recommendations, if any. If the HRA concludes that the air quality risks from nearby sources are at or below acceptable levels, then additional measures are not required.</p> <p><u>Exterior Air Quality:</u> To the maximum extent practicable, individual and common exterior open space, including playgrounds, patios, and decks, shall either be shielded from the source of air pollution by buildings or otherwise buffered to further reduce air pollution for project occupants.</p>	
Impact Air-6: The proposed Project would not result in increased emissions of criteria pollutants due to poor ventilation in the parking garage. (LTS)	None needed	LTS
Greenhouse Gas Emissions / Global Climate Change		

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Impact GHG-1: Construction and operation of the proposed Project would not result in a cumulatively considerable increase in GHG emissions under the thresholds established in the 2010 BAAQMD <i>Thresholds of Significance</i> . (LTS)	None needed Although no significant impacts have been identified and no mitigation is required, the Project is subject to all the regulatory requirements including the City's Standard Conditions of Approval, many of which would reduce GHG emissions of the Project. These include, but are not limited to: SCA Traf-1: Parking and Transportation Demand Management SCA Air-1: Construction-Related Air Pollution Controls SCA Util-1: Waste Reduction and Recycling SCA Bio-1 through -3: Tree Removal and Replanting	LTS
Impact GHG-2: The Project would comply with applicable plans, policies and regulations adopted for the purpose of reducing GHG emissions. (LTS)	None necessary	LTS
Public Health and Hazards		
Impact Haz-2: The proposed Project is not located within an airport land use plan or within two miles of a public airport or public use airport, and would not result in a safety hazard for people residing or working in the Project area. (LTS)	None needed	LTS
Impact Haz-3: Emergency Evacuation Routes. The limited access from the Project site to the adjacent portion of Harrison Street precludes substantive Project-related interference with use of this street as an emergency evacuation route. The Project would have a less than significant effect on emergency evacuation routes. (LTS)	None needed	LTS
Cumulative Impact Haz-4: The cumulative effect of the Project on hazardous materials, in combination with other foreseeable project, would be less than significant. (LTS)	None needed	LTS
Wastewater Collection Infrastructure		
Impact WW-1: Implementation of the Project would not exceed the wastewater treatment capacity of existing facilities, or require	None needed. However, the Project would be subject to the following Standard Condition of Approval, which	LTS

TABLE 2-1: SUMMARY OF PROJECT IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES FOR THE 325 7TH STREET PROJECT

Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
expansion of existing facilities which could cause significant environmental effects. This is a less than significant impact. (LTS)	<p>would even further reduce this less than significant impact:</p> <p>SCA WW-1: Improvements in the Public Right-of-Way (General) Approved prior to the issuance of a P-job or building permit</p> <ul style="list-style-type: none"> a) The project applicant shall submit Public Improvement Plans to Building Services Division for adjacent public rights-of-way (ROW) showing all proposed improvements and compliance with the conditions and City requirements including but not limited to curbs, gutters, sewer laterals, storm drains, street trees, paving details, locations of transformers and other above ground utility structures, the design specifications and locations of facilities required by the East Bay Municipal Utility District (EBMUD), street lighting, on-street parking and accessibility improvements compliant with applicable standards and any other improvements or requirements for the project as provided for in this Approval. Encroachment permits shall be obtained as necessary for any applicable improvements- located within the public ROW. b) Review and confirmation of the street trees by the City's Tree Services Division is required as part of this condition. c) The Planning and Zoning Division and the Public Works Agency will review and approve designs and specifications for the improvements. Improvements shall be completed prior to the issuance of the final building permit. d) The Fire Services Division will review and approve fire crew and apparatus access, water supply availability and distribution to current codes and standards. <p>SCA WW-2: Improvements in the Public Right-of Way (Specific). <i>Approved prior to the issuance of a grading or building permit.</i> Final building and public improvement plans submitted to the Building Services Division shall include the following components:</p> <ul style="list-style-type: none"> a. Install additional standard City of Oakland streetlights. b. Remove and replace any existing driveway that will not be used for access to the property with new concrete sidewalk, curb and gutter. c. Reconstruct drainage facility to current City standard. d. Provide separation between sanitary sewer and water lines to comply with current City of Oakland and Alameda Health Department standards. e. Construct wheelchair ramps that comply with Americans with Disability Act requirements and current City Standards. f. Remove and replace deficient concrete sidewalk, curb and gutter within property frontage. g. Provide adequate fire department access and water supply, including, but not limited to currently adopted fire codes and standards. 	

TABLE 2-1: SUMMARY OF PROJECT IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES FOR THE 325 7TH STREET PROJECT

Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
	SCA WW-3: Stormwater and Sewer. <i>Prior to completing the final design for the project's sewer service.</i> Confirmation of the capacity of the City's surrounding stormwater and sanitary sewer system and state of repair shall be completed by a qualified civil engineer with funding from the project applicant. The project applicant shall be responsible for the necessary stormwater and sanitary sewer infrastructure improvements to accommodate the proposed project. In addition, the applicant shall be required to pay additional fees to improve sanitary sewer infrastructure if required by the Sewer and Stormwater Division. Improvements to the existing sanitary sewer collection system shall specifically include, but are not limited to, mechanisms to control or minimize increases in infiltration/inflow to offset sanitary sewer increases associated with the proposed project. To the maximum extent practicable, the applicant will be required to implement Best Management Practices to reduce the peak stormwater runoff from the project site. Additionally, the project applicant shall be responsible for payment of the required installation or hook-up fees to the affected service providers.	
Cumulative Impact WW-2: Implementation of the Project, in combination with other cumulative development would not cumulatively exceed the wastewater treatment capacity of existing facilities, or require expansion of existing facilities which could cause significant environmental effects. This is a less than significant impact. (LTS)	None needed. Implementation of Standard Conditions of Approval WW-1 through WW-3 above would even further reduce this less than significant cumulative impact.	LTS
Historic Resources		
Cumulative Impact Hist-3: Other past, present, existing, pending and reasonably foreseeable projects in Oakland that have, or will have resulted in demolition of historic resources could combine with the loss of the building at 617-621 Harrison Street to form a significant cumulative impact to historical resources. (LTS)	None needed	LTS
NON-CEQA ISSUES ANALYZED IN THE DRAFT EIR		
Parking: The parking demand for the proposed Project could range from 241 to 485 spaces. The proposed Project provides 399 spaces (380 for the residents and 19 for the office and retail uses). Therefore, there is the potential that the proposed Project <u>may</u> not have sufficient parking spaces to meet its demand.	The Project will be required to comply with all of the provisions of City of Oakland Standard Conditions of Approval, including SCA Traf-1: Parking and Transportation Demand Management . Implementation of an effective TDM program could reduce Project-generated vehicle trips and reduce the number of Project vehicles which need parking spaces, thereby reducing overall parking demand. To further implement SCA Traf-1, the Project applicant shall	Non CEQA issue

TABLE 2-1: SUMMARY OF PROJECT IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES FOR THE 325 7TH STREET PROJECT

Potential Environmental Impacts	Recommended Mitigation Measures/ Standard Conditions of Approval	Resulting Level of Significance
	<ul style="list-style-type: none"> - investigate the possibility of contracting with off-site locations to provide additional parking, and - all good-faith efforts made by the applicant to identify potential off-site parking shall be submitted to the City for review and approval 	
Driveway Sight Distance: Although the proposed Project would not cause significant sight distance restriction impacts, on-street parking would have to be restricted between driveway locations.	Recommended Condition for Driveway Sight Distance. In order to promote better maneuverability into and out of Project driveways and to improve visibility from the driveway, a no-parking (or red curb section) should be implemented at the following locations: <ul style="list-style-type: none"> - <u>7th Street Driveway:</u> In order to provide adequate sight distance at the 7th Street driveway, driveway tipping of approximately 54.8 feet would be required on the west side of the driveway. - <u>6th Street Driveway:</u> In order to provide adequate sight distance at the 6th Street driveway, driveway tipping of approximately 32.0 feet would be required on the west side of the driveway and 17.1 feet on the east side of the driveway. - <u>6th Street Loading Dock Driveway:</u> In order to provide adequate sight distance at the 6th Street Loading Dock driveway, driveway tipping of approximately 19.7 feet would be required on the west side of the driveway and 68.6- feet on the east side of the driveway. 	Non-CEQA issue

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PROJECT DESCRIPTION

This chapter describes the proposed 325 7th Street Project (Project) which is evaluated in this Environmental Impact Report (EIR). The chapter begins with a description of the Project site, planning context, objectives and a discussion of relevant Project background, followed by a detailed description of the proposed Project and a discussion of the intended uses of the EIR and required Project approvals and entitlements.

PROJECT LOCATION AND SITE CONDITIONS

LOCATION

The Project site is located at 325 7th Street in the Chinatown neighborhood of downtown Oakland and bounded by 7th Street, 6th Street and Harrison Street (see **Figure 3-1**).

SITE CHARACTERISTICS / EXISTING USE

The 35,500 square-foot Project site (approximately 0.81 acres) is irregularly shaped, extending from the corner of 7th Street and Harrison Street to 6th Street, forming the shape of an “S” (see **Figure 3-2**). It includes seven separate, privately-owned parcels:

- Assessor’s Parcel Number (APN) 001-018900500, currently an office building,
- APN 001-018900600, a commercial lot,
- APN 001-018900700, a surface parking lot,
- APN 001-018900800, a current office building,
- APN 001-018900900, an existing single-family residence,
- APN 001-018901400, a warehouse, and
- APN 001-018901300, a warehouse.

On these seven separate parcels there are five (5) existing buildings on the Project site: two office buildings, two warehouses and a residence. There are also a parking lot and a vacant commercial lot on the site.



Figure 3.1
Vicinity Map



Source: GoogleEarth

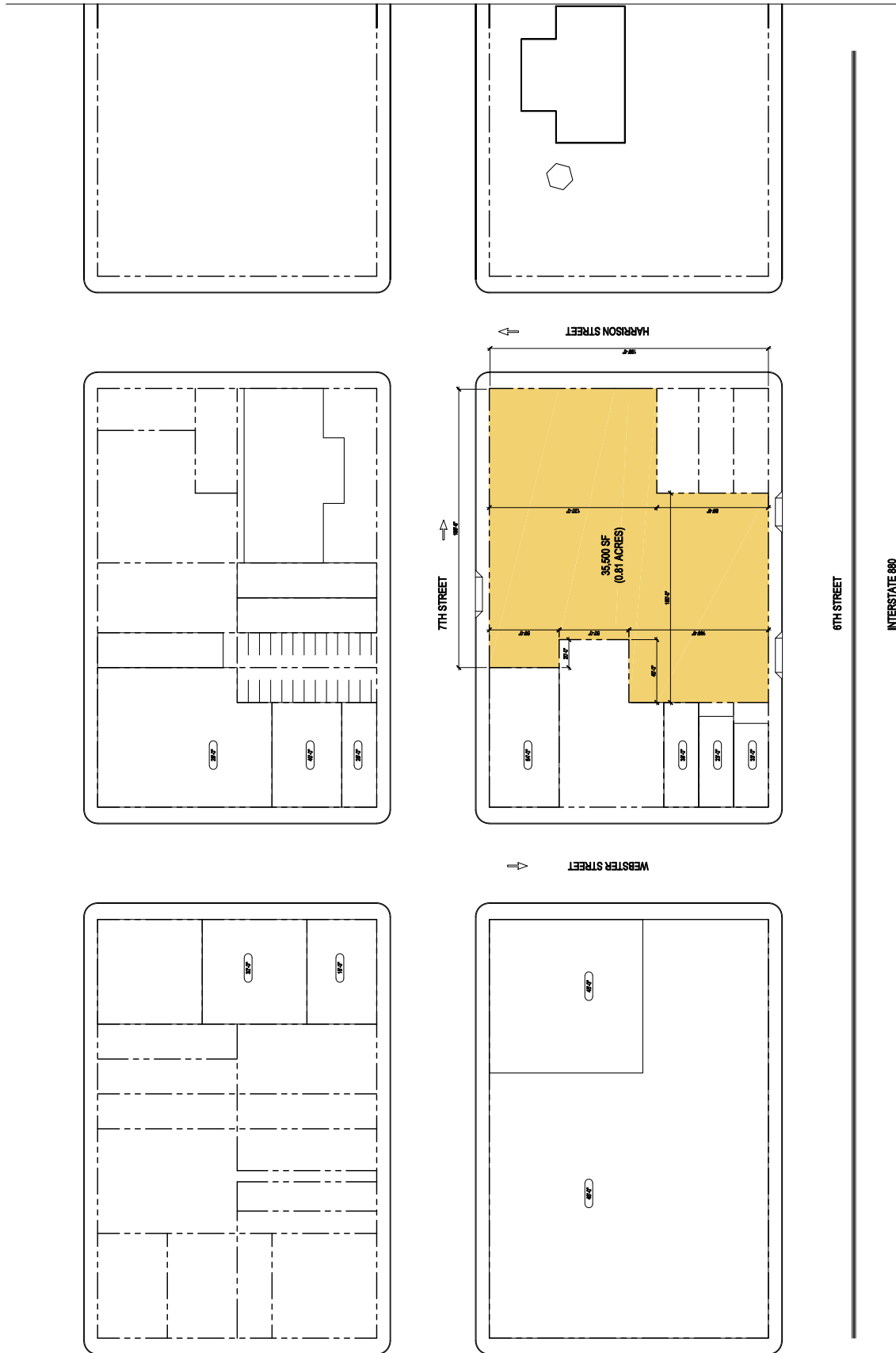


Figure 3-2
Project Site and Adjacent Parcels



Source: YHL Architects

SURROUNDING LAND USES

Across Harrison Street from the Project site to the east is the Chinese Garden Park. To the south is I-880, a multi-lane elevated freeway adjacent to 6th Street. To the west and north of the Project site are several commercial establishments, some within the same block as the proposed Project, and others across 7th Street opposite the Project site (see Figure 3-1).

EXISTING GENERAL PLAN DESIGNATIONS AND ZONING

General Plan Designation

All seven parcels at the Project site have a General Plan Land Use and Transportation Element (LUTE) designation of Central Business District (CBD). The CBD classification is intended to encourage, support, and enhance the downtown area as a high density mixed use urban center of regional importance and a primary hub for business, communications, office, government, high technology, retail, entertainment, and transportation in Northern California. The CBD classification includes a mix of large-scale offices, commercial, urban (high-rise) residential, institutional, open space, cultural, educational, arts, entertainment, service, community facilities, and visitor uses. For sites in the CBD, the maximum FAR is 20.0, and the maximum allowable residential density is 300 units per gross acre.

Zoning

At the time the Project application was deemed complete, the effective zoning for the Project site was C-40: Community Thoroughfare Commercial with an S-17: Downtown Open Space combining zone. In August 2009 the zoning of the Project site and its surroundings were changed to CBD: Central Business District. Pursuant to the ordinance adopting the CBD zoning regulations (Ordinance No 12955 C.M.S.), the Project is “grandfathered” under the provisions of the C-40 and S-17 regulations. Both the current (CBD) and the effective (C-40) zoning provisions are discussed below.

Current Zoning

In August of 2009, the Oakland City Council adopted Central Business District (CBD) zoning regulations. These regulations apply to the area bounded by Interstate 980 to the west, Interstate 880 to the south, Lake Merritt and Fallon Street to the east, and 23rd Street to the north. The Project site is included in this CBD area. The intent of the CBD regulations is to:

- Encourage, support, and enhance the Central Business District as a high density, mixed use urban center of regional importance and a primary hub for business, communications, office, government, urban residential activities, technology, retail, entertainment, and transportation,
- Encourage, support, and enhance a mix of large-scale offices, commercial, urban high-rise residential, institutional, open space, cultural, educational, arts, entertainment, services, community facilities, and visitor uses,
- Enhance the skyline and encourage well-designed, visually interesting, and varied buildings,
- Encourage and enhance a pedestrian-oriented streetscape,
- Encourage vital retail nodes that provide services, restaurants, and shopping opportunities for employees, residents, and visitors, and to

- Preserve and enhance distinct neighborhoods in the Central Business District.

The CBD zoning regulations regulate activities and uses, generally encouraging pedestrian-oriented uses on the ground floor of major commercial streets. Design components are included to facilitate an active and attractive pedestrian environment. Height, bulk and intensity regulations regulate the form and bulk of buildings, intended to create an interesting skyline and to preserve views. The northern portion of the Project site (the 7th Street frontage) is located within the CBD-P, or Pedestrian Retail Commercial Zone. The intent of the CBD-P zone is to create, maintain, and enhance areas of the Central Business District for ground-level, pedestrian-oriented, active storefront uses. Upper story spaces are intended to be available for a wide range of office and residential activities. The southern portion of the Project site (the 6th Street frontage) is located within the CBD-X, or Mixed Commercial Zone. The intent of the CBD-X zone is to designate areas of the Central Business District appropriate for a wide range of upper story and ground level residential, commercial, and compatible light industrial activity. Furthermore, height, bulk, density and tower regulations are governed by Intensity Areas within the CBD. The Project site is located within Intensity Area 4.

Effective Zoning

At the time the application for this Project was deemed complete (prior to August 2009), all seven parcels at the Project site were located in the C-40 or Community Thoroughfare Commercial zoning district, which is intended to create, preserve, and enhance areas with a wide range of both retail and wholesale establishments serving both short and long term needs in convenient locations, and is typically appropriate along major thoroughfares. Multiple family residential facilities are a permitted use in the C-40 Zone, subject to maximum density and other related regulations set forth for the R-70 Zone. The S-17 or Downtown Open Space Combining Zone is an overlay zone applied to the site and is supplementary to the zone with which the S-17 zone is combined. The S-17 zone is intended to provide open space standards for residential developments that are appropriate to the unique density, urban character and historic character of the central business district.

A brief comparative matrix of pertinent regulations applicable to the Project site under the effective C-40 zoning as compared to the recently adopted CBD zoning regulations is provided below.

TABLE 3-1: COMPARISON OF CURRENT AND EFFECTIVE ZONING STANDARDS

	Effective C-40 (or R-70) Regulations ¹	Current CBD Regulations
Maximum Density	450 sq ft of lot area/unit, plus 10% at corner lots. 300 sq ft of lot area/rooming unit, plus 10% at corner lots	90 sq ft of lot area/unit. 45 sq ft lot area/rooming unit
Height Limit	NA	275 feet
Base Height	NA	85 feet
Maximum lot coverage	NA	100%
Maximum floor plate	NA	15,000 sq ft
Average cover of tower stories	NA	75% of site, or 10,000 sq ft, whichever is greater
Maximum distance between towers	NA	40 feet
Required open space	75 sq ft/ unit, 50 sq ft/ efficiency unit	75 sq ft/ unit
Ground floor commercial use	permitted	required
Residential uses shall be subject to the same maximum density and other related regulations as are set forth in Section 17.28.120 for the R-70 zone.		

A portion of the Project site extending one parcel deep along the Harrison Street frontage and including one existing home at 617-621 Harrison Street is located within the 7th Street/ Harrison Square Residential Historic District, designated in the Oakland Cultural Heritage Survey as an Area of Primary Importance.

PROJECT BACKGROUND

In 2007, the Project applicant (BALCO Properties Ltd.) submitted an application to develop the Project site. As indicated in the Notice of Preparation (NOP) in December, 2007, the applicant at that time had proposed the following:

“The Project applicant, BALCO Properties Ltd., proposes to demolish all of the existing structures at the site, with the exception of the existing residential structure currently located at 617-621 Harrison Street. This residential structure would be relocated to a new site near 14th Street and Peralta Street. The applicant would then redevelop the Project site with construction of 382 condominium units and ground floor commercial space. Two towers would be situated on a four-story podium, each tower reaching a total height of 23 stories (approximately 237 feet to the top of the roofline, approximately 286 feet to the top of the tower feature on Tower 1, and approximately 280 feet to the top of the architectural feature on Tower 2). Commercial spaces would be provided at street level along the Harrison Street/Seventh Street corner (approximately 5,913 square feet of general retail space and approximately 2,999 square feet of office/administration space). On the fourth floor podium, three community rooms and a 6,619 square foot courtyard would be provided. On the twentieth floor of Tower 1, a 1,200 square foot courtyard would be provided. A total of 397 off-

street parking spaces would be provided within a parking garage (one story underground and three stories above ground)."

Since the release of the NOP in late 2007, the Project applicant has modified the proposal to develop the Project site (see below).

PROPOSED PROJECT

DEMOLITION

The Project applicant proposes to demolish all of the existing structures at the site including the existing residential structure currently located at 617-621 Harrison Street. This structure is identified in the City of Oakland Cultural Heritage Survey as a contributor to the 7th Street / Harrison Square Residential Historic District. The building is rated in the Oakland Cultural Heritage Survey as "C1+" (secondary importance, located in an Area of Primary Importance - the 7th Street / Harrison Square Residential District, and as a contributor to that District). This demolition of the historic resource represents a change in the description of the Project as presented in the Initial Study (December 2007), which indicated that the existing residential structure located at 617-621 Harrison Street would be relocated to a new site near 14th Street and Peralta Street.

HAZARDOUS MATERIALS REMEDIATION

As was documented in the Initial Study prepared prior to this Draft EIR, a Phase I Environmental Site Assessment and the Phase II Subsurface Investigation (Schutze & Associates, Inc., May 23, 2006) indicates that groundwater contaminated with diesel and motor oil from off-site leaking underground storage tanks has migrated to the site. The Phase II report recommended reporting the results as required by current regulations, and recommended a follow-up subsurface investigation to investigate the lateral and vertical extent of the groundwater contamination. No remediation activities were recommended. Until this recommended follow-up subsurface investigation has been completed, it is uncertain whether or not remediation will be necessary.

If, after completion of the follow-up investigation recommended in the Phase II Subsurface Investigation, remedial action is necessary to address groundwater contamination at the site, the Project applicant will be required to obtain and submit written evidence of approval for any remedial action as required by local, state, or federal environmental regulatory agencies.

NEW BUILDING AND USES

Following demolition of the residential structure, the Project applicant would redevelop the Project site with construction of 380 residential condominium units and 9,110 square feet of street-level retail space, in addition to 399 off-street parking spaces.

Design

The building is designed as two tall towers situated on a four-story podium. Tower 1 would reach a total height of 27 stories (approximately 275 feet at the top of the roof slab, approximately 332 feet, 4 inches at the top of the tower), and Tower 2 would reach a total height of 20 stories (approximately 207 feet, 4 inches at the top of the roof slab and approximately 251 feet, 2 inches at the top of the architectural feature). As indicated in the Project Objectives (below), the 2-tower design is intended as an aesthetic design element to break up the bulk and mass of space. It is also intended to provide flexibility for continuous sequenced construction. Either tower building is intended to be able to be constructed

independently from the other, but sharing the podium base. It is possible that one tower would be constructed first, followed by the second tower.

Streetscape Improvements

The Project proposes to provide new street trees along the 7th Street and Harrison Street frontage at a spacing of approximately 30 feet on center. Additionally, the sidewalks along all Project frontages are proposed to be decorative concrete tile pavers.

Air Filtration System

In order to ensure that residents living at the Project site will not be exposed to freeway emissions with excessive levels of diesel particulate matter (DPM) or particulates smaller than 10 microns (PM-10) in their homes, the Project will incorporate a centralized ventilation (filtration) system with a minimum efficiency reporting value (MERV) 13 and efficiency consistent with American Society of Heating, Refrigeration and Air Conditioning Engineers (ASHRAE) 52.2 standards. Intakes for the filtration system will be located at the proposed group open space area that is located on the side of the building opposite from the freeway so that the air intakes will be as far from the freeway source as possible. Residents will be provided with fresh, cool air through the air conditioning system, rather than opening windows.

Uses

Residential

With the exception of the interior parking space, ground-floor commercial uses (retail and office) and utility/support space, the towers are entirely residential, including associated common open space. A total of 380 residential units are proposed, with a mix of residential unit types as follows:

- 40 studio units (approximately 600 square feet per unit)
- 192 one-bedroom units (ranges from approximately 650 to 900 square feet per unit)
- 131 two-bedroom units (ranges from approximately 1,100 to 1,250 square feet per unit) and
- 17 two bedroom plus units (of approximately 1,450 square feet per unit).

Commercial / Office

A total of 9,110 square feet of commercial space would be provided at street level along the Harrison Street and the Harrison Street/7th Street corner (approximately 6,795 square feet of general retail space and approximately 2,315 square feet of office space).

Open Space

Development of the Project site as proposed would include approximately 10,221 square feet of group open space. The majority of this open space would be an 8,200 square foot outdoor courtyard provided on the top deck of the podium at the 4th floor of Tower #1. This courtyard is located within an internal portion of the site between the two towers and away from the adjacent I-880 freeway. A second courtyard that is 769 square feet in size would be provided on the 18th floor of Tower #2, and a third

courtyard of 1,200 square feet would be provided on the 20th floor of Tower #1. Each of these later courtyards also has smaller, 26 square foot group open spaces associated with them.

Approximately 9,042 square feet of private open space would be provided as balconies and patios for some of the 380 units proposed.

INTERNAL CIRCULATION AND PARKING

Access

The Project site currently has vehicular access from 7th Street, Harrison Street and 6th Street, with driveways on each of these streets. With development of the Project site as proposed, the existing vehicle access points would be retained along 7th Street (serving the above-ground parking areas) and along 6th Street (serving the underground parking area). No vehicle access to the proposed parking areas would be provided from the current driveway along Harrison Street.

Pedestrian circulation would be provided by sidewalks along 7th Street, Harrison Street and 6th Street. Sidewalks exist on both sides of these roadway segments near the project site, except along the south side of 6th Street. The sidewalk widths on the perimeter of the proposed Project site are 10 feet on 7th Street, 11 feet on Webster Street, 13 feet on Harrison Street, and 17 feet on the north side (Project side) of 6th Street. These sidewalks would be retained under the proposed Project.

No bicycle lanes or markings currently exist in the Project vicinity. However, the City's Bicycle Master Plan designates 7th Street, 8th Street, Oak Street, Madison Street and Broadway between 6th and 7th Streets as Class II bicycle lanes. Class II bicycle lanes consist of striped bicycle lanes on the roadways.

Motor vehicle circulation would be provided along each of the three public streets adjoining the Project site.

Parking and Loading

A total of 399 off-street parking spaces would be provided within a podium parking garage (one story underground and three stories above ground). The majority of the parking spaces (365 of the 399 total) are proposed as mechanical, multi-parking systems that provide independent parking spaces for cars, one on top of the other and side by side. These mechanical parking systems have parking spaces arranged on three different levels, one level on top of the other. The parking spaces of this multi-parking system are accessed horizontally, like a traditional parking space. The vehicles are parked on solid steel platforms. The platforms of both the lower floor and upper floor move vertically, and the platforms of the ground floor move horizontally, allowing for shifting the ground floor parking spaces sideways and enabling an upper floor parking space or lower floor parking space to be lowered or lifted to the approach level. These parking systems are designed to accommodate passenger cars and station wagons.¹

Of the remaining 34 parking spaces, 11 spaces are standard, 15 are compact, and 8 are handicap accessible.

A loading area would be located along 6th Street, and would be designed in accordance with all City standards to avoid conflicts with all streets, driveways and service lanes. Loading and service facilities would also be located to avoid pedestrian facilities and residences to the maximum extent feasible.

¹ Klaus Parking Automat, series P310 and P210 designs

PROJECT CONSTRUCTION SCHEDULE

The estimated schedule for Project construction is intended to allow for a continuous sequenced construction of the Project, generally as described below:

- Starting after Project approval and lasting for approximately 6 months – Demolition and excavation of site (potentially including hazardous materials remediation efforts as may be necessary – see above)
- During the following 6 months – Construction of the parking podium (1 floor below grade, 3 floor above grade)
- Over the following 18 months – Construction of the north tower (Building 1, to 27 stories)
- Over the following 12 months - Construction of the south tower (Building 2, to 20 stories)

COMPARISON OF NOP PROJECT DESCRIPTION AND CURRENT PROJECT DESCRIPTION

A summary comparison of the project as anticipated and described in the December 2007 Notice of Preparation compared to the currently proposed Project is shown in Table 3-2 below.

TABLE 3-2: COMPARISON OF 2007 NOP PROJECT VERSUS CURRENT PROJECT		
	December 2007 NOP Project	Currently Proposed Project
Demolition	Entire site, with the exception of the existing building at 617-621 Harrison Street (a CEQA historic resource), proposed to be relocated	Entire site, including 617-621 Harrison Street (a CEQA historic resource)
New Residential Units	382 units	380 units
Bldg. Height (floors/feet)	Tower 1: 23 stories (237 feet to roofline) Tower 2: 23 stories (237 feet to roofline)	Tower 1: 27 stories (275 feet to roofline) Tower 2: 20 stories (207 feet to roofline)
Commercial Space	5,913 sq ft retail and 2,999 sq ft office at ground level	6,795 sq ft retail and 2,315 sq ft office at ground level
Off-Street Parking Spaces	397 spaces	399 spaces

Figures 3-3 through 3-19 illustrate the proposed Project.

PROJECT OBJECTIVES

The overall Project objective is to construct a high-rise residential building within the Chinatown portion of the City's Central Business District that takes advantage of the area's proximity to regional transit

facilities, encourages pedestrian activity at the street level, and forms an attractive and architecturally interesting addition to the City's downtown skyline. Specifically, the Project seeks to:

Development & Density

- Provide a critical mass of new housing opportunities in Chinatown, where many of the new residents are also anticipated to work and shop. This new residential population is anticipated to help sustain local businesses and entice new business investment into the neighborhood.
- Provide new urban infill housing in a location within easy walking distance of local commerce and services
- Locate dense, urban-scale infill housing that takes advantage of the site's proximity to two BART stations and other regional transit facilities.

Neighborhood Enhancement

- Enhance the street-level pedestrian experience by replacing existing warehouse structures with no street-level engagement with new pedestrian-oriented retail spaces that are transparent and inviting to the pedestrian
- Improve the overall aesthetics of the neighborhood by redeveloping empty and underutilized lots and introducing new streetscape elements, large open storefronts and other retail amenities
- Foster a safer community by increasing commercial activity at the street level, and increasing the number of residential "eyes on the street" at all hours

Project Design

- Establish flexibility in the Project's development and construction to enable it to adjust to market trends by developing two independent towers that can be constructed sequentially yet continuously. This design flexibility is intended to create an economically viable project capable of attracting both construction and permanent financing, enabling returns on investment in the initial tower to sustain construction and financing for the second tower.
- Develop an identifiably strong and significant gateway building to Chinatown from the I-880 corridor, signifying the area's continuing revitalization efforts.
- Reduce the overall bulk and mass of a single large building by creating two separate towers with distinctive height differences and interesting architectural treatments at the rooftops.
- Provide the right balance between adequate off-street parking for proposed residential and commercial uses, and not so much parking as to encourage auto use over alternative modes of travel such as transit, bicycles and walking.

DISCRETIONARY ACTIONS

It is anticipated that this EIR will provide environmental review for all discretionary approvals and actions necessary for this Project. A number of permits and approvals would be required before development of the Project could proceed. As Lead Agency for the proposed Project, the City of Oakland would be responsible for the majority of Project approvals required for development. A list of required

permits and approvals that may be required by the City includes, but is not necessarily limited to the following:

- Demolition and Construction Phasing Plan
- Major Conditional Use Permit for Floor Area Ratio (FAR) that exceeds zoning but is consistent with the General Plan
- Minor Variances for dimensions of parking spaces due to lift spaces, dimension of parking spaces against column or other obstruction, tandem parking spaces, rear yard setbacks, loading berth dimensions and open space requirements
- Major Design Review
- Tentative Parcel Map for condominium units
- Demolition Permit
- Grading Permit
- Building Permit
- Tree Removal Permit

OTHER PUBLIC AGENCIES INTERESTED IN THE PROJECT

A number of other public agencies have expressed interest in the Project and/or have permitting or approval jurisdiction over aspects of the Project, including:

- FAA - Since the proposed structures would exceed a height of 200 feet (maximum height of the proposed Tower #1 is approximately 275 feet with an architectural top element increasing its height to approximately 332 feet), the Project Applicant will need to comply with all applicable Federal Aviation Administration notification/marketing requirements.
- EBMUD – approval of water lines, water hook-ups and review of water needs
- California Regional Water Quality Control Board (RWQCB)- National Pollutant Discharge Elimination System (NPDES) permit for stormwater discharge, and approval and oversight for remediation plans for hazardous materials abatement (if determined necessary)
- Alameda County Department of Environmental Health – permitting of hazardous waste or contamination removal activities (if determined necessary)
- BAAQMD – permitting of asbestos abatement activities
- California Department of Toxics and Substances Control (DTSC) – approvals and oversight for remediation plans for hazardous materials abatement (if determined necessary)
- California Department of Transportation (CalTrans) – approval of recommended signal timing mitigation measures at 5th/Oak Street and 6th/Jackson Street

- Alameda County Transportation Improvement Authority (ACTIA) – coordination regarding the Project Study Report (PSR) for the I-880 Broadway to Jackson Interchange project

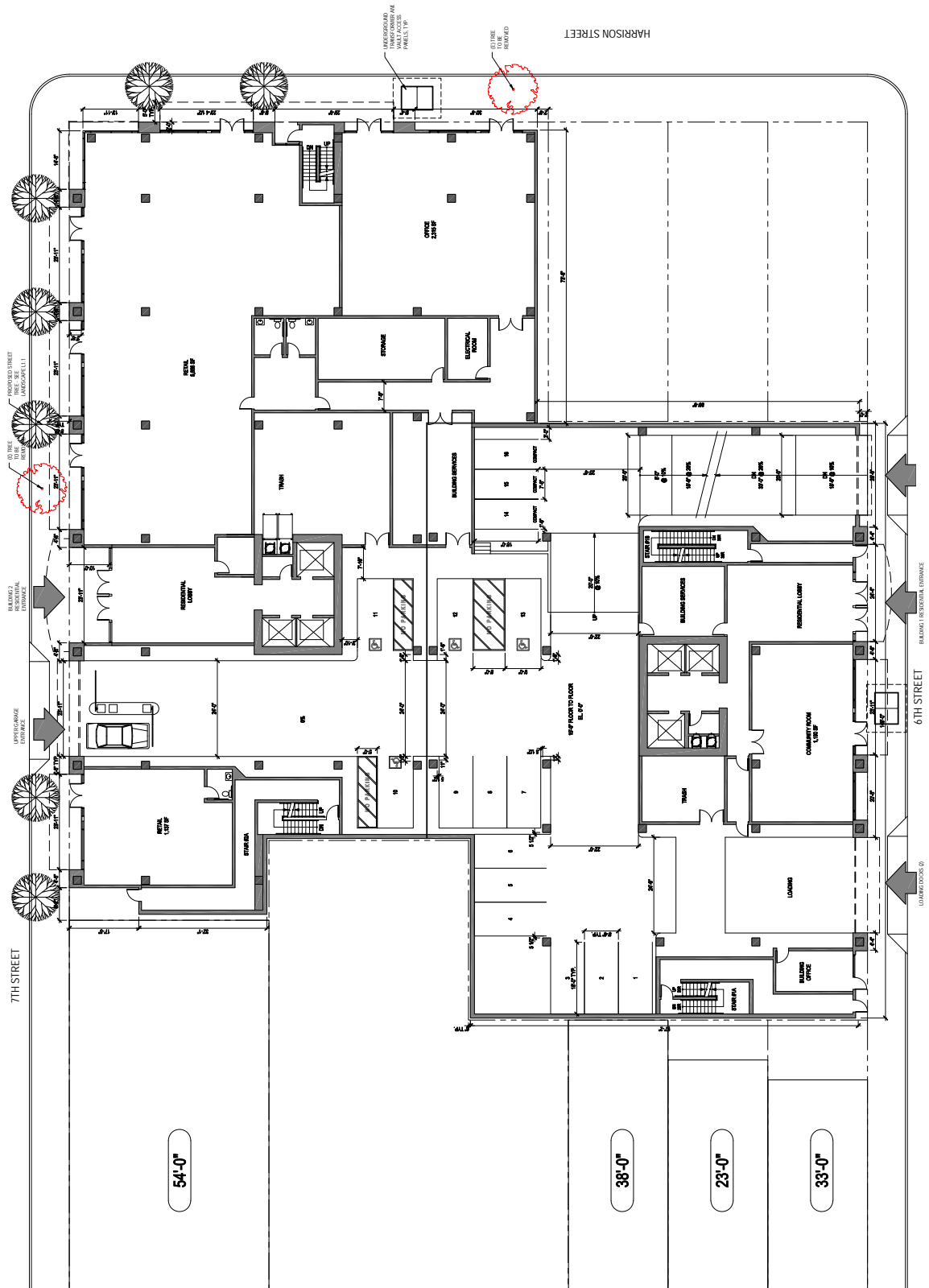


Figure 3-3
Project Site Plan



Source: YHL Architects

Figure 3-4
Project Elevation, Section



Source: YHL Architects

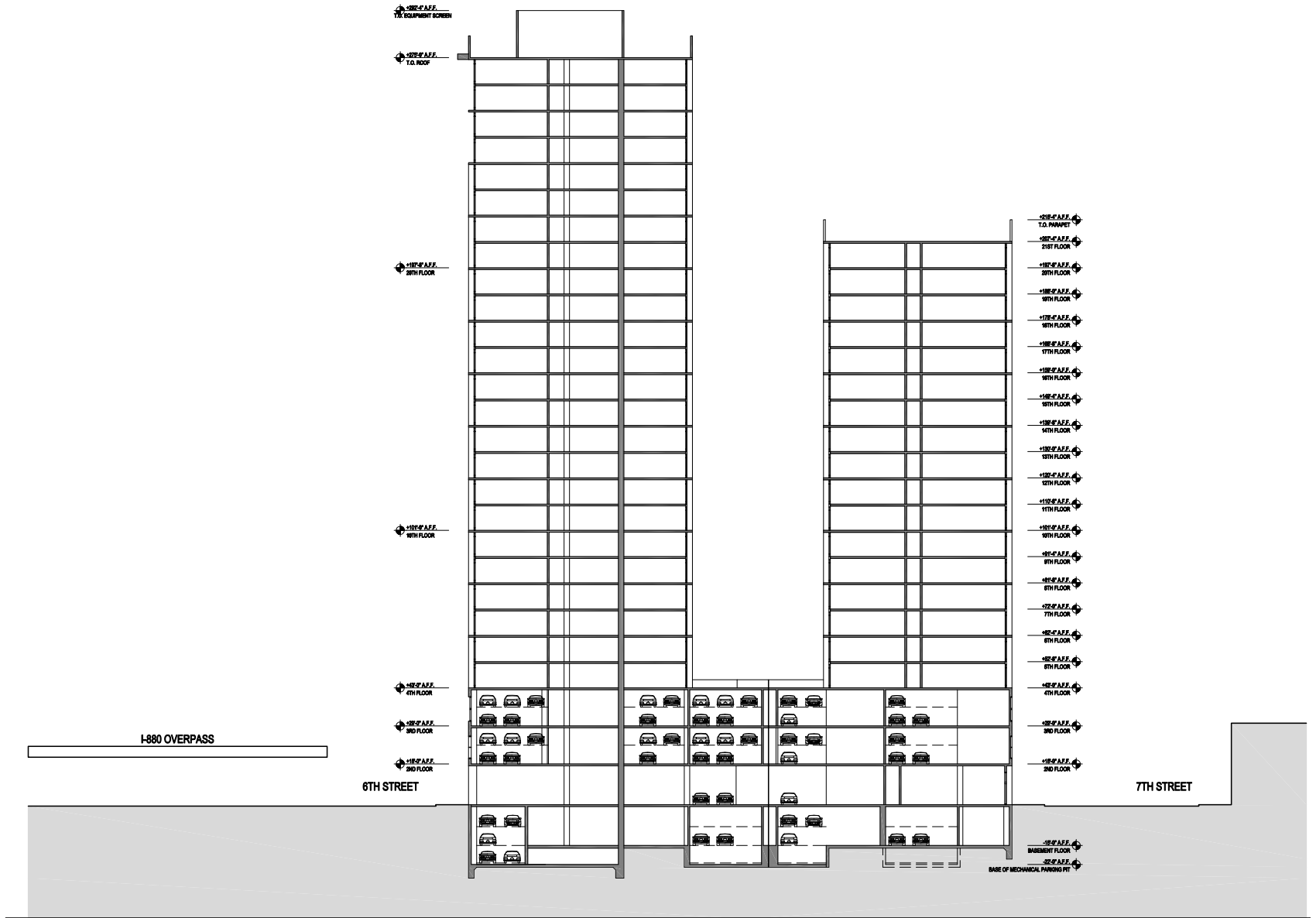




Figure 3- 5
3D Visual Simulation, 7th Street View



Source: YHL Architects



Figure 3- 6
3D Visual Simulation, 7th and Harrison Street View



Source: YHL Architects



Figure 3- 7
3D Visual Simulation, 6th Street View



Source: YHL Architects

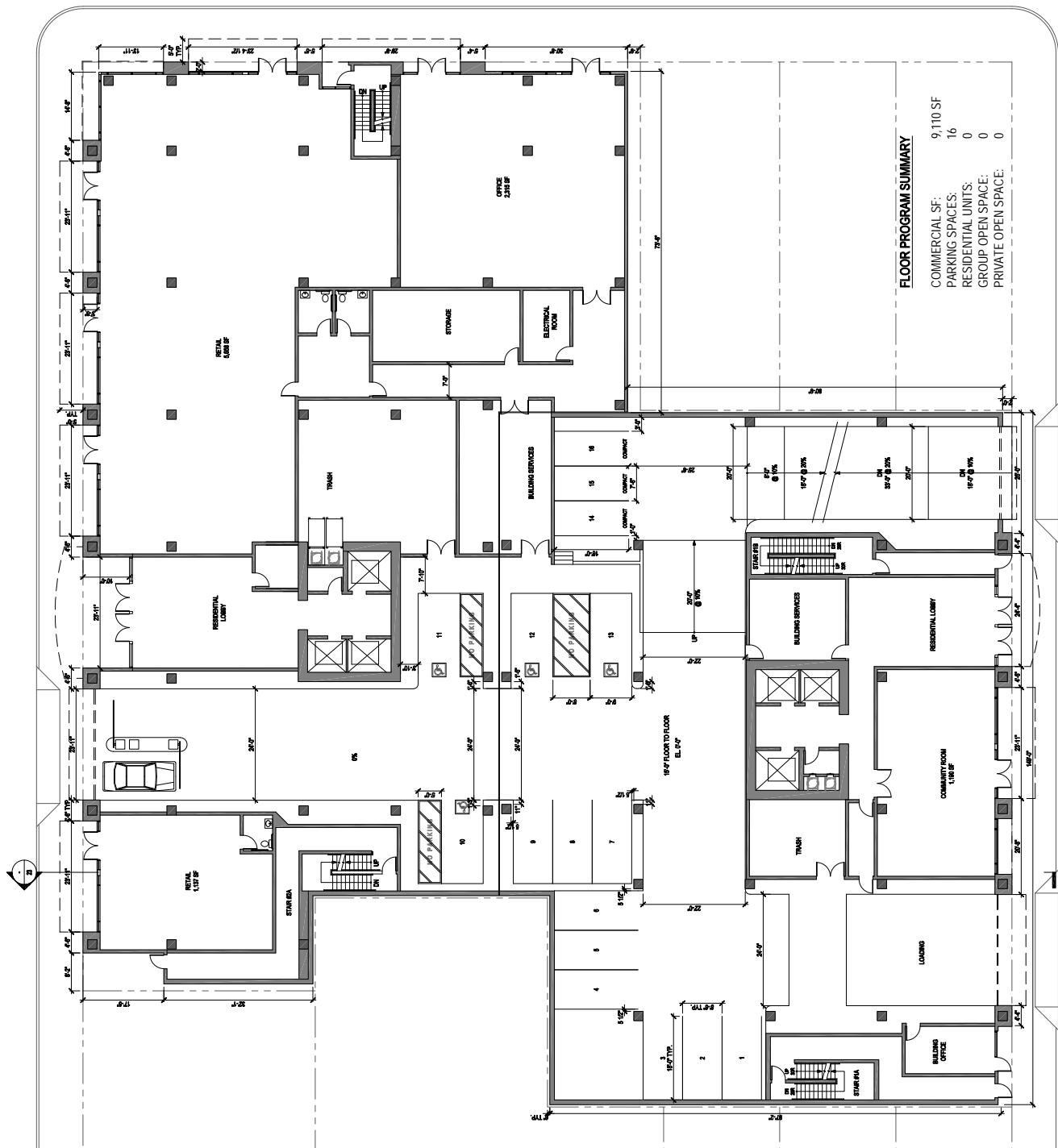


Figure 3-8
Ground Floor Plan



Source: YHL Architects

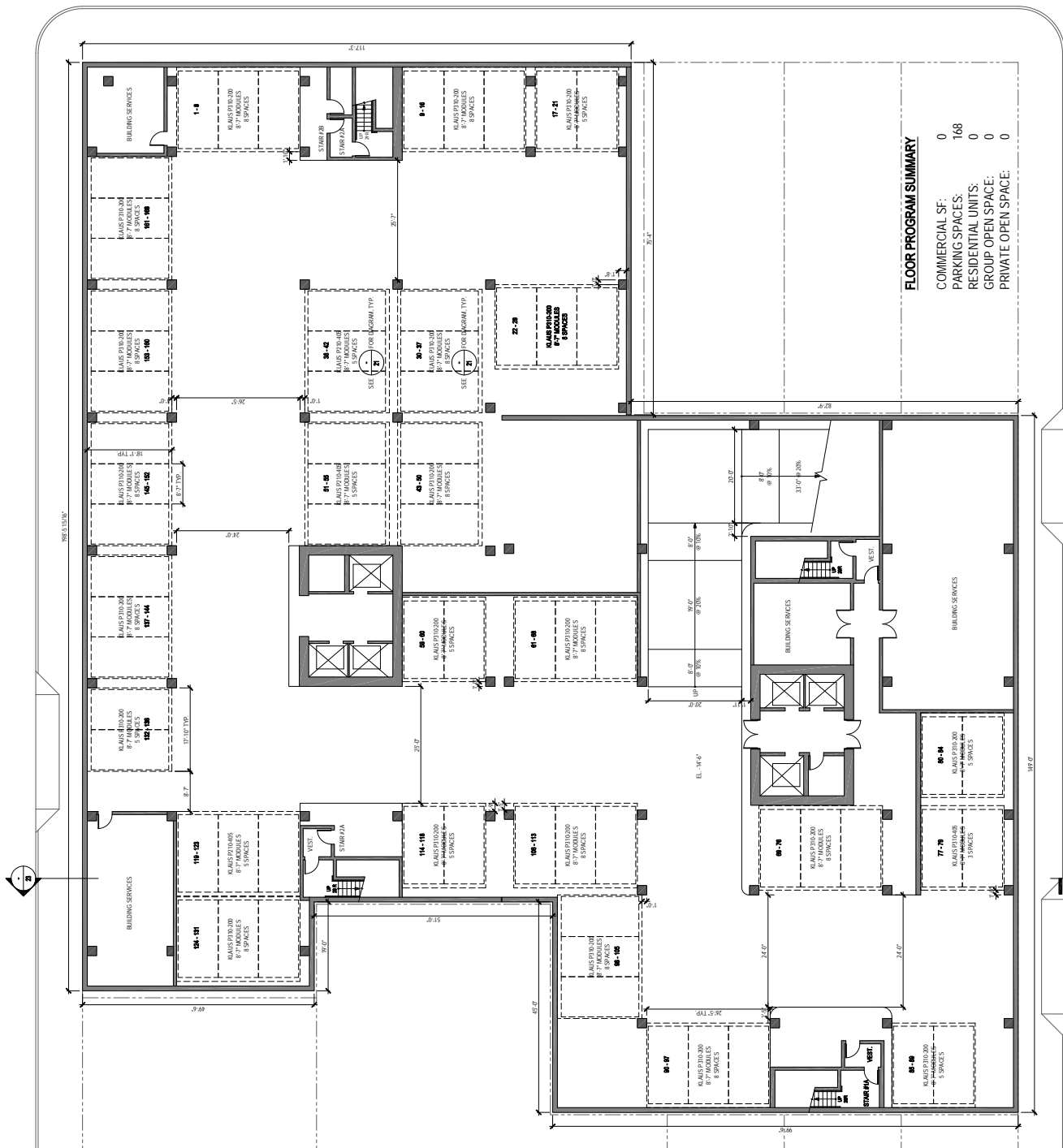


Figure 3-9
Level B-1 Floor Plan



Source: YHL Architects

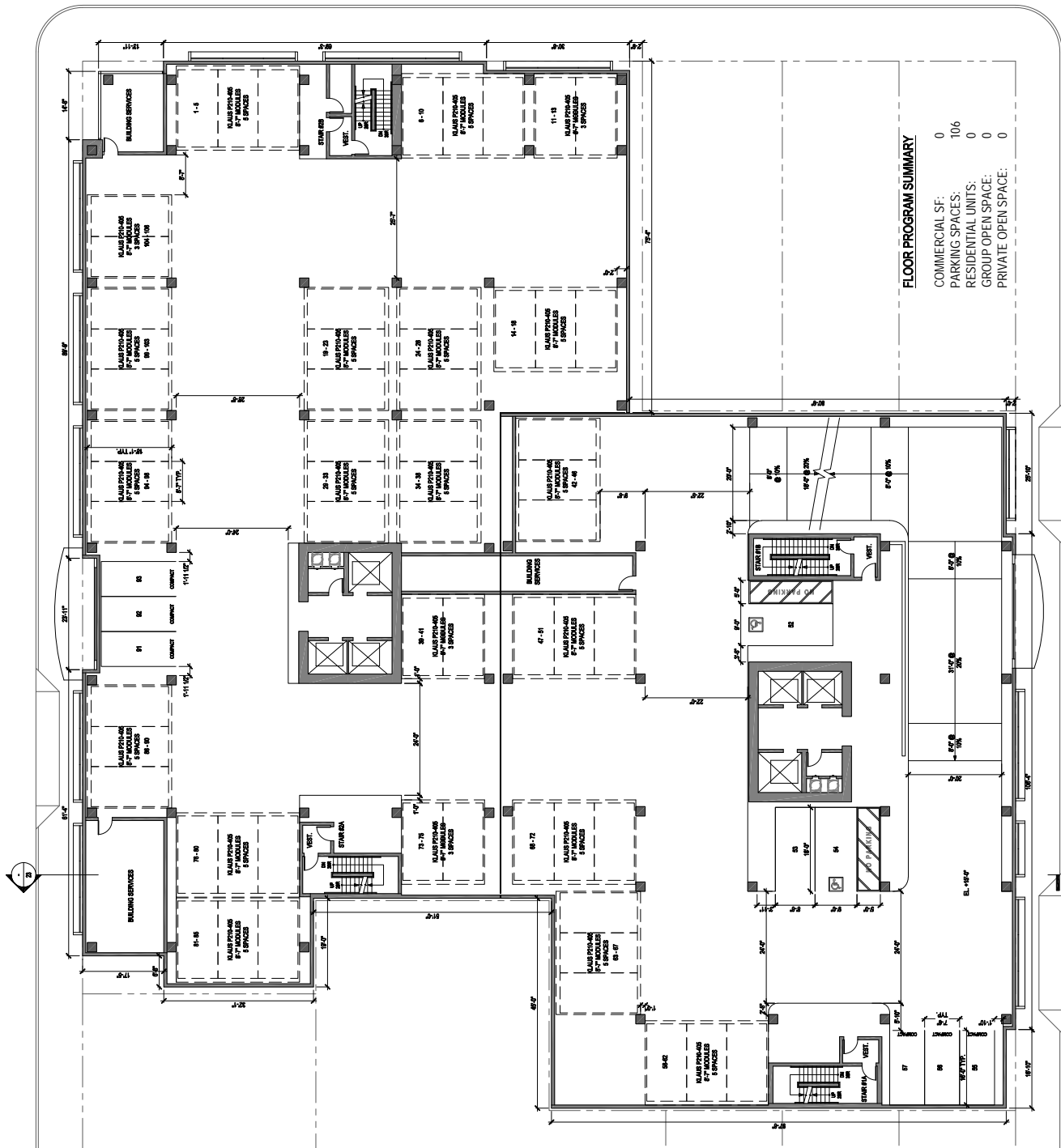


Figure 3-10
Level 2 Floor Plan



Source: YHL Architects

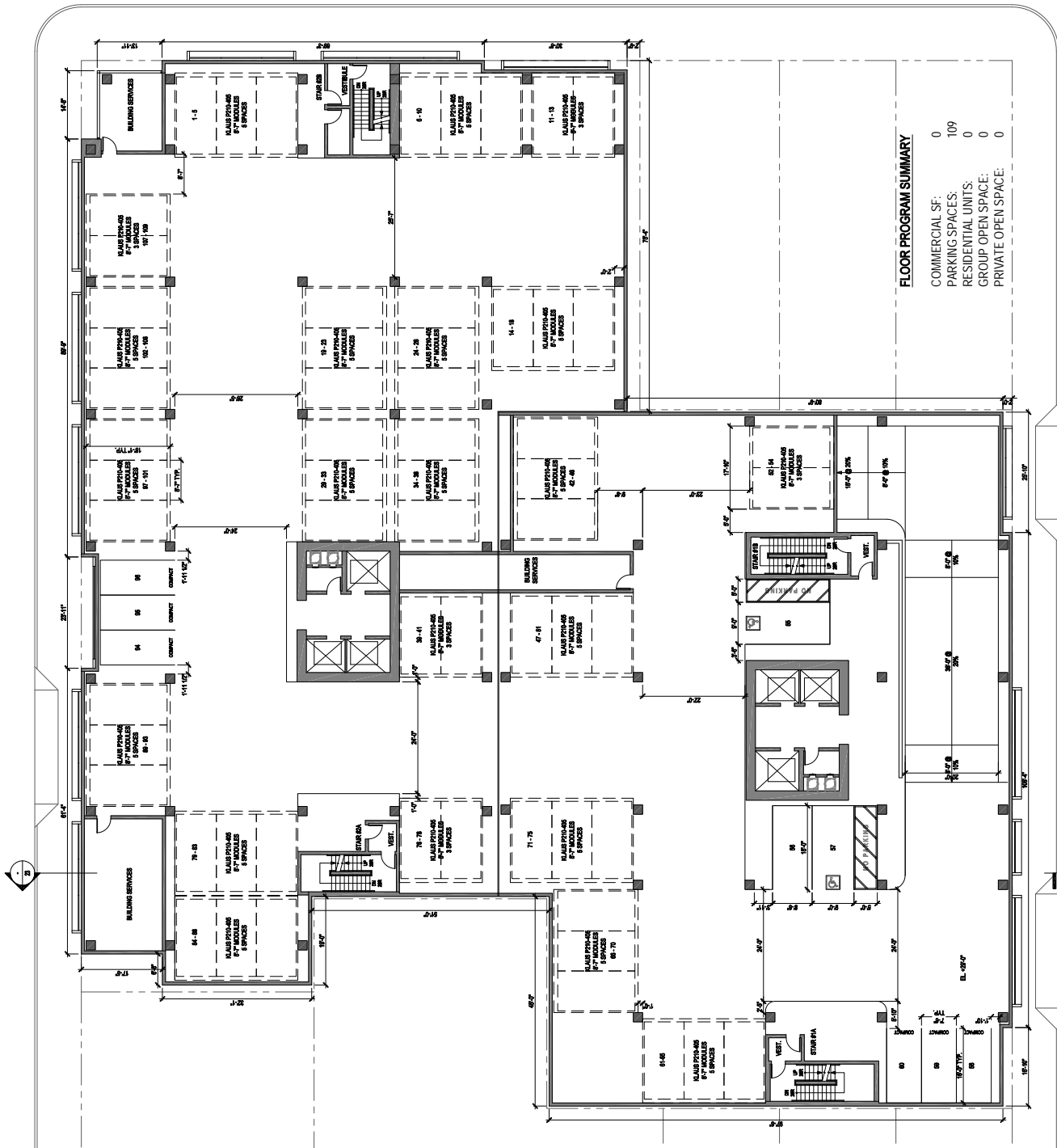


Figure 3-11
Level 3 Floor Plan



Source: YHL Architects

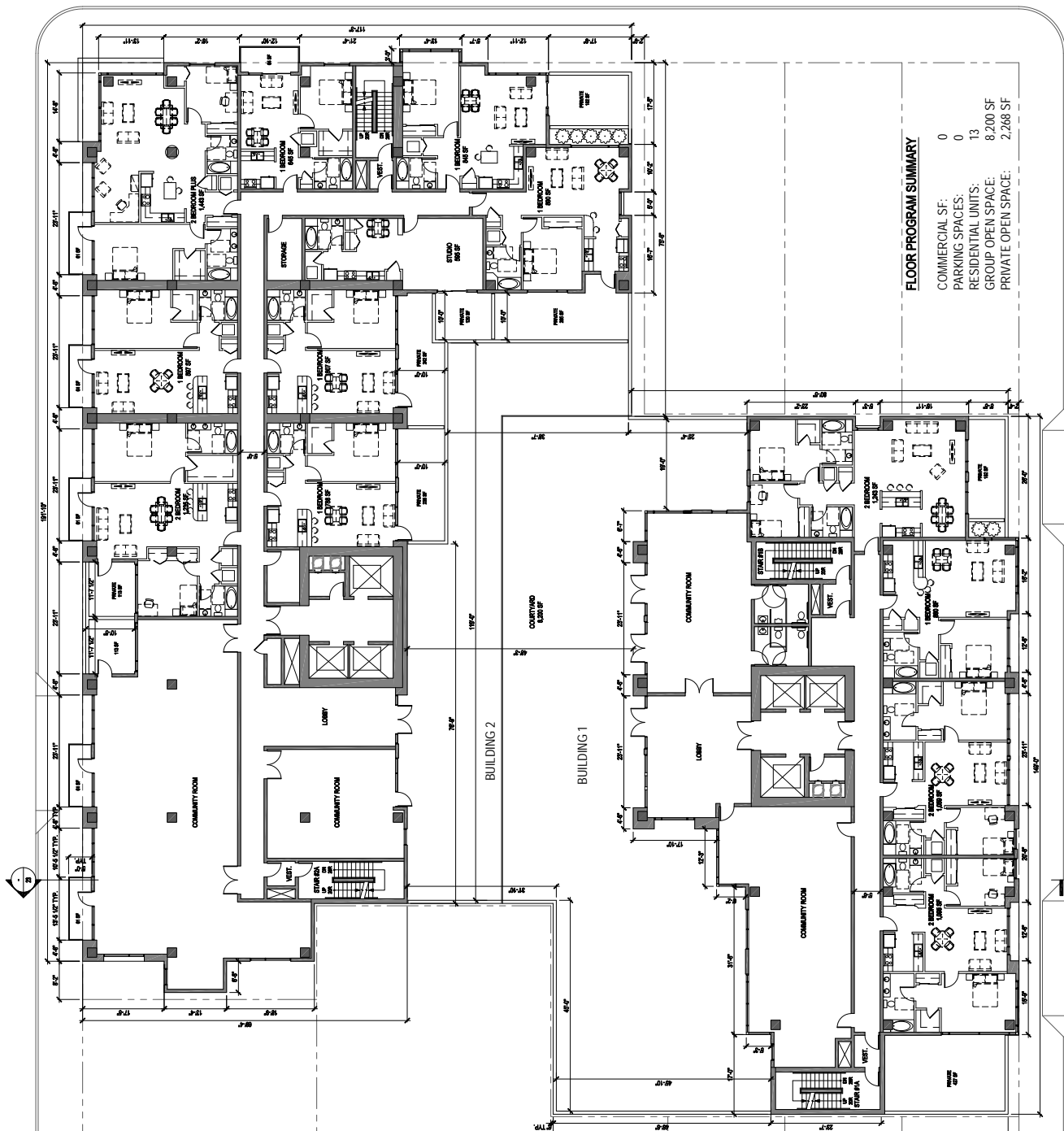


Figure 3-12
Level 4 Floor Plan



Source: YHL Architects

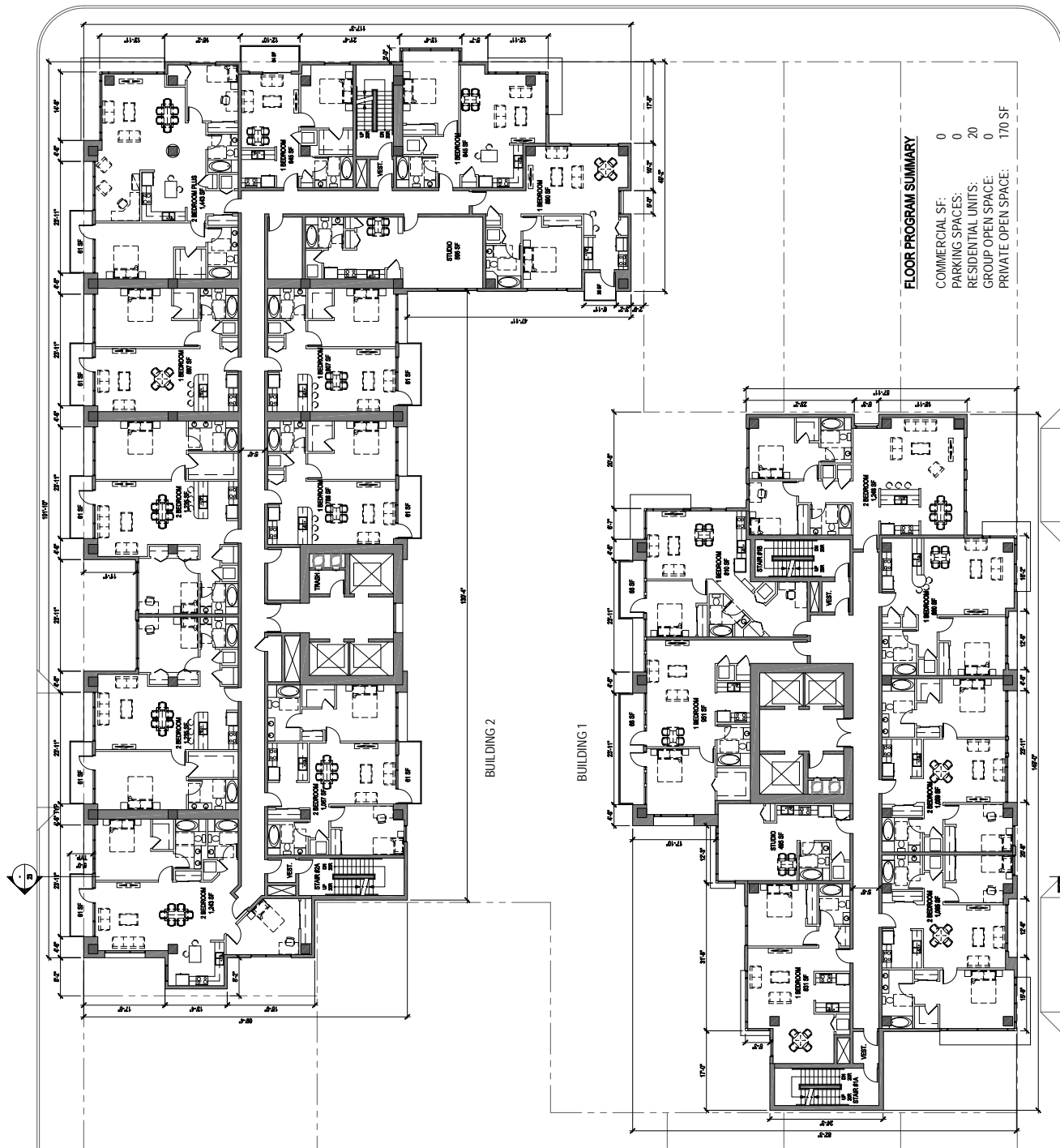


Figure 3-13
Level 5-17 (Odd Numbered Floors)



Source: YHL Architects

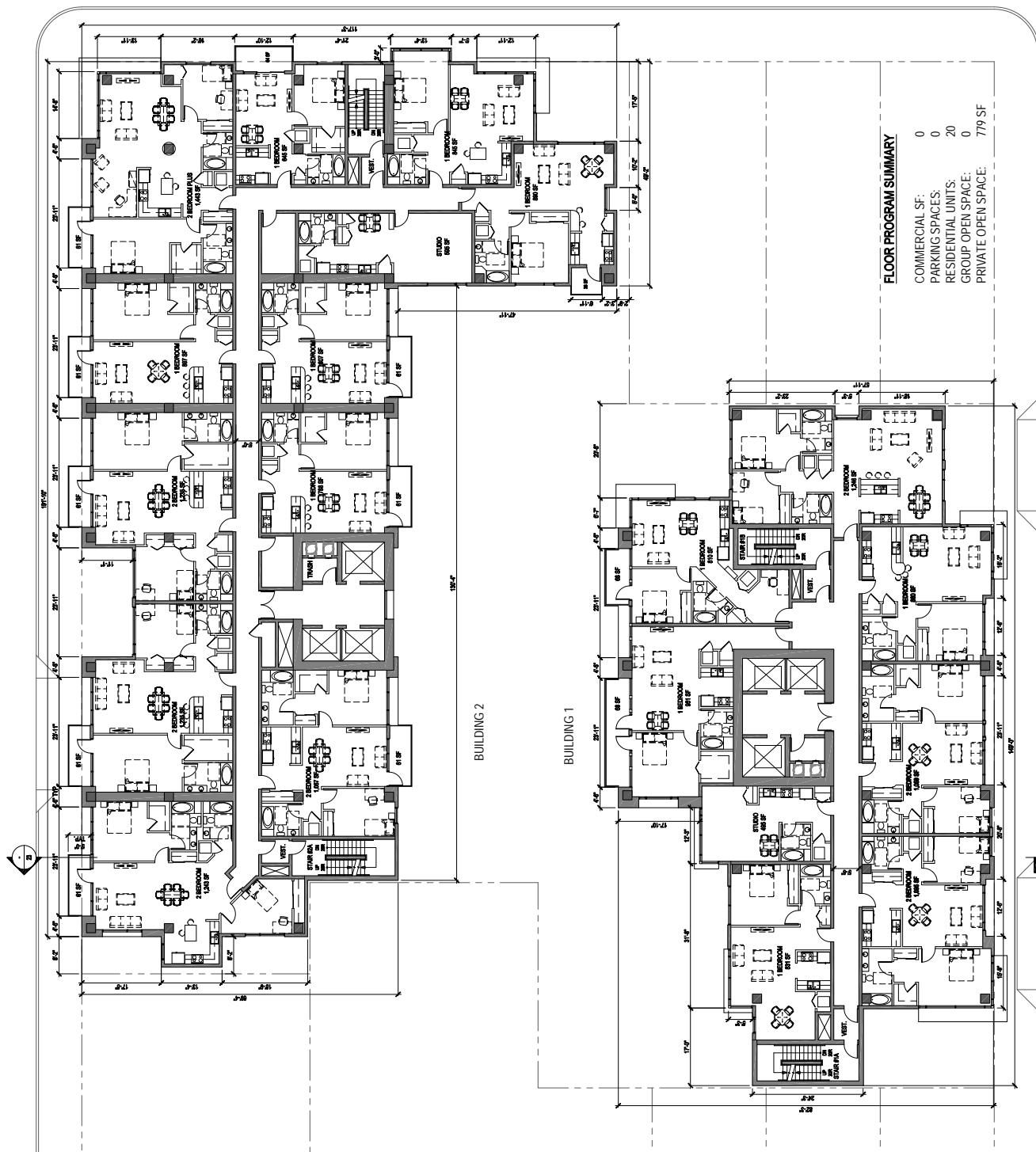


Figure 3-14
Level 6 -16 (Even Numbered Floors)



Source: YHL Architects

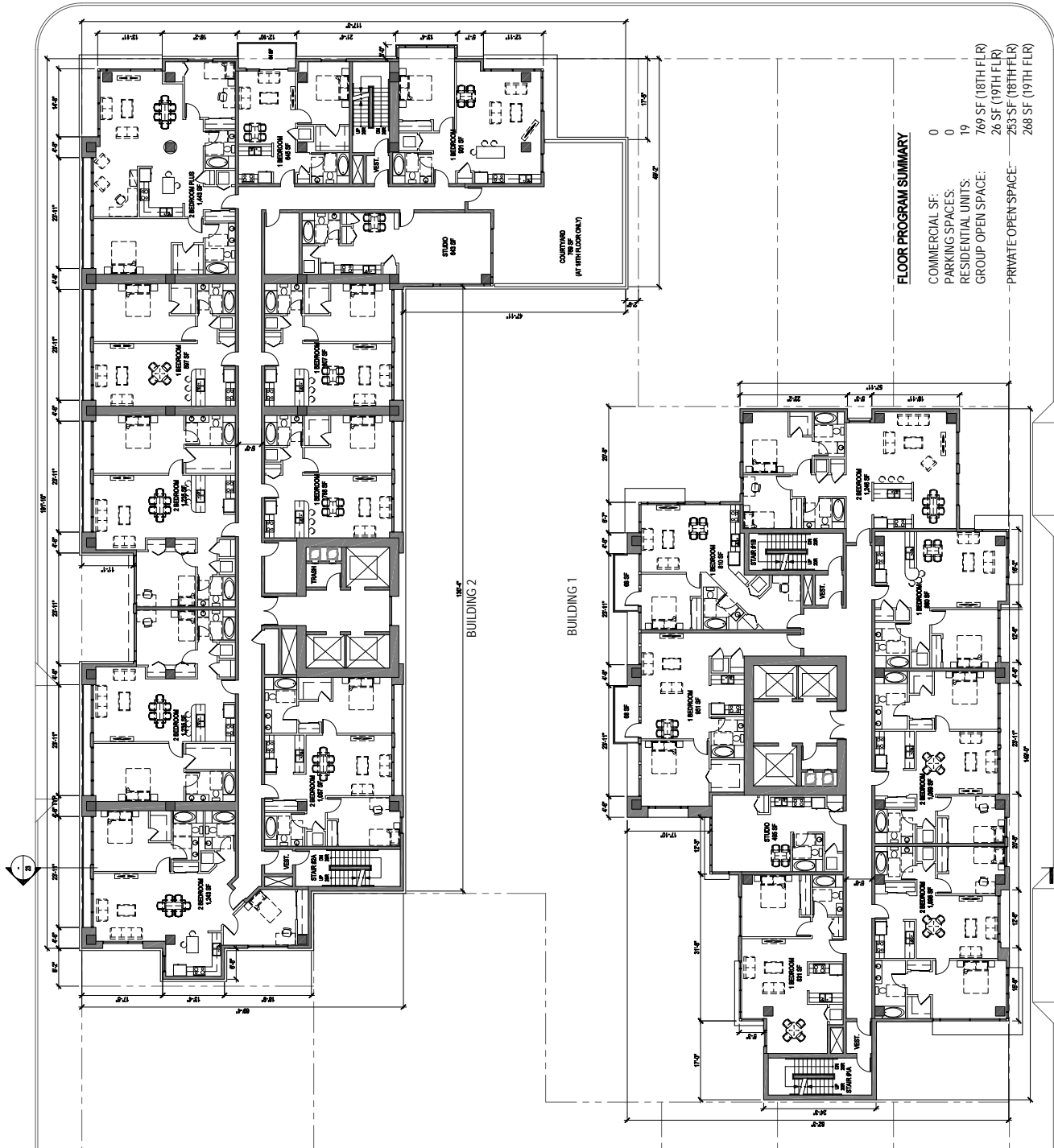


Figure 3-15
Level 18 and 19 Floor Plan



Source: YHL Architects

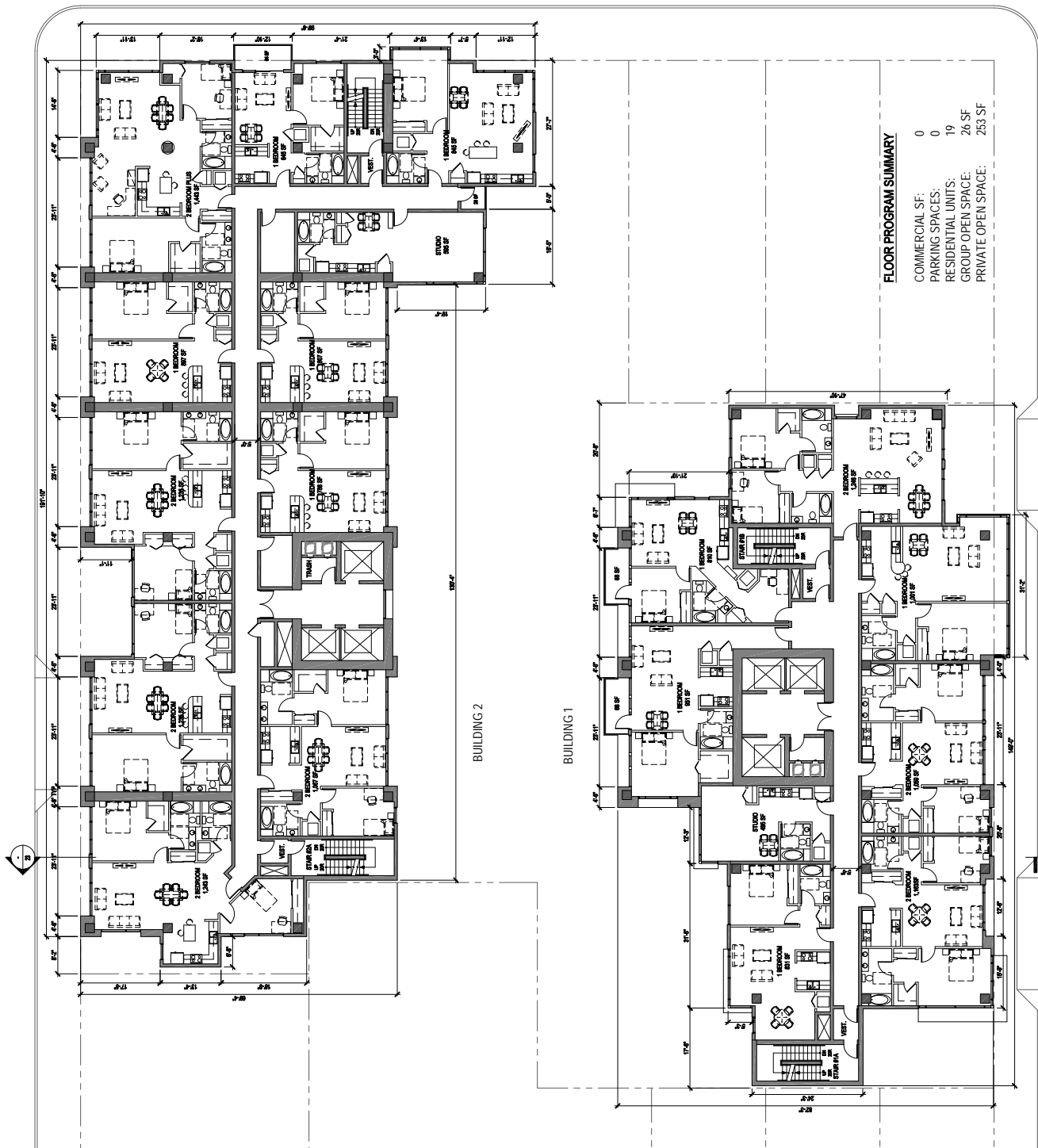


Figure 3-16
Level 20 Floor Plan



Source: YHL Architects



COMMERCIAL SF:	0
PARKING SPACES:	0
RESIDENTIAL UNITS:	8
GROUP OPEN SPACE:	0
PRIVATE OPEN SPACE:	20

Source: YHL Architects



Source: YHL Architects

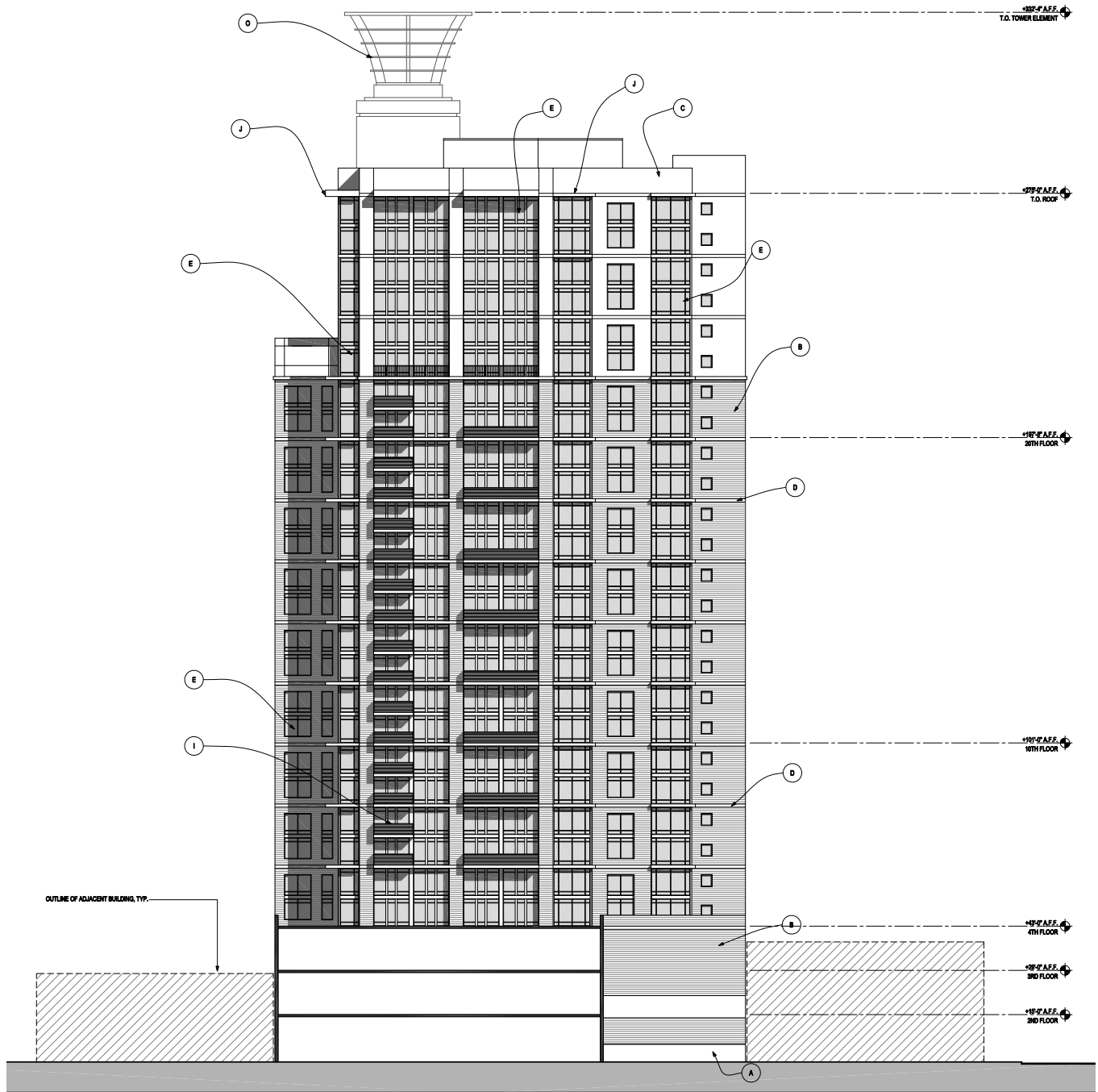


Figure 3-19
Building 1, North Elevation



Source: YHL Architects

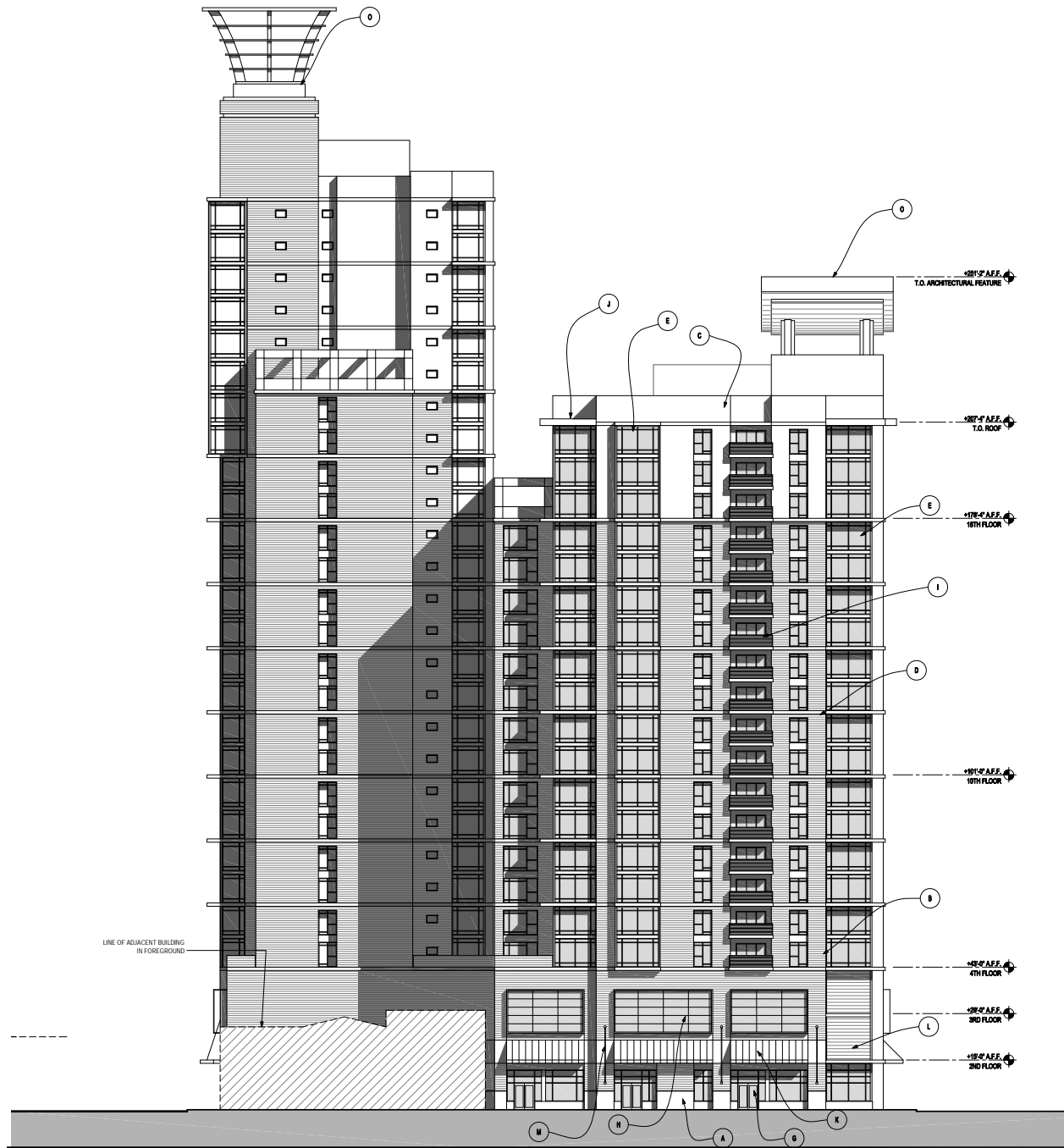


Figure 3-20
Buildings 1 and 2, East (Harrison Street) Elevation



Source: YHL Architects

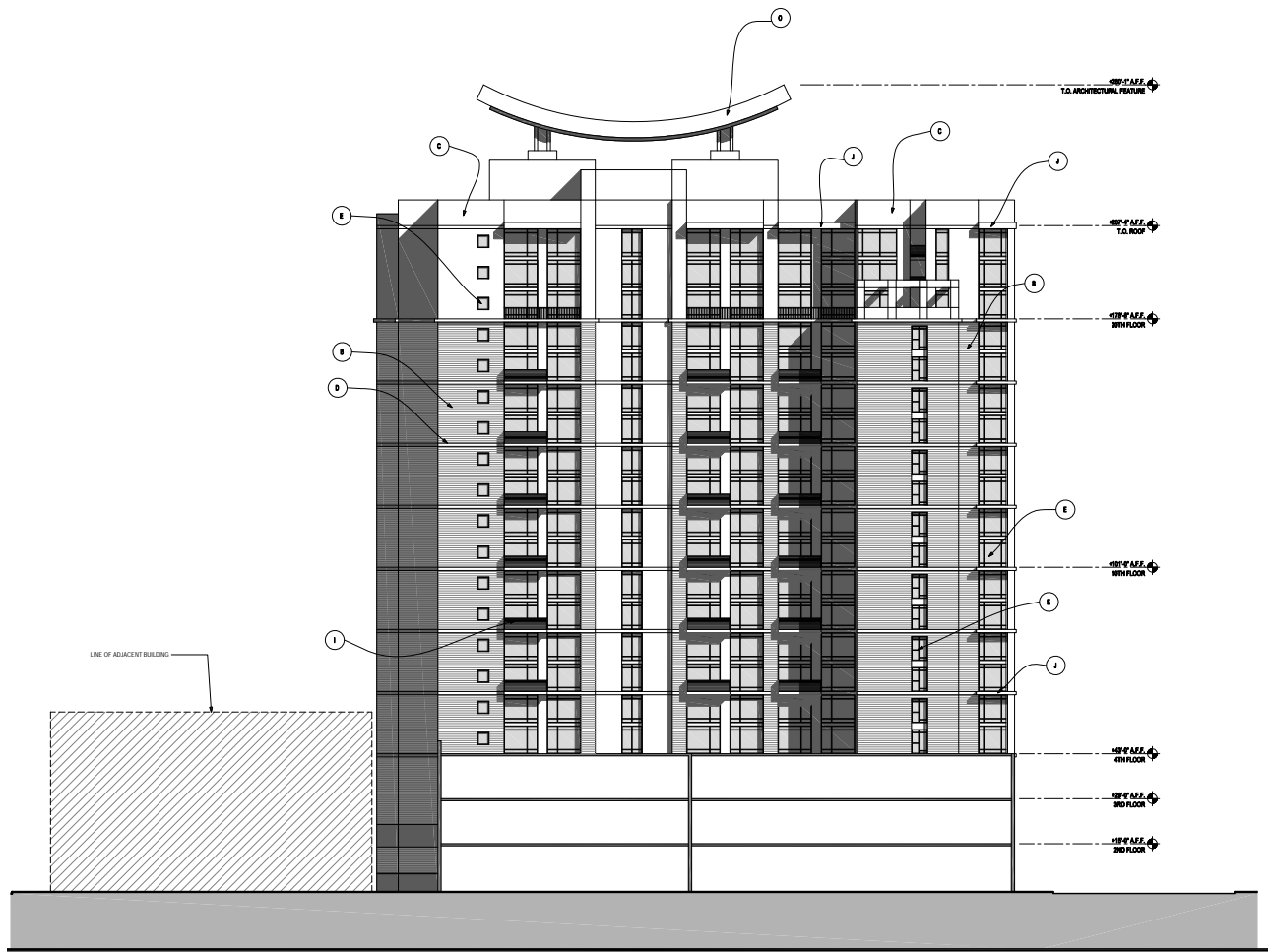


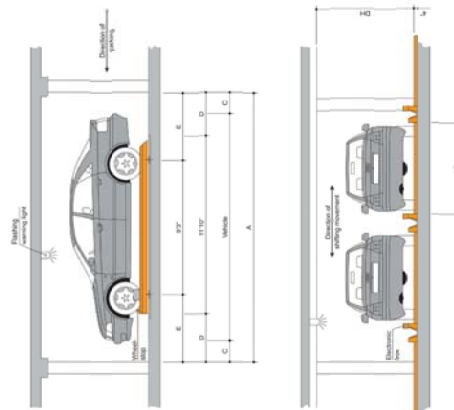
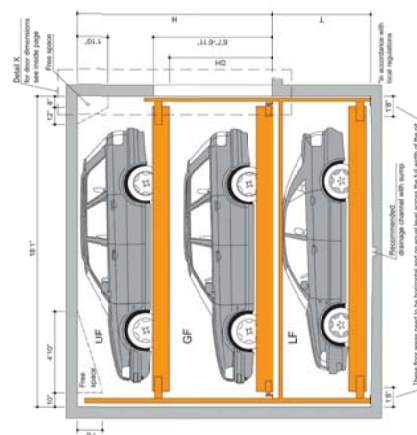
Figure 3-21
Building 2, South Elevation



Source: YHL Architects

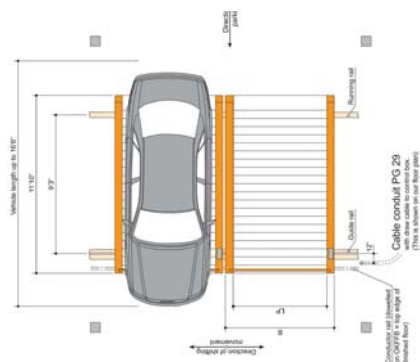


MECHANICAL PARKING 3D ILLUSTRATION



A	Vehicle	C	D	E	Please note the following on parking space	DH
185"	166"	12"	3'4"	4'8"	Passes space and parked conforms to German regulations and VDTU Information Sheet Formulareink 1507	According to VDTU information sheet Formulareink 1507

TYPE P210-405



HORIZONTAL MOVEMENT DIAGRAM FOR ALL MECHANICAL PAI

Figure 3-22
Parking System Details



Source: YHL Architects

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SETTING, IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES

This chapter contains an analysis of the environmental topics relevant to the proposed Project, and, as such, constitutes the major portion of this Draft EIR. Sections 4A through 4G of this chapter describe the existing setting for each topic relevant to the proposed Project, the potential impacts that could result from implementation of the Project, relevant City policies and Standard Conditions of Approval that would minimize potential adverse effects that could result from implementation of the Project, and mitigation measures necessary to reduce impacts of the Project.

The following provides an overview of the scope of the analysis included in this chapter, organization of the sections, the methods for determining what impacts are significant, and the applicability of the City's Uniformly Applied Development Standards (also referred to as Standard Conditions of Approval).

ENVIRONMENTAL TOPICS

Based on the analysis contained in the December 2007 Initial Study, with implementation of the City of Oakland's Standard Conditions of Approval, the Project was found to result in less than significant impacts for the majority of the checklist topics including agriculture, air quality, biological resources, cultural resources, geology, hydrology and water quality, land use and planning policy, mineral resources, noise, population and housing, public services, recreation and utilities. The Notice of Preparation indicated that an EIR would be prepared, focusing on the topics of aesthetics, hazards and hazardous materials, and traffic. However, based on comments on the NOP/IS that were received from several public agencies, on-going consideration of new air quality thresholds and a change in the Project description, the scope of this Draft EIR has been expanded. The following environmental topics are addressed in this EIR:

4.1: Aesthetics

- Shadow, wind and cumulative visual impacts are addressed, as was anticipated in the NOP.

4.2: Transportation, Circulation and Parking

- The December 2007 NOP/IS determined that transportation and traffic impacts associated with the Project were potentially significant. Therefore, this Draft EIR provides a detailed traffic and circulation impact assessment, as was anticipated in the NOP.

4.3: Air Quality

- The Bay Area Air Quality Management District (BAAQMD) provides guidance for consideration by lead agencies, consultants, and other parties for evaluating air quality impacts conducted pursuant to CEQA. The version of the BAAQMD CEQA Guidelines which was relied upon in preparation of the

Initial Study in December of 2007 was published in December 1999. However, the BAAQMD has recently published new Guidelines and thresholds for determining the significance of air quality and greenhouse gas emissions impacts. The Air District recommends that lead agencies within the District use these new thresholds when considering air quality impacts of projects. This Draft EIR provides a full discussion of potential air quality impacts using these newly adopted (June 2010) Thresholds and Guidelines.

4.4: Greenhouse Gas Emissions

- The BAAQMD commented on the December 2007 NOP/IS, indicating that although the District had not at that time established significance thresholds for greenhouse gas (GHG) emissions, analytical methodologies and tools should be used to quantify GHG emissions associated with the Project. However, the BAAQMD has recently published new Guidelines and thresholds for determining the significance of greenhouse gas emission impacts. The Air District recommends that lead agencies within the District use these new thresholds when considering the potential climate change impacts of projects. This Draft EIR provides a full discussion of potential climate change impacts using these newly adopted (June 2010) Thresholds and Guidelines, and identifies efforts by the City and the Project sponsor to minimize the Project's contribution to climate change including feasible mitigation measures to reduce GHG emissions.

4.5: Public Health and Hazards

- Issues were raised by the California Department of Toxic Substances Control (DTSC) in their review of the December 2007 NOP/IS related to the potential presence of hazardous materials and other hazards on and near the project site. Therefore, this Draft EIR provides a more detailed assessment of potential impacts to public health and safety in response to those comments.

4.6: Wastewater Collection Infrastructure

- Issues were raised by the East Bay Municipal Utilities District during their review of the December 2007 NOP/IS related to wastewater collection infrastructure, and so this EIR includes a more detailed analysis of this issue.

4.7: Historic Resources

- The December 2007 NOP/IS determined that the Project would not have a significant impacts on historic resources based on the proposal at that time to relocate the existing residential structure located at 617-621 Harrison Street (identified as an historic resource under CEQA) to a new site. However, the Project applicant now proposes to demolish this building. Therefore, this Draft EIR evaluates the direct impacts of demolishing this historic resource.

Format of Topic Sections

Each environmental topic section generally includes two main subsections: (1) Setting; and (2) Impacts (construction, project and cumulative), Standard Conditions of Approval, and Mitigation Measures. Identified significant impacts are identified, together with corresponding mitigation measures.

The following notations are provided after each identified significant impact and mitigation measure:

- SU = Significant and Unavoidable

- S = Significant
- LTS = Less than Significant

These notations indicate the significance of the impact with and without mitigation.

Determination of Significance

Under CEQA, a significant effect is defined as a substantial, or potentially substantial, adverse change in the physical environment. Each of the impact evaluations in this chapter is prefaced by criteria of significance, which are the thresholds for determining whether an impact is significant. This criteria of significance utilized in this EIR are from the City of Oakland's Thresholds/Criteria of Significance Guidelines. To help clarify and standardize analysis and decision-making in the environmental review process in the City of Oakland, the City has established the Thresholds/Criteria of Significance Guidelines (which have been in general use since at least 2002). The Thresholds are offered as guidance in preparing environmental review documents. The City requires use of its thresholds unless the location of the project or other unique factors warrants the use of different thresholds. The thresholds are intended to implement and supplement provisions in the CEQA Guidelines for determining the significance of environmental effects, including Sections 15064, 15064.5, 15065, 15382 and Appendix G, and form the basis of the City's Initial Study and Environmental Review Checklist.

The Thresholds are intended to be used in conjunction with the City's Uniformly Applied Development Standards and Conditions of Approval (see discussion below), which are incorporated into projects as Conditions of Approval regardless of the determination regarding a project's environmental impacts.

CUMULATIVE ANALYSIS CONTEXT

CEQA defines cumulative as "two or more individual effects which, when considered together, are considerable, or which can compound or increase other environmental impacts." Section 15130 of the CEQA Guidelines requires that an EIR evaluate potential environmental impacts when the project's incremental effect is cumulatively considerable. "Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects. These impacts can result from a combination of the proposed project together with other projects causing related impacts. "The cumulative impact from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects." The City of Oakland's analysis approach specifies that "past, present, existing, approved, pending and reasonably foreseeable future projects should be included as part of the cumulative analysis.

The context used for assessing cumulative impacts typically varies depending on the specific topic being analyzed. For example, the geographic and temporal (time-related) parameters related to a cumulative analysis of air quality impacts are not necessarily the same as those for a cumulative analysis of noise or aesthetic impacts. This is because the geographic area that relates to air quality is much larger and regional in character than the geographic area that could be impacted by potential noise or aesthetic impacts from a proposed project and other cumulative projects/growth. The noise and aesthetic cumulative impacts are more localized than air quality and transportation impacts which are more regional in nature. Accordingly, the geographic setting and other parameters of each of the cumulative analyses in this document can vary.

Generally, to establish a partial baseline for cumulative analysis, the City of Oakland's major Project list was used, in part to determine past, present, existing, approved, pending and reasonably foreseeable future projects in the vicinity of 325 7th Street. The geographic areas near the Project site include downtown, Chinatown and Jack London Square. Major projects from the City's Major Projects List that pertain the 325 7th Street Project vicinity are summarized in **Table 4-1**. These major projects are not inclusive of all possible past major projects; projects not listed were no longer maintained on the City's list as of November 2008 (the timeframe for which this analysis was conducted), but are part of the baseline assumptions for the analysis in this EIR. Additional development projects that are not on the City's Major Projects list have also been considered for the cumulative assessment of certain topic areas and are identified by topic areas in the following chapters. Specifically, a more detailed cumulative list of projects was identified in order to analyze cumulative visual, wind and shadow effects given the site specific and localized nature of these effects. The transportation analysis and the transportation-related air quality and greenhouse gas analysis used the Alameda County Congestion management Agency (ACCMA) travel demand model, which requires inputs at the traffic analysis zone (TAZ) level.

TABLE 4-1: LIST OF RELEVANT CUMULATIVE PROJECTS IN THE VICINITY

Project Location/Name	Description
2 nd Street and Webster (377 2 nd Street)	Mixed use project, 4,000 square feet ground floor retail, 96 dwelling units
6 th and Oak Street (609 Oak Street)	80 residential condominium units
2 nd Street and Harrison Street (the Colony at Jack London Square)	105 residential units
3 rd Street and Harrison Street (300 Harrison Street)	91 dwelling units
12 th Street and Alice Street (Jackson Center 2)	Mixed use project, 5,000 square feet ground floor retail, 104 dwelling units
4 th Street and Alice Street (426 Alice Street)	Mixed use project, 9,800 square feet ground floor retail, 94 dwelling units
11 th Street and Jackson Street (188 11 th Street)	Mixed-use high-rise, 3,660 sq. ft. retail, 291 residential units
2 nd Street and Broadway (200-228 Broadway)	Mixed use project, 8,000 square feet ground floor retail, 100,000 square feet office, 109 dwelling units
11 th Street and Broadway (1100 Broadway), and	310,300 square feet office, 9,800 square feet retail
7 th Street and Broadway	Mixed use project; 48 residential units, 2,300 square feet retail
Source: City of Oakland CEDA, Major Projects List, December 2007	

UNIFORMLY APPLIED DEVELOPMENT STANDARDS AND CONDITIONS OF APPROVAL

The City's Uniformly Applied Development Standards and Conditions of Approval (referred to in the EIR as Standard Conditions of Approval or Conditions of Approval, or SCA) are incorporated into projects as conditions of approval regardless of a project's environmental determination. As applicable, the Standard 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.

In reviewing project applications, the City determines which Standard Conditions of Approval are applied, based upon the zoning district, community plan, and the type(s) of permit(s)/approvals(s) required for the project. Depending on the specific characteristics of the project type and/or project site,

the City will determine which Standard Conditions of Approval apply to a specific project; for example, Standard Conditions of Approval related to creek protection permits will only be applied to projects on creek side properties. Because these Standard Conditions of Approval are mandatory City requirements, the impact analysis assumes that these will be imposed and implemented by the Project. If a Standard Condition of Approval would reduce a potentially significant impact to less than significant, the impact will be determined to be less than significant and no mitigation is imposed.

The Standard Conditions of Approval 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 Standard Conditions of Approval, the City will determine whether there are feasible mitigation measures to reduce the impact to less-than-significant levels.

RECOMMENDED CONDITIONS

Although not required by CEQA, certain “Recommended Conditions” are included the Transportation and Circulation chapter of this EIR with respect to certain improvements that are not necessary to address or mitigate any environmental impacts of the Project, but nevertheless are recommended herein by City Staff. These recommendations will be considered by decision makers during the course of Project review and may be imposed as Project-Specific Conditions of Approval.

Other “Project-Specific Conditions of Approval” supplement SCAs and are specific to the Project as they are identified in technical studies or reports prepared for the Project.

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AESTHETICS

The Initial Study for this Project determined that the Project would have no significant environmental impacts with respect to scenic vistas, scenic resources, visual character, landscape shadows, and the provision of adequate light (see **Appendix A**). This section evaluates the changes that development of the Project site as proposed might have with respect to shadows, surface wind patterns and (at the request of the Planning Commission) the cumulative effects of the Project on the skyline.

SETTING

Shadows

Although portions of the site are currently undeveloped (a parking lot and a vacant commercial lot), buildings currently located at the Project site do not exceed three stories in height, and do not generally produce large shadows that adversely affect adjacent buildings or the Chinese Garden Park (located across Harrison Street from the Project site).

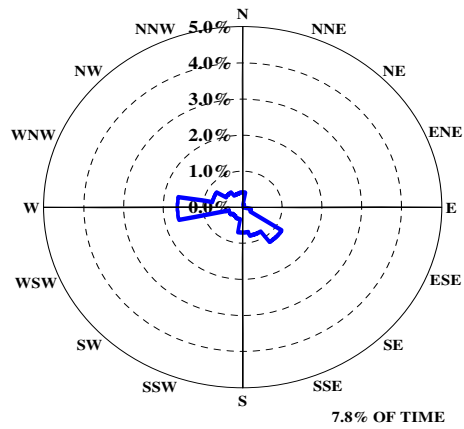
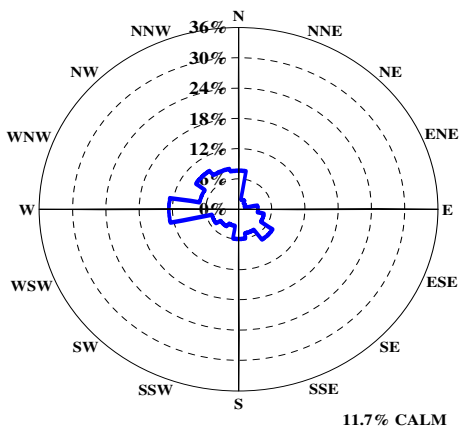
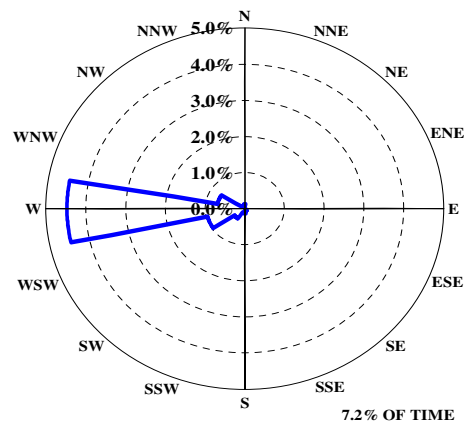
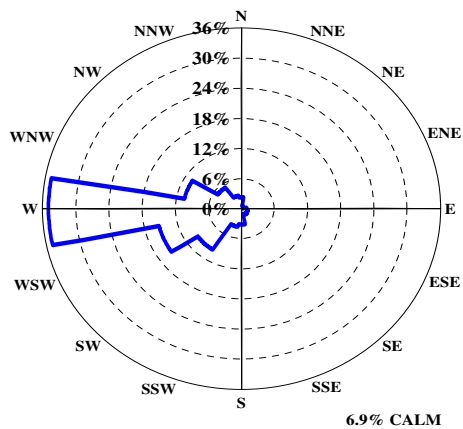
Wind

Average wind speeds in Oakland are highest during summer and lowest during winter months. However, stronger peak winds occur in winter, when speeds of over 50 miles per hour have been recorded. Except during storms, the highest wind speeds are in the mid-afternoon and the lowest are in the early morning. At night, especially in the winter, cooling temperatures on land result in light offshore (northeasterly and easterly) winds from the Oakland Hills toward San Francisco Bay.

Data collected at the former U.S. Naval Air Station at the city of Alameda show that winds from the west and north-northwest are the most frequent and strongest winds during all seasons in the Oakland area. Of the 16 wind directions measured at the Naval Air Station, nine directions, centered on the west (46 percent), north-northwest (22 percent) and south-southeast (14 percent) comprise the most frequency occurrences. All other wind directions occur less than 19 percent of the time. Calm conditions (which include the directional breakdowns stated above) occur during 8 percent of annual observations.

Wind statistics recorded at the Naval Air Station (now known as Alameda Point) between 1945 and 1997 were analyzed for the summer season (May through October) and for the winter season (November through April). **Figure 4.1-1** graphically depicts the distribution of wind frequency for these two seasons. The upper-left wind rose identifies the summer wind data (indicating the predominance of west winds, when all winds are considered), and the lower-left wind rose shows the winter wind data (illustrating the predominance of winds from the west, southeast and northwest during this season). Calm winds occur for 6.9 percent of the time during the summer, and for 11.7 percent of the time during the winter. Figure 4.1-1 also depicts the directionality of strong winds (winds greater than 20 miles per hour) at the former Air Station, which occur for 7.2 percent of the time during the summer, and for 7.8 percent of the time during the winter. Strong winds from the west are prevalent during the summer and winter seasons, along with strong winds from the southeast in winter.

Figure 4.1-2 shows modeled at-grade wind conditions in the immediate vicinity of the Project site with conditions at the site as they are today. Although these images represent the average wind speed from selected directions, actual wind flows will fluctuate and approach from different directions. In these images, the color blue represents low wind speed areas, and the color green indicates low to moderate wind speeds.



Directional Distribution (%) of Winds (Blowing From)
Station: Alameda Naval Air Station, CA (1945 - 1997)

325 7th Street - Oakland, California

Project #: 07-1584

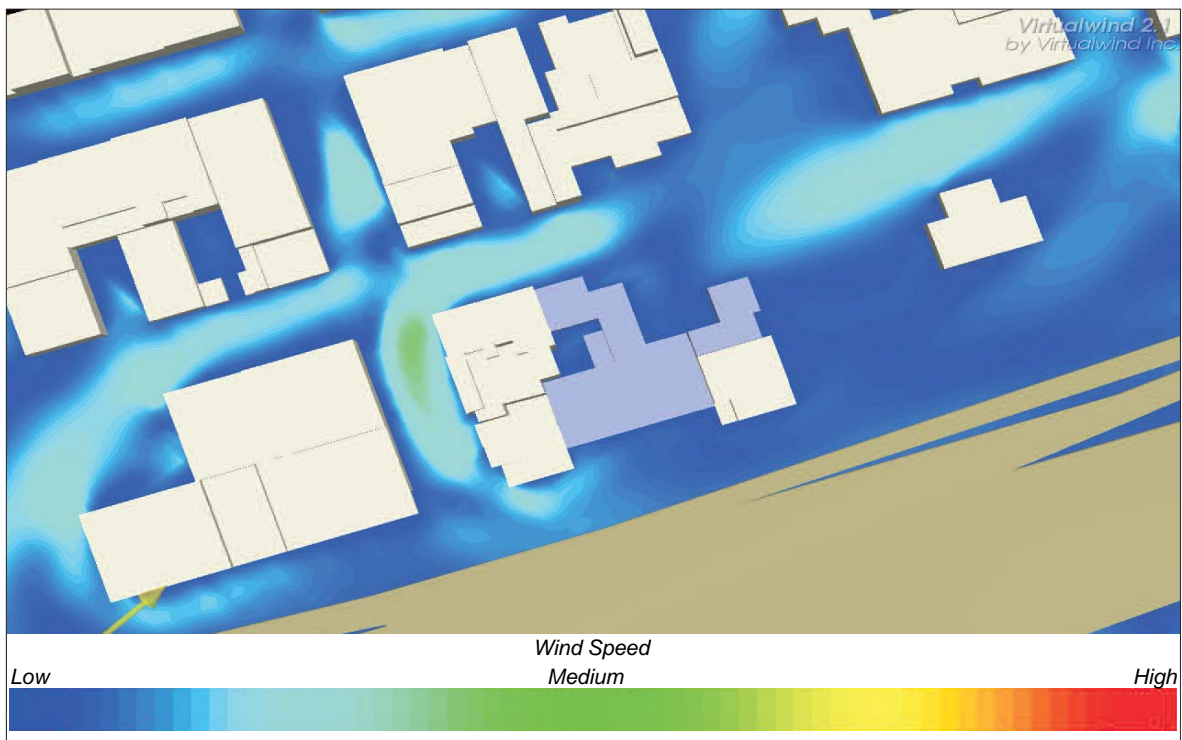
Figure No. **3**
 September 5, 2007

RWDI

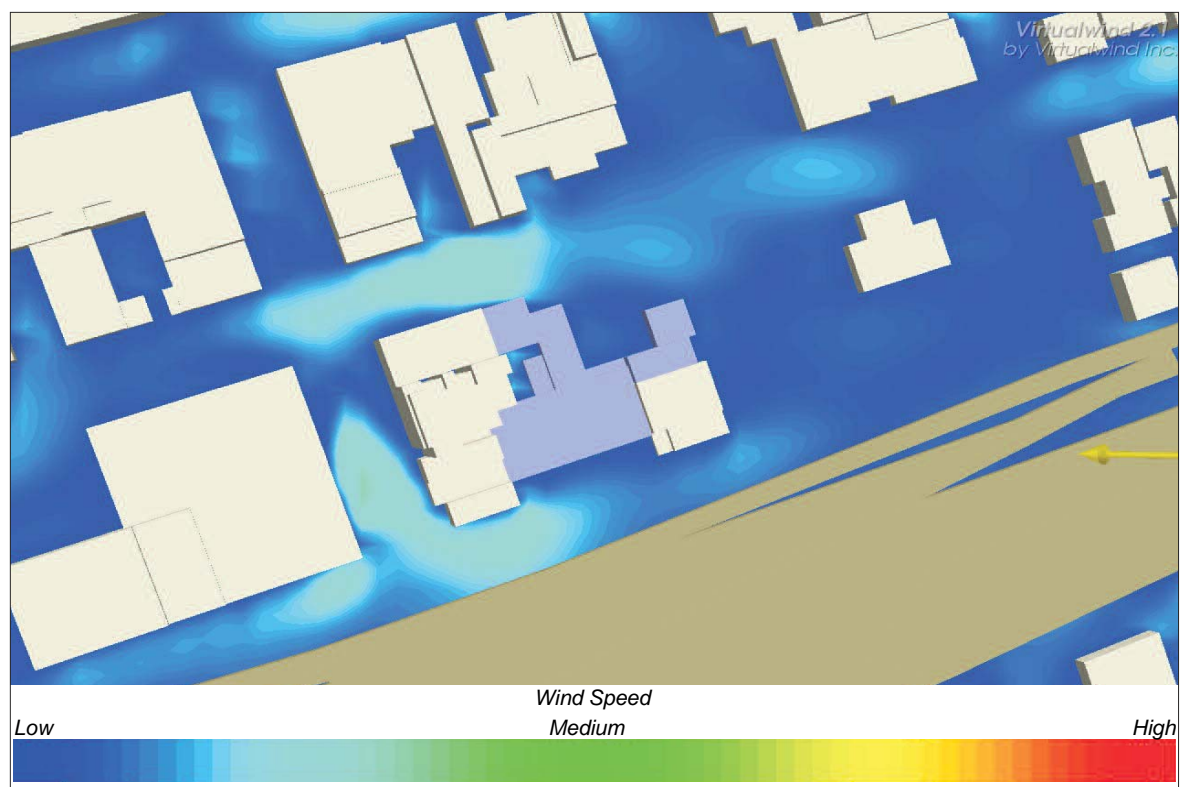
Figure 4.1-1
 Directional Distribution of Wind



Source: RWDI



West Winds



Southeast Winds

Figure 4.1-2
Wind Simulation -
Existing Conditions at Grade Level



Source: RWDI

REGULATORY SETTING

The main documents that are applicable to aesthetics and visual quality within and around the Project site are the Land Use and Transportation Element of the General Plan, the Oakland Planning Code, and applicable Standard Conditions of Approval.

City of Oakland

Oakland General Plan

Land Use and Transportation Element. The Land use and Transportation Element (LUTE) is intended to guide development within the City of Oakland. Applicable aesthetic resources policies are listed below:

Policy T6.2 Improving Streetscapes. The City should make major efforts to improve the visual quality of streetscapes. Design of the streetscape, particularly in neighborhoods and commercial centers, should be pedestrian-oriented and include lighting, directional signs, trees, benches, and other support facilities.

Policy T3.8 Screening Downtown Parking. Cars parked in Downtown lots should be screened from public view through the use of ground floor store fronts, parks and landscaping, or other pedestrian-friendly, safe and attractive means.

Policy T4.1 Incorporating Design Features for Alternative Travel. The City will require new development or retrofit to incorporate design features in their projects that encourage use of alternative modes of travel such as transit, bicycling and walking.

Policy D2.1 Enhancing Downtown. Downtown development should be visually interesting, harmonize with its surroundings, respect and enhance existing views in and out of downtown, respect the character, history, and pedestrian orientation of the downtown, and contribute to an attractive skyline.

Policy D6.2 Reusing Vacant or Underutilized Buildings. Existing vacant or underutilized buildings should be reused. Repair and rehabilitation, particularly of historic or architecturally significant buildings should be strongly encouraged. However, where reuse is not economically feasible, demolition and other measures should be considered. (Landmark and Preservation District properties must follow Policy 2.4 of the Historic Preservation Element)

Policy D10.5 Designing Housing. Housing in the downtown should be safe and attractive, of high quality design, and respect the downtown's distinct neighborhoods and its history.

Policy N3.8 Requiring High-Quality Design. High-quality design standards should be required of all new residential construction. Design requirements and permitting procedures should be developed and implemented in a manner that is sensitive to the added costs of those requirements and procedures.

Policy N3.9 Orienting Residential Development. Residential developments should be encouraged to face the street and to orient their units to desirable sunlight and views, while avoiding unreasonably blocking sunlight and views for neighborhood buildings, respecting the privacy needs of the development and surrounding properties, providing for sufficient conveniently located on-site open space, and avoiding undue noise exposure.

Policy N3.10 Guiding the Development of Parking. Off-street parking for residential buildings should be adequate in amount and conveniently located and laid out, but its visual prominence should be minimized.

Policy N8.2 Making Compatible Interfaces Between Densities. The height of development in urban residential and other higher density residential areas should step down as it nears lower density residential areas to minimize conflicts at the interface between the different types of development.

Open Space, Conservation and Recreation Element. This element promotes the preservation and good design of open space, and the protection of natural resources to improve aesthetic quality in Oakland. The following policies are relevant to visual resource concerns associated with the proposed Project:

Policy OS-10.1: View Protection. Protect the character of existing scenic views in Oakland, paying particular attention to: (a) views of the Oakland Hills from the flatlands; (b) views of downtown and Lake Merritt; (c) views of the shoreline; and (d) panoramic views from Skyline Boulevard, Grizzly Peak Road, and other hillside locations.

Policy OS-10.2: Minimizing Adverse Visual Impacts. Encourage site planning for new development which minimizes adverse visual impacts and takes advantage of opportunities for new vistas and scenic enhancement.

Oakland Planning Code

The designs of new residential projects in Oakland are subject to the following performance criteria that are utilized as part of the City's design review process:

1. That the proposed design will create a building or set of buildings that are well related to the surrounding area in their setting, scale, bulk, height, materials and textures.
2. That the proposed design will protect, preserve, or enhance desirable neighborhood characteristics.
3. That the proposed design will be sensitive to the topography and landscape.
4. That, if situated on a hill, the design and massing of the proposed building relates to the grade of the hill.
5. That the proposed design conforms in all significant respects with the Oakland General Plan and with any applicable design review guidelines or criteria, district plan, or development control map which have been adopted by the Planning Commission or City Council.

IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES

This section discusses potential impacts on aesthetic resources that could result from implementation of the proposed Project. The section begins with the criteria of significance, which establish the thresholds used to determine whether an impact is significant. The latter part of this section presents the impacts associated with the proposed Project and identifies mitigation measures, if appropriate.

CRITERIA OF SIGNIFICANCE

The Initial Study prepared for this Project (see **Appendix A**) determined that the Project would have no impact with respect to scenic vistas, scenic resources, visual character, landscape shadows and provision of adequate light. The Initial Study also concluded that that compliance with Standard Conditions of Approval related to the placement of lighting fixtures would reduce any potential impacts associated with light and glare to a level of less than significant.

The purpose of the analysis presented in this section of the EIR is to determine the impacts (if any) associated with casting shadows that substantially impair the function of a building using solar energy, shadows that substantially impacts the beneficial use of any public or quasi-public park, lawn, garden, or open space, and shadows on an historic resources, and/or creating winds in excess of City thresholds. The Planning Commission has also requested analysis of Project-related and cumulative aesthetic effects on the Oakland skyline, which is provided below.

Implementation of the proposed Project would have a significant effect on certain aesthetic resources if it would:

- Substantially degrade the existing visual character or quality of the site and its surroundings;
- Cast shadow that substantially impairs the function of a building using passive solar heat collection, solar collectors for hot water heating, or photo-voltaic solar collectors;
- Cast shadow that substantially impacts the beneficial use of any public or quasi-public park, lawn, garden, or open space;
- Cast shadow on an historic resource, as defined by CEQA Section 15064.2(a), such that the shadow would materially impair the resource's historic significance by materially altering those physical characteristics of the resource that convey its historical significance and that justify its inclusion or eligibility for listing in the National Register of Historic Places, California Register of Historic Resources, Local register of historic resources or a historical resource survey form (DPR Form 523) with a rating of 1-5;
- Create winds exceeding 36 mph for more than 1 hour during daylight hours during the year.

LESS-THAN-SIGNIFICANT AESTHETIC IMPACTS

The following discussion describes the less-than-significant impacts to aesthetic resources that would result from implementation of the proposed Project.

Shadow Impacts on Solar Collectors

Impact Aesth-1: The Project would have a less than significant impact on shading solar energy collection features in the vicinity, given the apparent absence of such features. **(LTS)**

As shown in the shadow modeling (see **Figure 4.1-3** through **Figure 4.1-14**), the proposed development of the Project site would result in new morning shadows cast on existing buildings west of Webster Street and along the north side of 7th Street in the vicinity of the Project site, except in the weeks around June 23rd. In the weeks around December 23rd, new shadows would also be cast on buildings located along Webster Street between 7th Street and 8th Street in the hours around noon. New shadows would also be

cast on buildings along the north side of 7th Street between Webster Street and Harrison Street and on buildings along Harrison Street between 7th Street and 8th Street during the early afternoons (except in the weeks around June 23rd), and on buildings located on the north side of 7th Street east of Harrison Street in the late afternoons all year (buildings along Harrison Street between 7th Street and 8th Street would not be shaded in the late afternoons in the weeks around June 23rd).

The City of Oakland has no records of any permits that have been issued for the installation of solar collectors for hot water heating or photovoltaic solar collectors, or designs intended to collect solar heat passively in the vicinity of the Project site. An evaluation of recent aerial photography of the Project site and surroundings did not provide any evidence that such solar energy collection features are found on any buildings that would be shadowed by the Project.

Shadows that Substantially Impair Beneficial Use of Parks

Impact Aesth-2: The shadows created by the proposed Project would have a less than significant effect in terms of impairment of the use of the Chinese Garden Park. **(LTS)**

As shown in **Figure 4.1-8**, development of the Project site as proposed would generate a shadow during the summer late afternoon period that would fall on an outer edge of Chinese Garden Park, which is located across Harrison Street from the Project site. However, these shadows would not be expected to reach the western edges of the park until mid-afternoon at the earliest in the weeks around June 23rd, with shadows gradually lengthening across greater portions of the park in the late afternoon or early evening at that time of year.

Although lawn areas make up a large percentage of the total area of Chinese Garden Park, most of the activity at the park takes place during the day either indoors within the Hall of Pioneers (which hosts the Hong Lok Senior Center) or outdoors in the garden located between the Hall and the I-880 freeway. There are no playgrounds at the park that would be shaded by the proposed Project, and shadows generated by the proposed Project would not affect the interior use of the Hall of Pioneers or extend to shade the garden area.

Shadows Cast on an Historic Resource

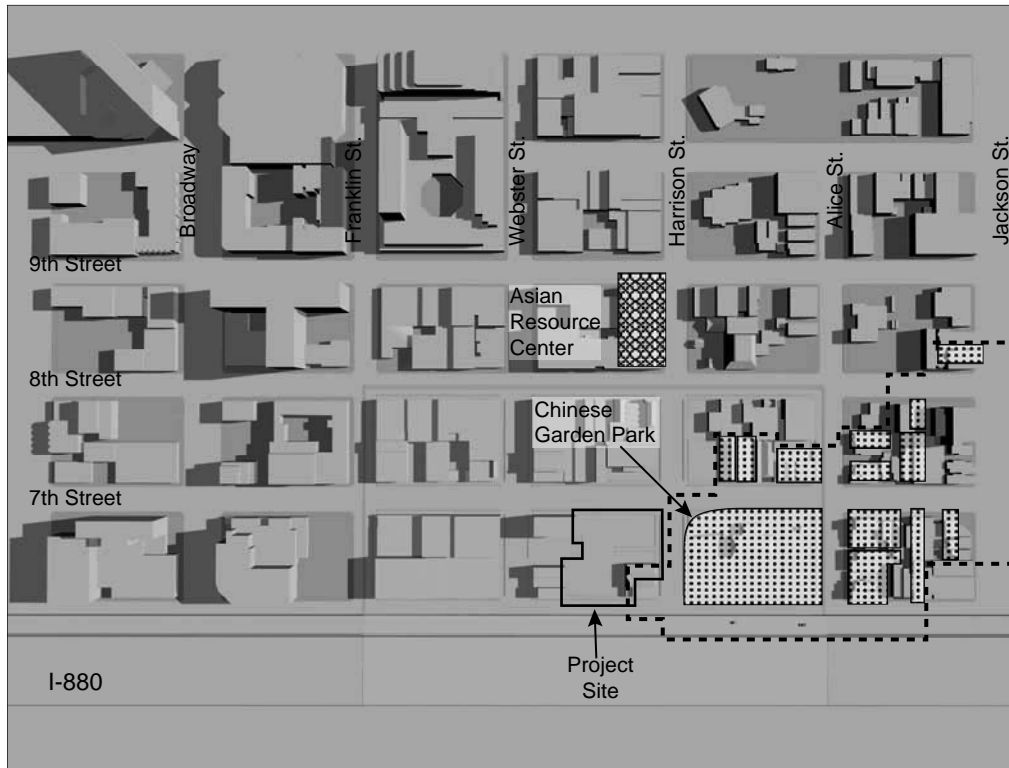
Impact Aesth-3: Given the limited duration of the Project's shadows, the Project would not in any material way alter the historic significance of historic resources, including the Asian Resource Center, the Chinese Garden Park or the 7th Street/ Harrison Square Residential Historic District, and this would be regarded as a less than significant impact. **(LTS)**

Since what is now known as Chinese Garden Park is one of the City of Oakland's original parks, it has been identified as an historic resource. As shown in **Figure 4.1-8**, development of the Project site as proposed would generate new shadows that would fall on portions of this park in the late afternoons during the weeks around June 23rd each year.

The shadows that would be cast by the Project onto Chinese Garden Park would not materially impair the resource's historic significance, since it would not materially alter any physical characteristics of the resource that convey its historical significance. The Chinese Garden Park is regarded as historically significant because it remains in its original location and has retained nearly its original size since it was formally designated as a park shortly after the City of Oakland was founded. There are no physical features or characteristics which would render this park "historic" except for its location and size.

None of the Project-related shadows modeled for this Draft EIR would extend to shade any of the historic structures identified as District Contributors or Contingency Contributors to the 7th Street Residential District.

As shown in **Figure 4.1-14**, during the winter late afternoon period the shadow generated by the proposed structure would fall across the Asian Resource Center located at the corner of 8th Street and Harrison Street (designated in the Historic Preservation Element, Appendix B, as an historic resource). Given the limited duration of shadowing of this historic resource, the Project's shadows would not alter the historic significance of the Asian Resource Center in any material way, and this would be regarded as a less than significant impact.



March 23, 9:00 AM -- Existing Conditions

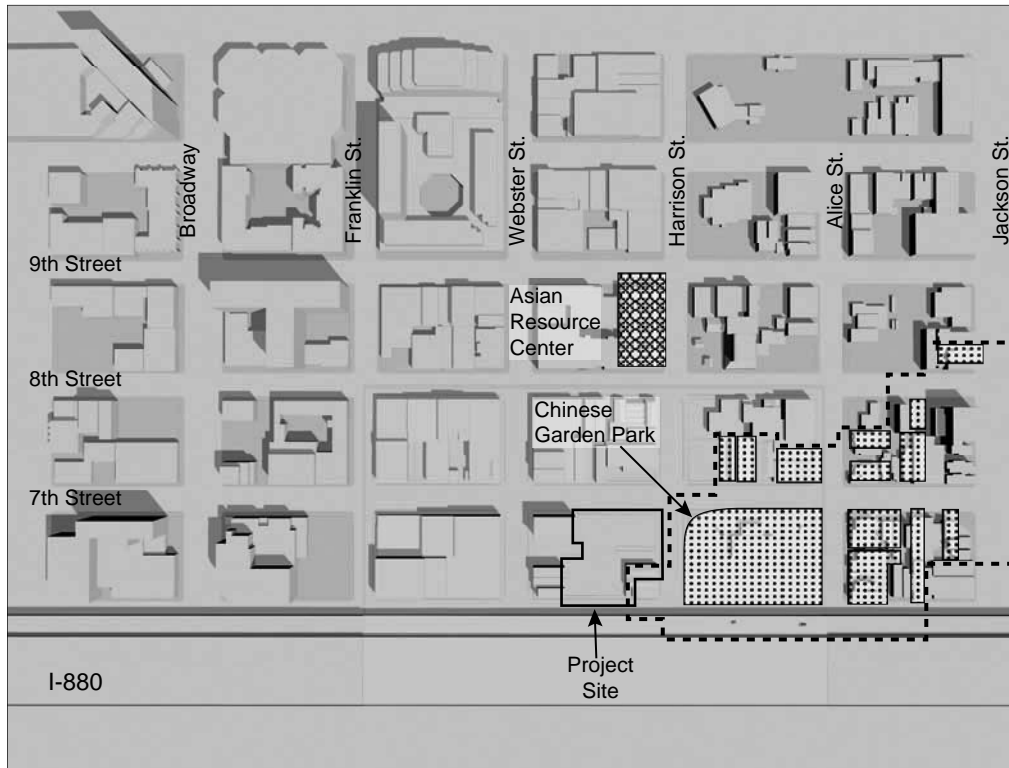


March 23, 9:00 AM -- Proposed Conditions

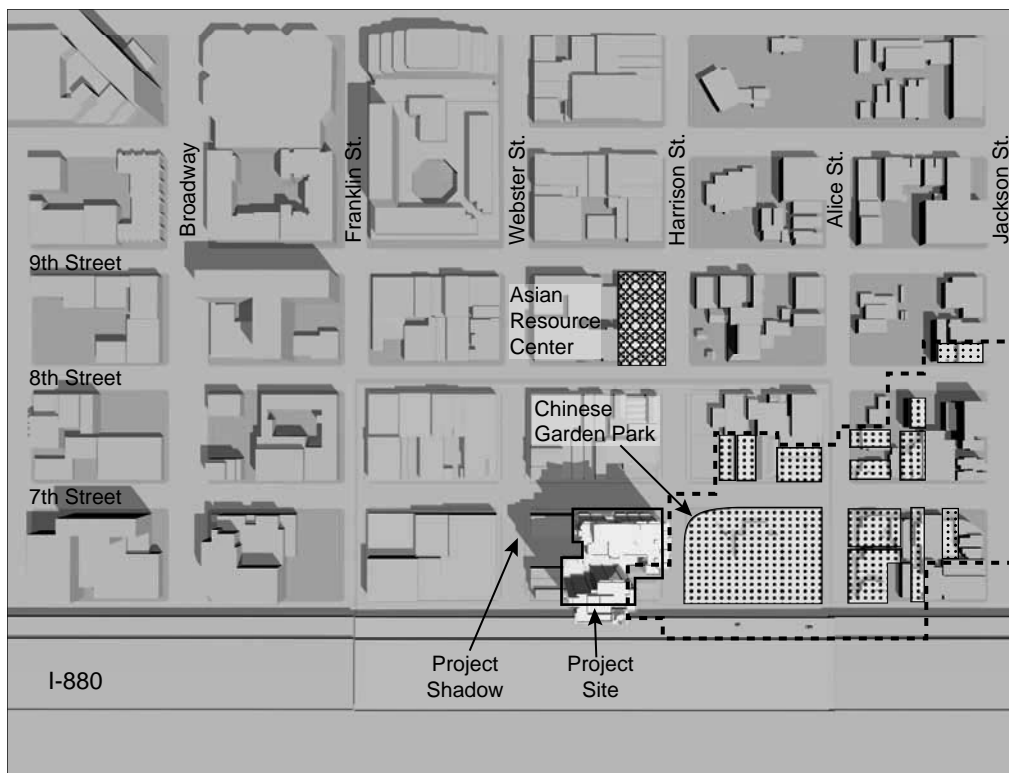
Figure 4.1-3
Project Shadow Impact Study:
March 23, 9:00 AM



YHLA Architects



March 23, 12:00 Noon -- Existing Conditions

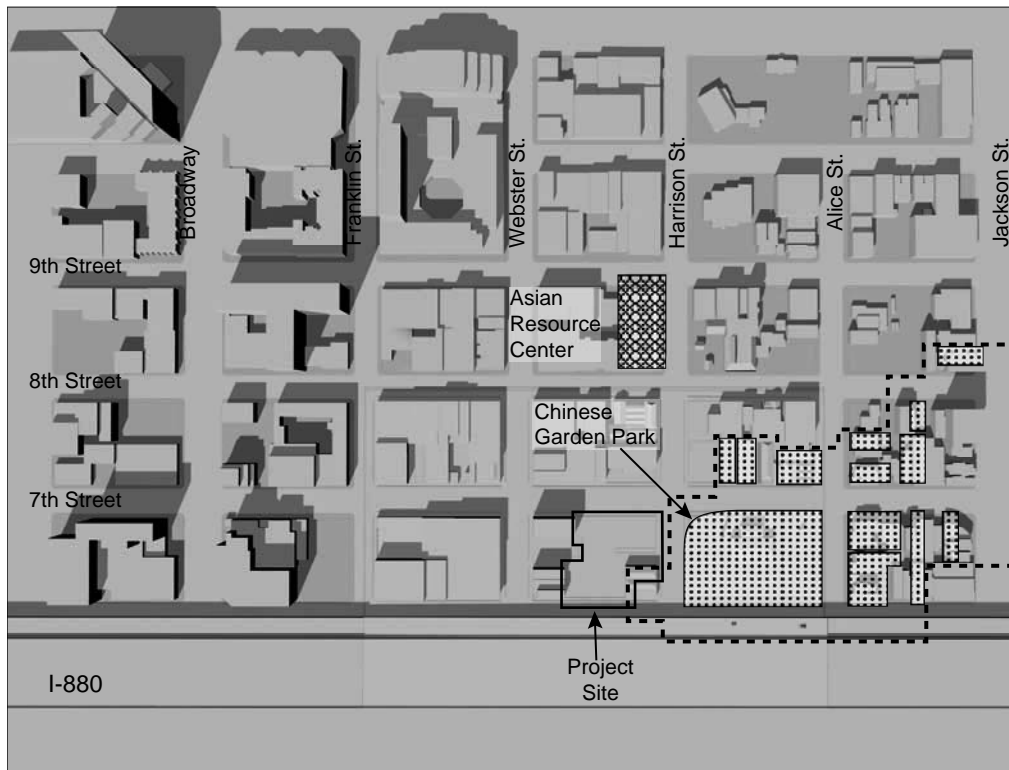


March 23, 2:00 Noon -- Proposed Conditions

Figure 4.1-4
Project Shadow Impact Study:
March 23, 12:00 Noon



YHLA Architects



March 23, 3:00 PM -- Existing Conditions

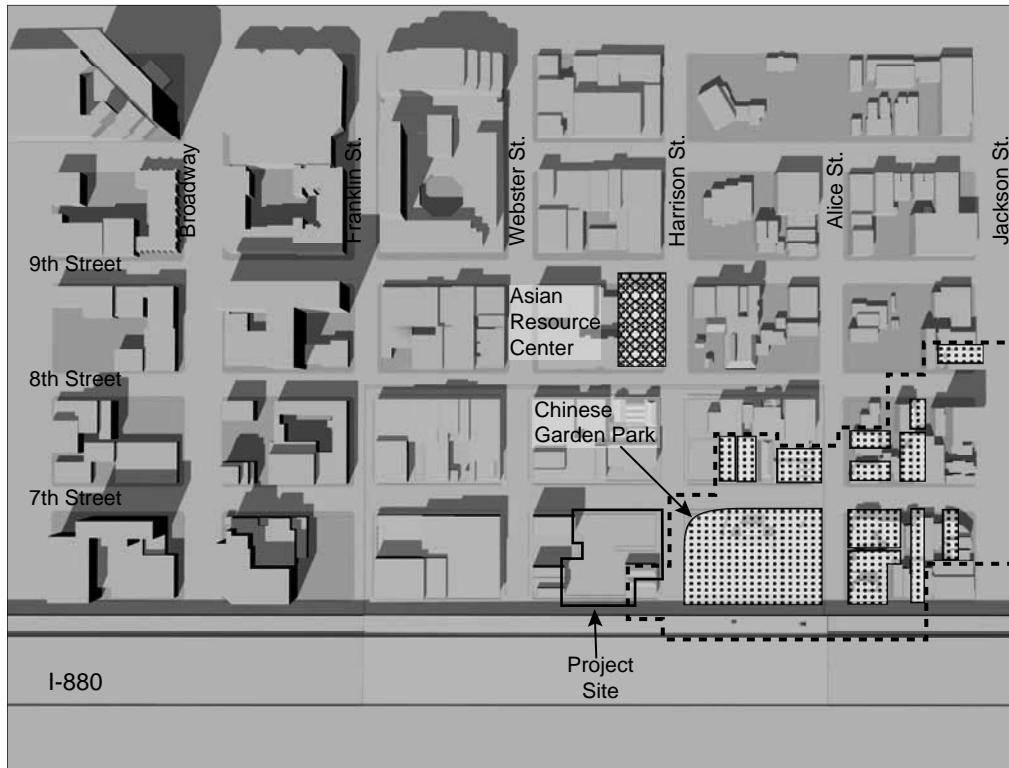


March 23, 3:00 PM -- Proposed Conditions

Figure 4.1-5
Project Shadow Impact Study:
March 23, 3:00 PM



YHLA Architects



June 23, 9:00 AM -- Existing Conditions

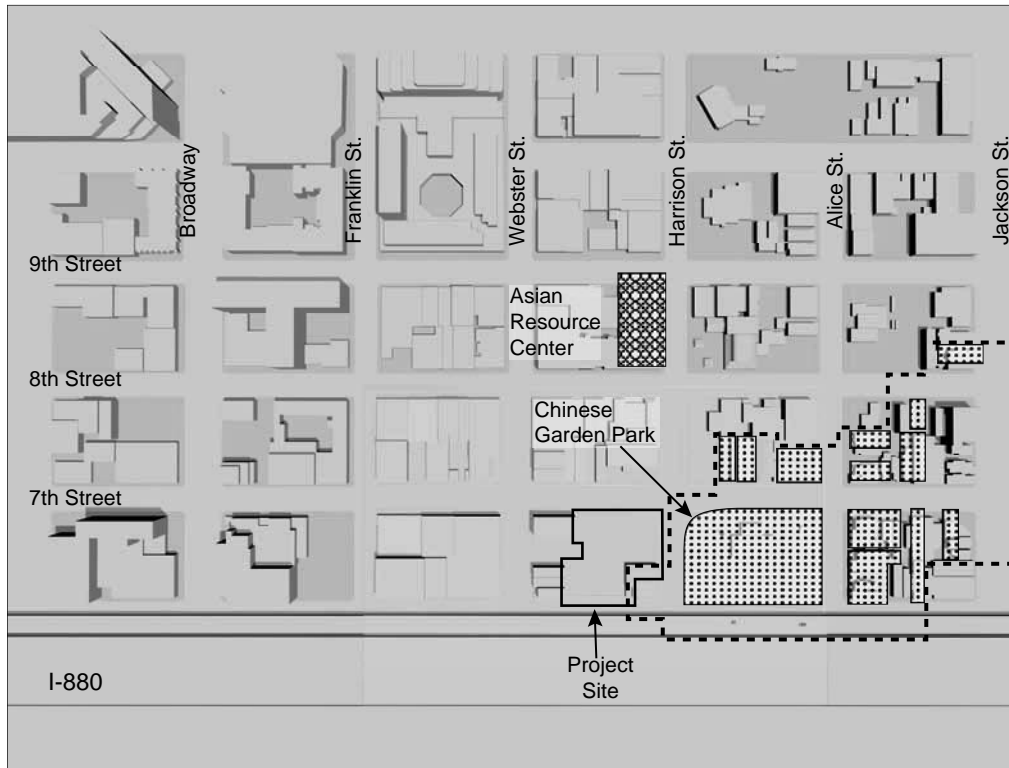


June 23, 9:00 AM -- Proposed Conditions

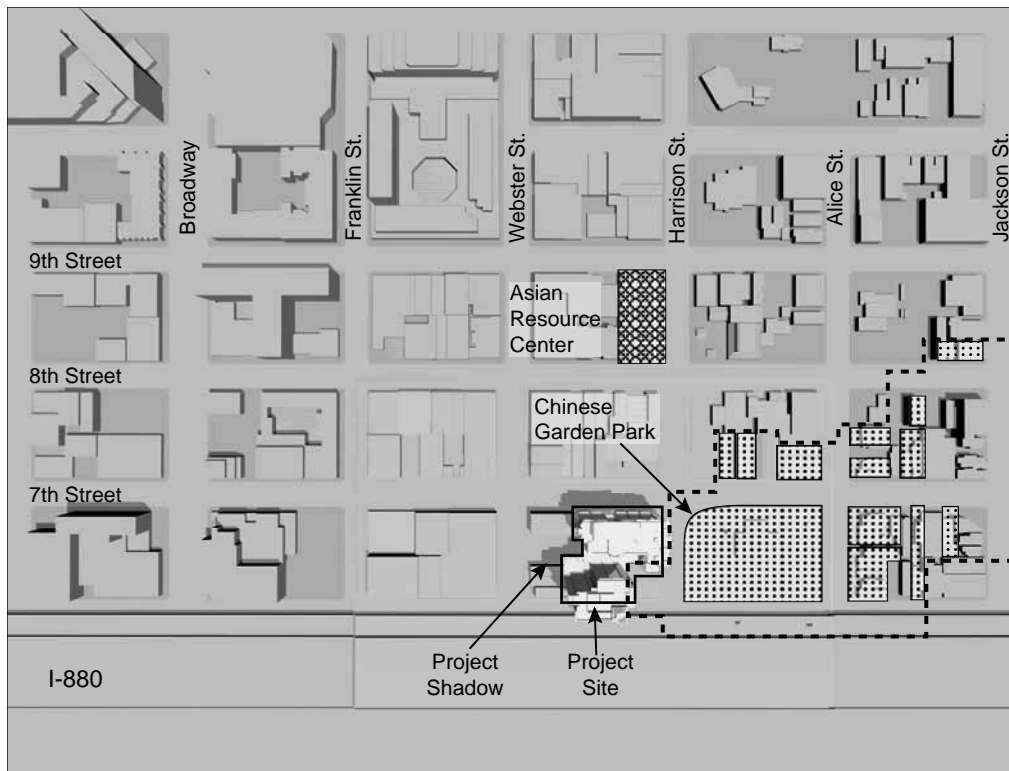
Figure 4.1-6
Project Shadow Impact Study:
June 23, 9:00 AM



YHLA Architects



June 23, 12:00 Noon -- Existing Conditions

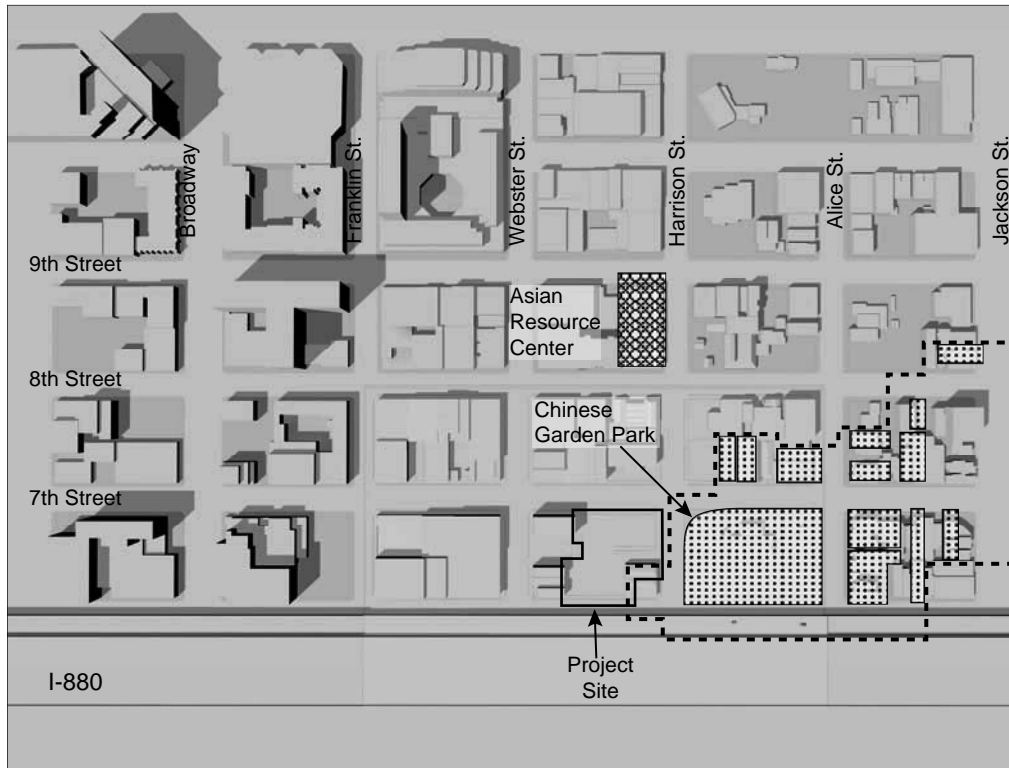


June 23, 12:00 Noon -- Proposed Conditions

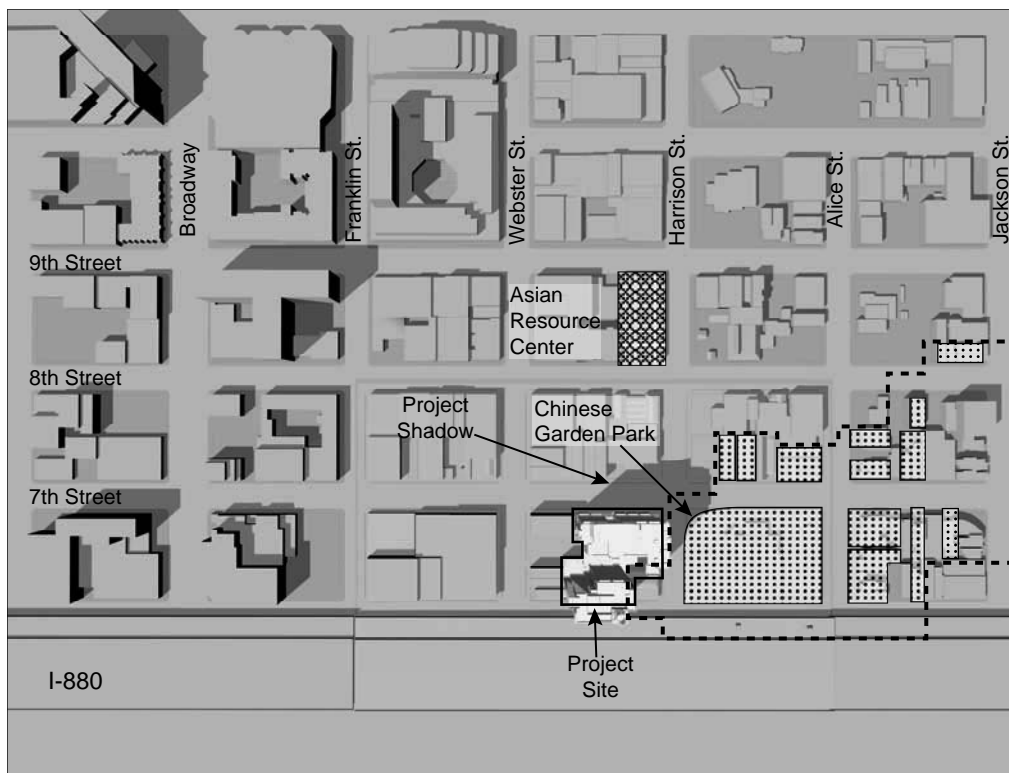
Figure 4.1-7
Project Shadow Impact Study:
June 23, 12:00 Noon



YHLA Architects



June 23, 3:00 PM -- Existing Conditions

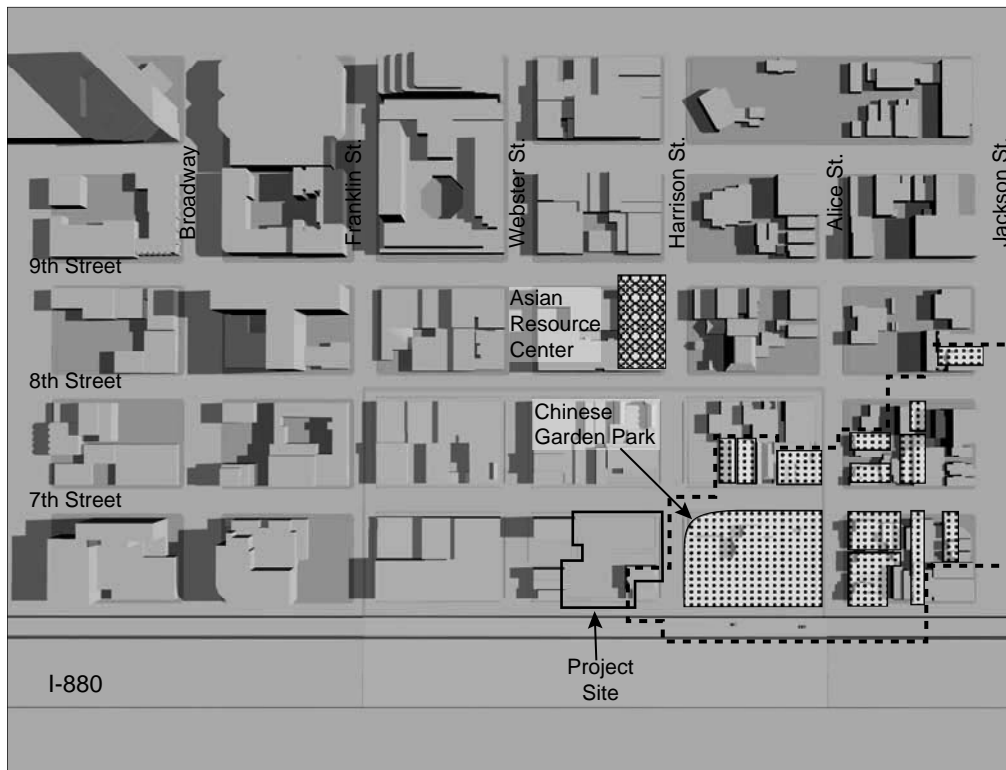


June 23, 3:00 PM -- Proposed Conditions

Figure 4.1-8
Project Shadow Impact Study: June 23, 3:00 PM



YHLA Architects



September 23, 9:00 AM -- Existing Conditions

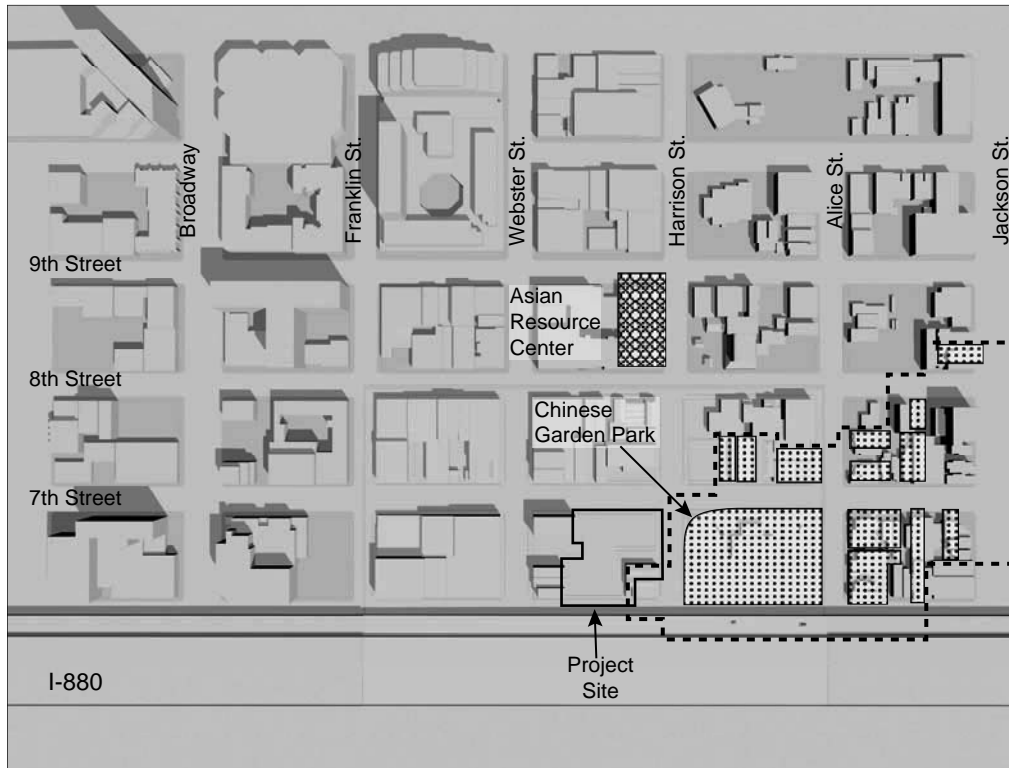


September 23, 9:00 AM -- Proposed Conditions

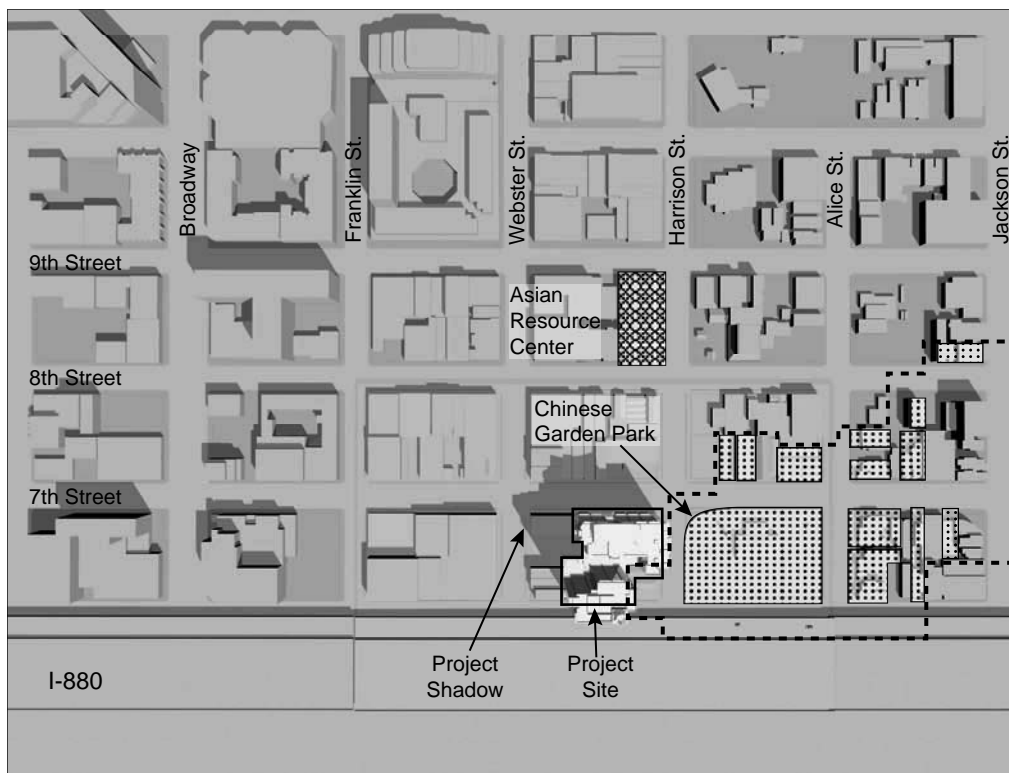
Figure 4.1-9
Project Shadow Impact Study:
September 23, 9:00 AM



YHLA Architects



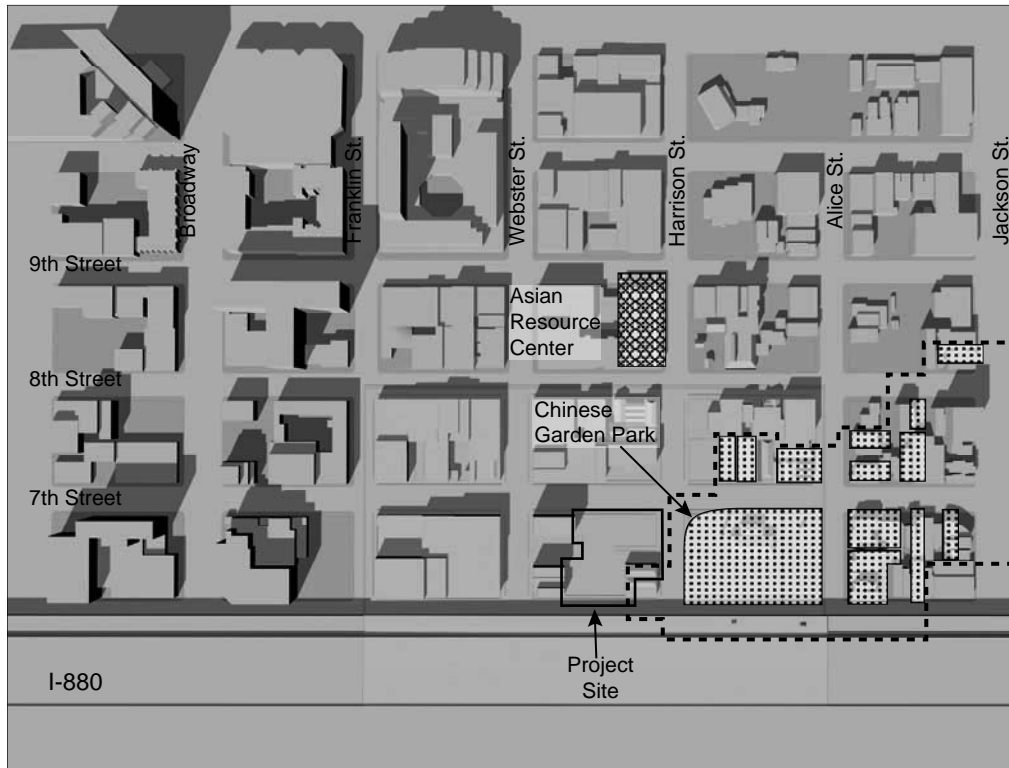
September 23, 12:00 Noon -- Existing Conditions



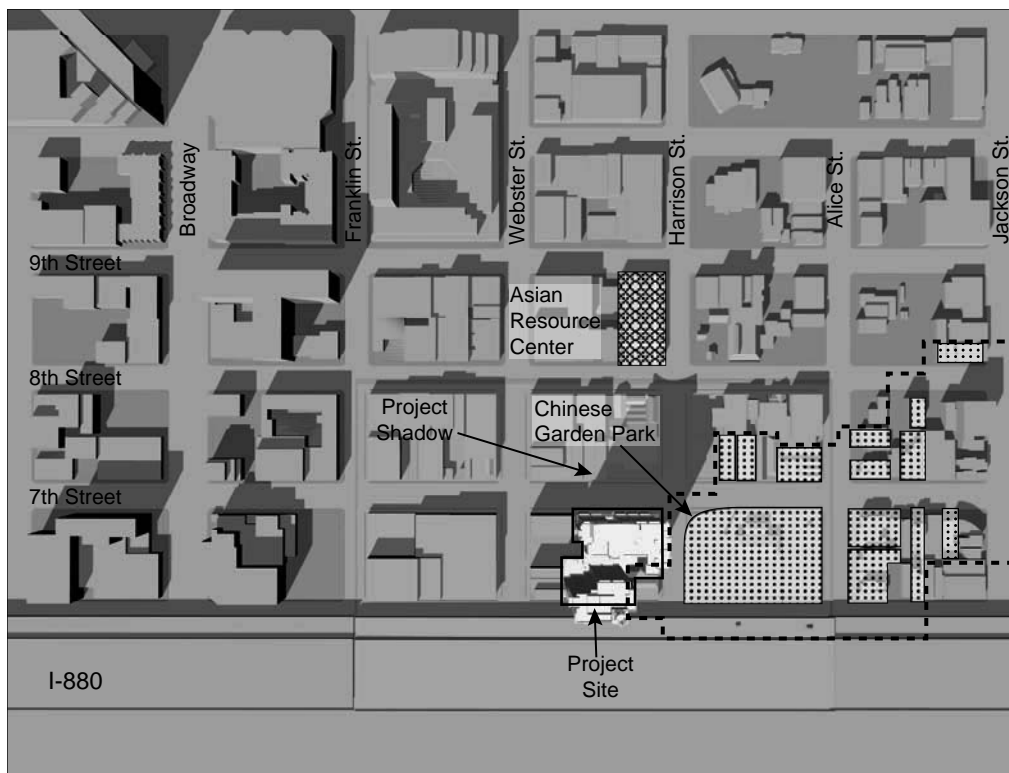
September 23, 12:00 Noon -- Proposed Conditions

Figure 4.1-10
Project Shadow Impact Study:
September 23, 12:00 Noon





September 23, 3:00 PM -- Existing Conditions



September 23, 3:00 PM -- Proposed Conditions

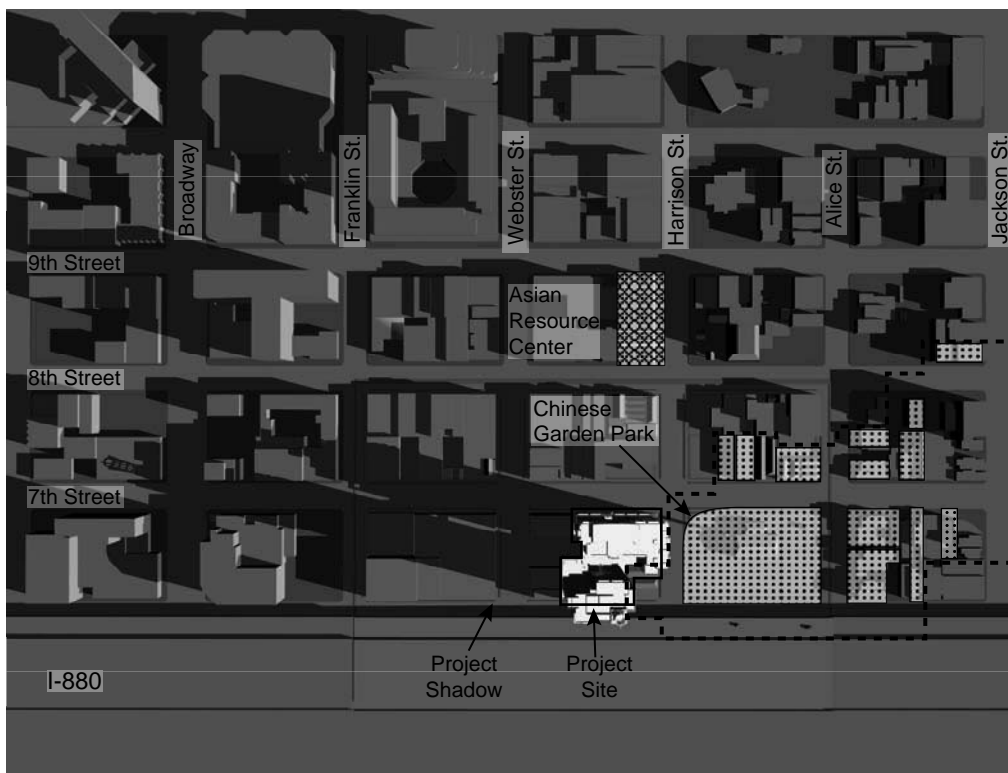
Figure 4.1-11
Project Shadow Impact Study:
September 23, 3:00 PM



YHLA Architects



December 23, 9:00 AM -- Existing Conditions



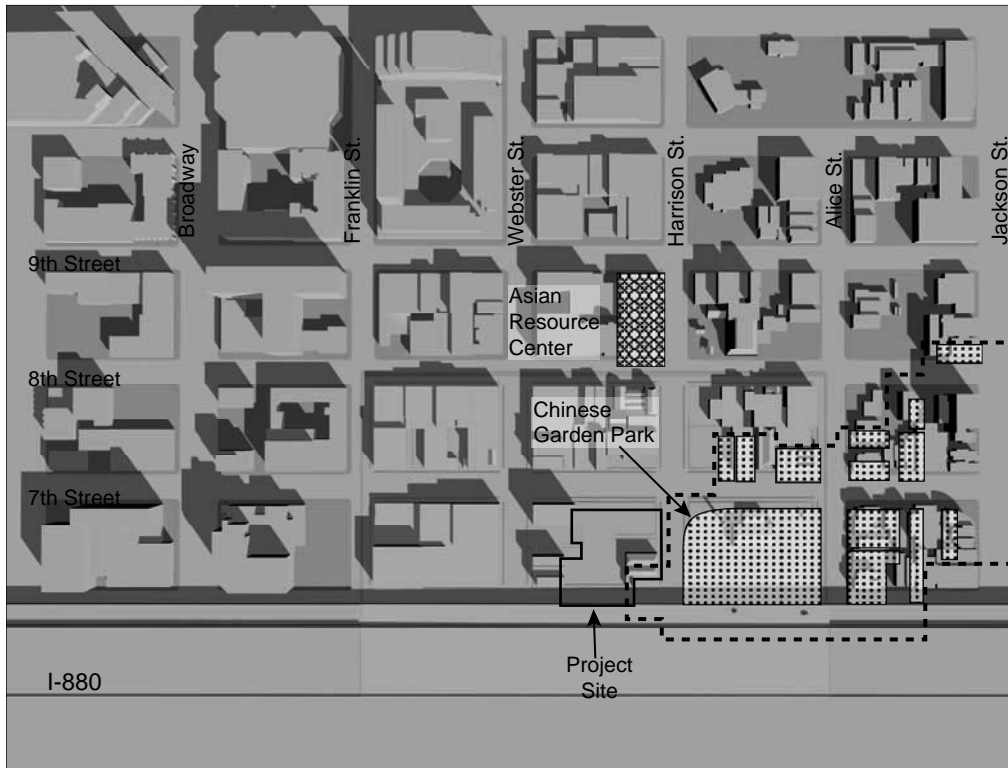
December 23, 9:00 AM -- Proposed Conditions

- Legend**
- 7th St./Harrison Sq. Historic District
 - District Contributors
 - Other Historic Resource

Figure 4.1-12
Project Shadow Impact Study:
December 23, 9:00 AM



YHLA Architects



December 23, 12:00 Noon -- Existing Conditions



December 23, 12:00 Noon -- Proposed Conditions

Figure 4.1-13
Project Shadow Impact Study:
December 23, 12 Noon





December 23, 3:00 PM -- Existing Conditions



December 23, 3:00 PM -- Proposed Conditions

Figure 4.1-14
Project Shadow Impact Study:
December 23, 3:00 PM



Wind Impacts

Impact Aesth-4: Wind conditions in pedestrian areas on and around the proposed development would not be expected to exceed the City of Oakland significance criterion for wind creation, and the Project-related impact on wind in the immediate vicinity of the Project site would be less than significant. **(LTS)**

Large buildings tend to intercept the stronger winds at higher elevations and redirect them down to grade level. Such a “downwashing flow” is the main cause for wind acceleration at the pedestrian level around tall buildings. There is generally an increase in wind acceleration around corners of tall buildings as the down-washed wind accelerates around the edges of the building. Also, when two buildings are situated side-by-side, wind flows tend to accelerate through the gap between the buildings due to the “channeling effect”. If these building/wind combinations occur for prevailing winds, there is an increased potential for even higher wind speeds.

RWDI Wind Comfort Criteria

The wind conditions around the proposed development are assessed by use of pedestrian wind comfort criteria developed at RWDI. The four comfort categories used for this review are described in general terms as follows:

Sitting: Low wind speeds during which one can read a newspaper without having it blown away. These wind speeds are appropriate for outdoor cafes and other amenity spaces that promote sitting.

Standing: Slightly higher wind speeds that are strong enough to rustle leaves. These wind speeds are appropriate at major building entrances, bus stops or other areas, such as a bench along a sidewalk, where people may want to linger but not necessarily sit for extended periods of time.

Walking: Winds that would lift leaves, move litter, hair and loose clothing. Appropriate for sidewalks, intersections, plazas, parks or playing fields where people are more likely to be active and receptive to some wind activity.

Uncomfortable: The effects of wind speeds at this level would range from small trees swaying and wind force being felt on the body to whole trees being in motion and inconvenience being felt when walking. Wind of this magnitude would be considered a nuisance for most activities.

Wind conditions are considered acceptable for sitting, standing or walking if the wind speeds are within their specified ranges at least 80 percent of the time, or four in five days. An uncomfortable designation means that the 80 percent criterion is not satisfied for any of the above activities.

Safety is also considered by the criteria and is associated with excessive wind speeds that can adversely affect a pedestrian's balance and footing. If winds sufficient to affect a person's balance occur more than two times per summer or winter season, the wind conditions are considered severe. Wind control measures are typically required at locations where winds are rated as uncomfortable or they exceed the wind safety criterion.

Significant wind impacts occur if a project were to “create winds exceeding 36 mph for more than one hour during daylight hours during the year”. A 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 exists: (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 the downtown. Since the proposed Project exceeds 100 feet in height and is located downtown, it is subject to the thresholds of significance.

In the City of Oakland significant wind impact criterion, an “Equivalent Wind Speed” (*EWS*) is used to account for the impact of gusty winds. At a point where the Turbulence Intensity (*TI*) is less than 15 percent, *EWS* is equivalent to the mean hourly wind speed (*V_m*). For *TI* greater than 15 percent, *EWS* is calculated by multiplying the mean speed by a weighting factor according to the following formula:

$$EWS = V_m(2 \times TI + 0.7)$$

The City of Oakland significant wind impact criterion is generally comparable to the RWDI wind safety criterion for “uncomfortable”, when applied for the daylight hours with the specific wind climate, urbanized setting and surrounding terrain of the City of Oakland.

Generally, wind conditions suitable for walking are appropriate for sidewalk and secondary entrances. Lower wind speeds comfortable for standing are preferred for major building entrances and drop-off areas where pedestrians are more apt to linger. Low wind speeds comfortable for sitting or standing are desired for outdoor seating areas such as upper level recreational spaces and courtyards, especially during the summer season when these areas will typically be in use.

Analysis of the NOP Project versus the Currently Proposed Project

The information on wind conditions and modeling results presented below is summarized from the report prepared by Rowan Williams Davies & Irwin, Inc. (see **Appendix C – Pedestrian Wind Assessment – 325 7th Street, Oakland, California**, September 20, 2007). That report was prepared based on the Project design proposed at that time (the NOP Project), which was designed as two towers, both 23 stories (and 235 feet) tall. The modeled wind flow patterns presented in **Figure 4.1-15** through **Figure 4.1-20** below represent modeled wind flow patterns with development of that NOP Project.

The current Project has a slightly different configuration than the NOP Project. The currently proposed Project has one tower that is 27 stories (approximately 275 feet) in height, and one tower that is 20 stories (approximately 207 feet) tall. RWDI assessed the potential for this current Project to result in wind conditions that might be different than what is presented in the modeled conditions for the NOP Project based on predicted wind conditions in the vicinity, updated massing information and their engineering experience and expertise. As indicated in their supplemental memo (see **Appendix D**), the currently proposed Project design is expected to create wind conditions that are no different than the modeled conditions for the NOP Project. Therefore, the analysis and conclusions from their September 2007 report remain valid for the current Project.

The images presented in Figure 4.1-15 through Figure 4.1-20 represent the average wind speed from typical directions. Actual wind flows can fluctuate and approach from different directions. In these images, the color blue represents low wind speed areas, the color green indicates low to moderate wind speeds, the color yellow depicts a moderate wind speed, and the color red indicates areas of high wind speeds. Interpretation of these images is presented below.

Main Entrances

The Residential Lobby entrances are located along 6th Street and 7th Street, are recessed from the facade of the podium, and have canopies above. As a result, wind conditions (as indicated in blue and green shades) are expected to be comfortable for standing throughout the year, which is considered suitable for a main entrance.

Entrances and Sidewalks Adjacent to the Proposed Development

As the proposed towers are much taller than the immediate surroundings, they will intercept winds at higher elevations and redirect them down towards grade level. However, as discussed above, this effect is reduced as a result of the orientation of the towers to the predominant wind directions. The immediate surrounding lower buildings cover the majority of exposed tower corners at grade level, further reducing the effects of downwashing flows at grade. This is demonstrated by the limited size of the green/yellow areas to the north and south of the proposed development, along 6th Street and 7th Street as shown on **Figure 4.1-14**. The higher wind speeds are re-directed towards the street and away from sidewalk areas at the building facade. The downwashing of southeast winds around the north tower does create localized accelerations at the northeast corner of the development. Overall, wind conditions at entrances and sidewalks adjacent to the proposed Project are expected to be appropriate for standing in the summer and standing or walking in the winter. Slightly elevated wind conditions may occur and will tend to remain along streets, not affecting pedestrian areas. These wind speeds are expected to be generally comfortable for walking.

Entrances and Sidewalks Adjacent to Existing Buildings

The existing building on the west side of the proposed towers, being taller than surroundings to the west, redirects some of the westerly wind flow to grade level. As a result, increased wind speeds are expected along Webster Street and at the northwest corner of the existing buildings. Wind conditions in the range of standing to walking are expected, which is appropriate for the area. This effect is also part of the existing conditions. The existing low-rise buildings at the southeast corner of the site are not exposed to this wind flow and, therefore, wind conditions are expected to be suitable for standing. Slightly elevated wind speeds are expected along 6th Street, due to downwashing wind flows of the south tower.

In general, suitable wind conditions are expected around existing buildings adjacent to the proposed study site, throughout the year. Slightly higher wind speeds are expected along the streets; however, wind conditions are expected to be comfortable for walking or better in these areas.

Level 4 - Courtyard

The open courtyard is protected from westerly wind flows by the adjacent tall building, and the “L-shaped” north tower disrupts the channeling wind flow that would typically occur with two towers configured next to each other. Therefore, wind conditions in the courtyard are generally expected to be comfortable for standing in the summer and walking in the winter.

The design includes a canopy over the pedestrian walkway that connects the north and south towers. This is a positive wind control feature that could be enhanced to shelter pedestrians on windier days. Depending upon the activity, lower wind speeds could be desired in seating areas at the courtyard level. Localized features around seating areas, such as wind screens, dense landscaping, trellises, etc. should be considered. The installation of a full height wind screen (from floor level to the underside of the canopy) could be investigated along the west edge of the pedestrian walkway. Any vertical wind control measures considered should face perpendicular to the local wind flow (i.e., at the point to be wind sheltered), for the dominant west winds to be most effective

Level 18 – Courtyard

As shown in **Figure 4.1-17** and **Figure 4.1-20**, wind speeds can be expected to increase substantially near the highest portions of the two towers. However, these figures also show that wind speeds directly adjacent to the towers at the higher elevations would not exceed the moderate range. On those days when moderate winds are encountered, those using the courtyard on Level 18 might not be comfortable sitting

in that area. If seating is desired on such days, localized features such as wind screens, dense landscaping or trellises could be considered to enhance the enjoyment of those using this courtyard area. Winds anticipated at the courtyard on Level 18 are not projected to be so strong as to adversely affect a person's balance and footing, and would not jeopardize the safety of those using the courtyard.

As shown in **Figure 4.1-15, -16, -18 and -19**, no red regions were predicted at grade level or at the courtyard during this study. The 90-foot tall existing building located directly to the west of the proposed 45-foot-high podium has a positive effect on wind control for the proposed Project. That existing building, being taller than its immediate surroundings, re-directs some of the westerly wind flows, which reduced the occurrence of strong winds at the proposed podium-level courtyard (see **Figure 4.1-19**)

Given the geometry and location of the building proposed at the Project site, as well as the local wind environment, the modeling indicates that wind conditions in pedestrian areas on and around the proposed development would not be expected to exceed the City of Oakland significance criterion for wind creation, and the Project-related impact on wind in the immediate vicinity of the Project site would be less than significant.

Recommended Measures

Although wind related impacts are less than significant under CEQA thresholds, the following additional measure is recommended to address windy conditions at the Project's upper courtyards:

Recommended Condition Aesth-4: Wind Reduction Plan. As noted above, lower wind speeds could be desired at the Level 4 and 18 courtyards around seating areas. The project applicant shall develop a wind reduction plan, to be included as part of the landscape plan, for further wind control. This plan shall be subject to review and approval by the City and the applicant shall implement the approved plan. The plan shall include features such as tree plantings, arbors, canopies, lattice fencing. In addition, a full height wind screen (from floor level to the underside of the canopy) is also recommended along the western edge of the pedestrian walkway. Vertical wind control measures considered shall face perpendicular to local wind flow for the dominant west winds to be most effective.

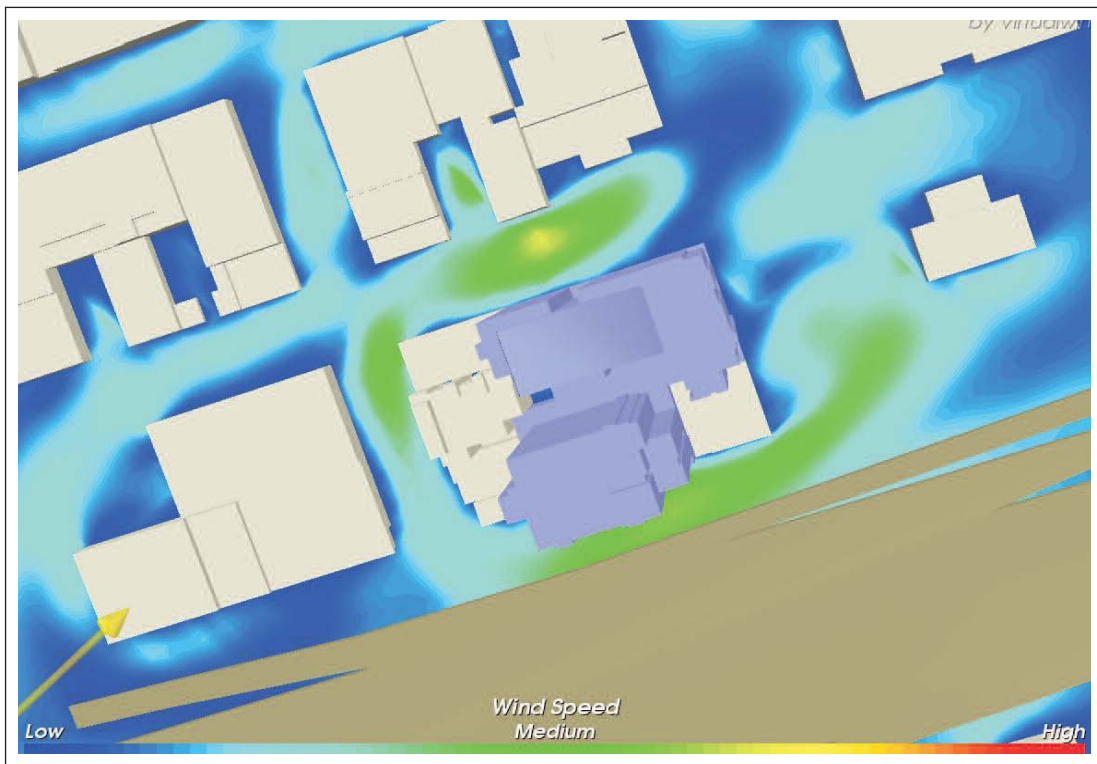
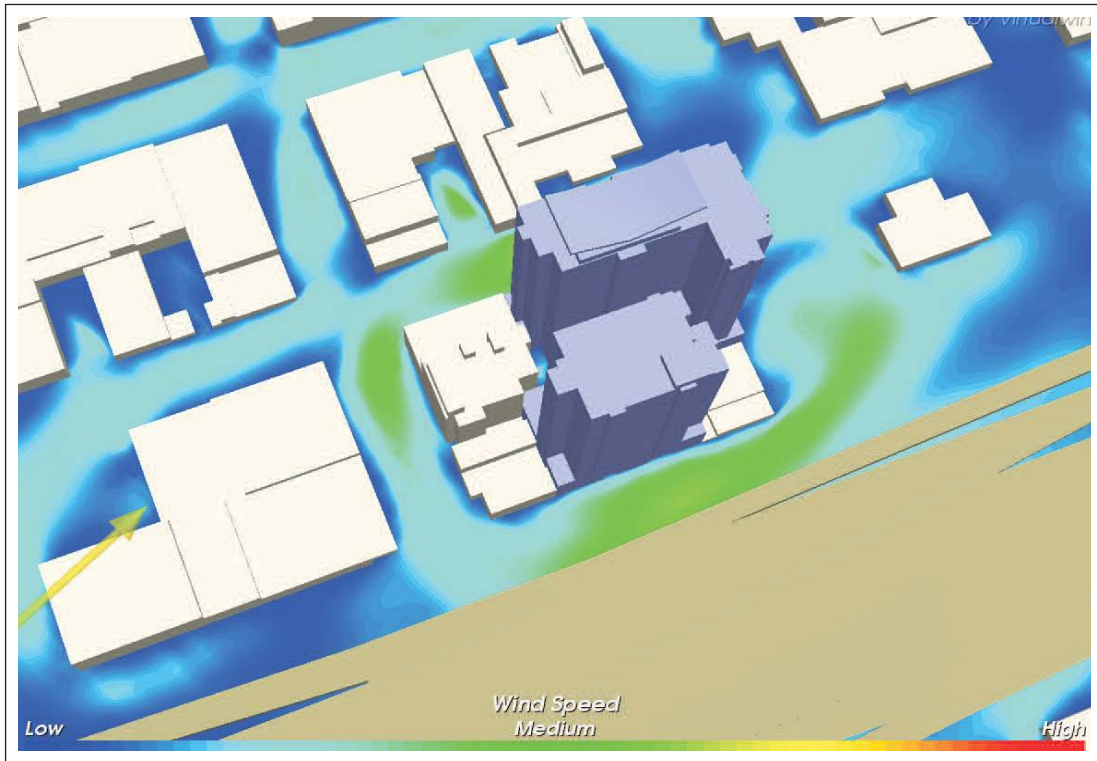


Figure 4.1-15
Wind Simulation - Grade Level, West Wind



Source: RWDI

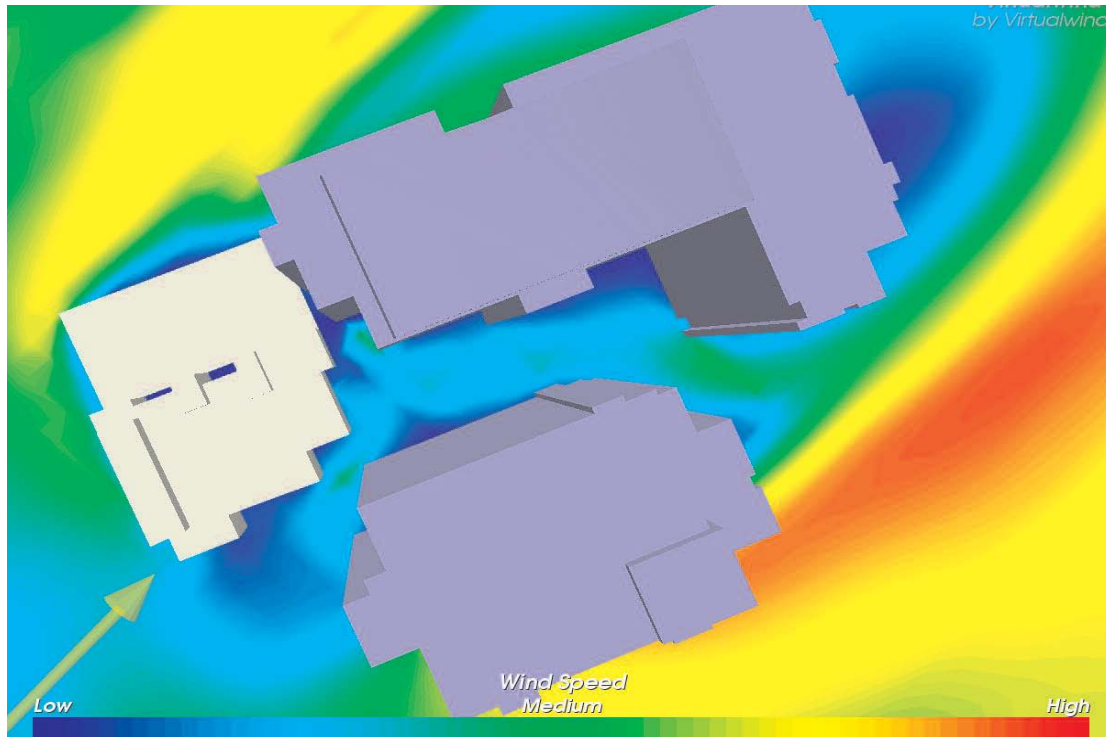
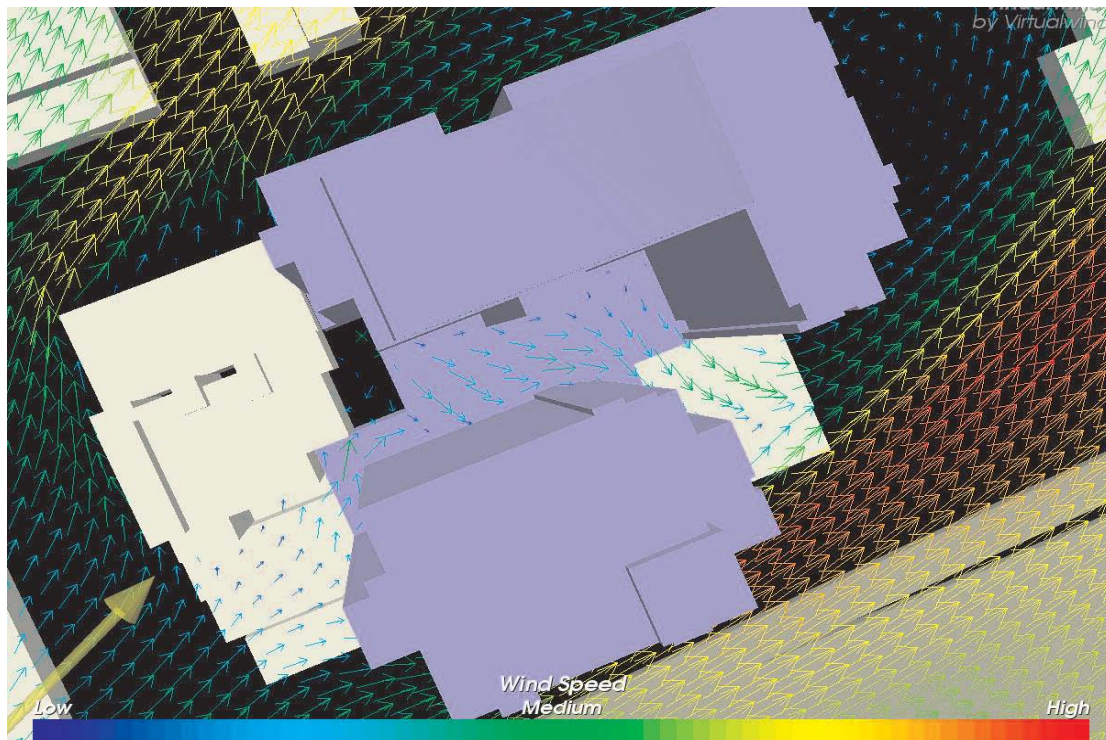
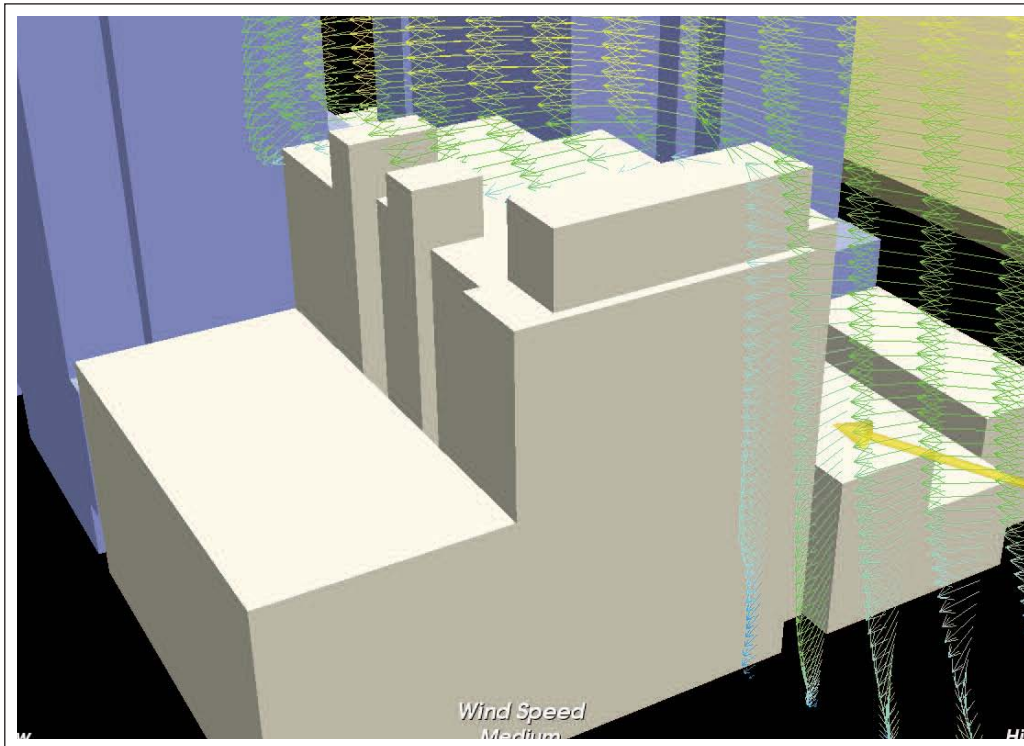


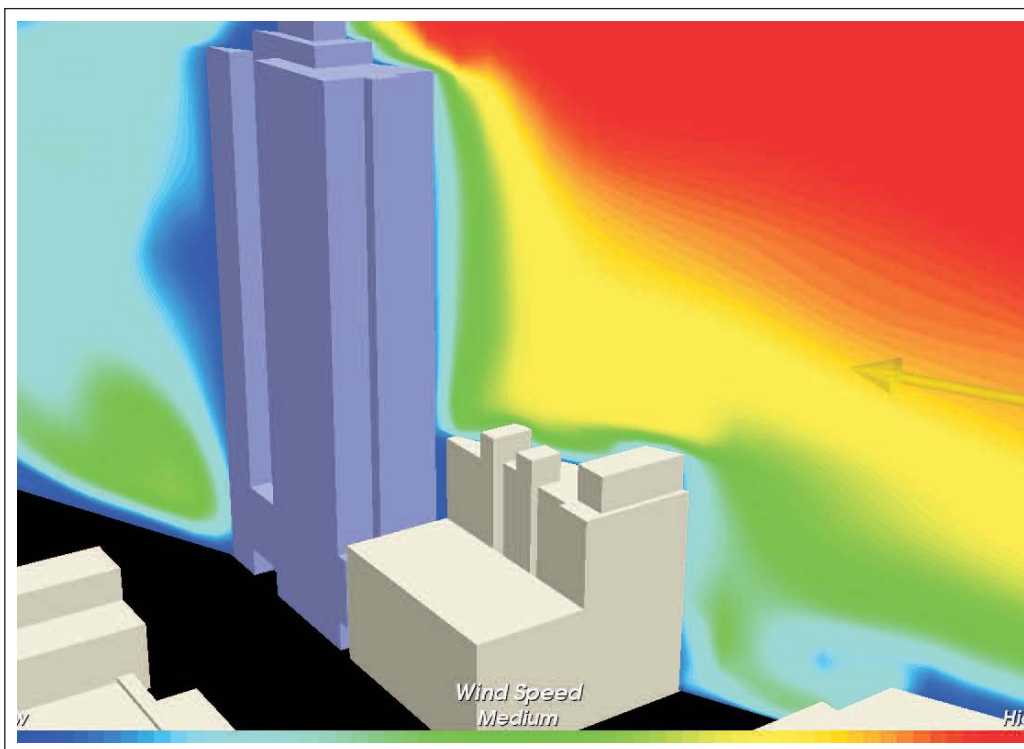
Figure 4.1-16
Wind Simulation - Podium, West Wind



Source: RWDI



View 1 - West Winds

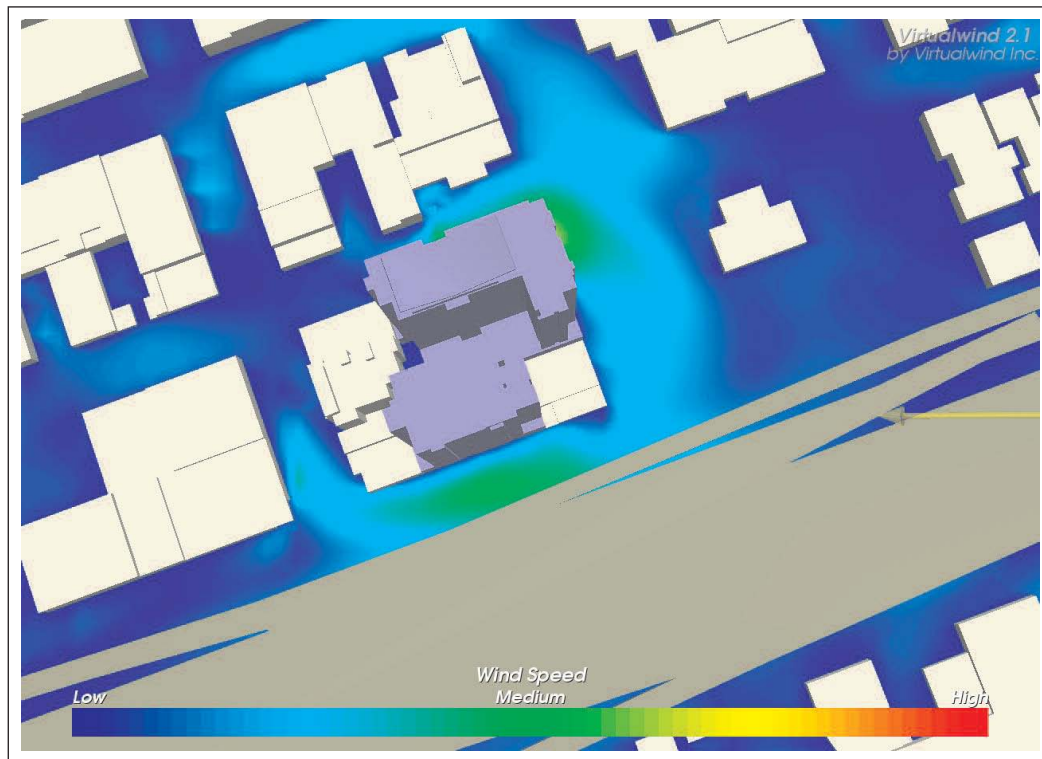


View 2 - West Winds

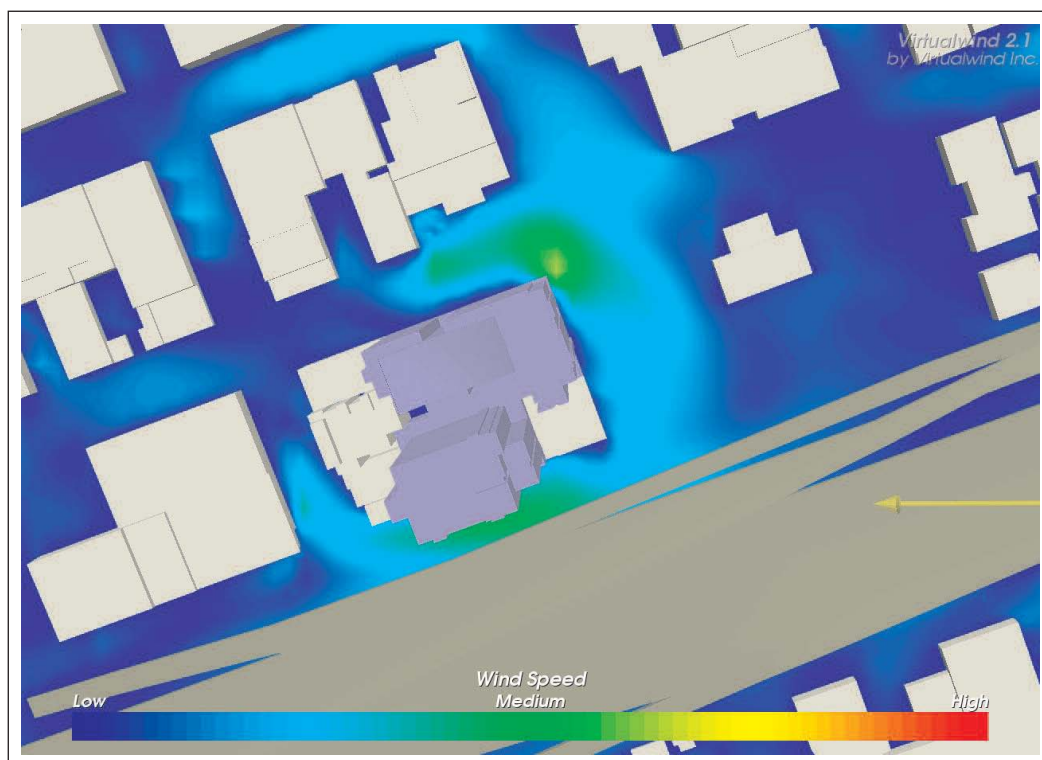
Figure 4.1-17
Wind Simulation - Vertical Section, West Wind



Source: RWDI



View 1 - Southeast Winds

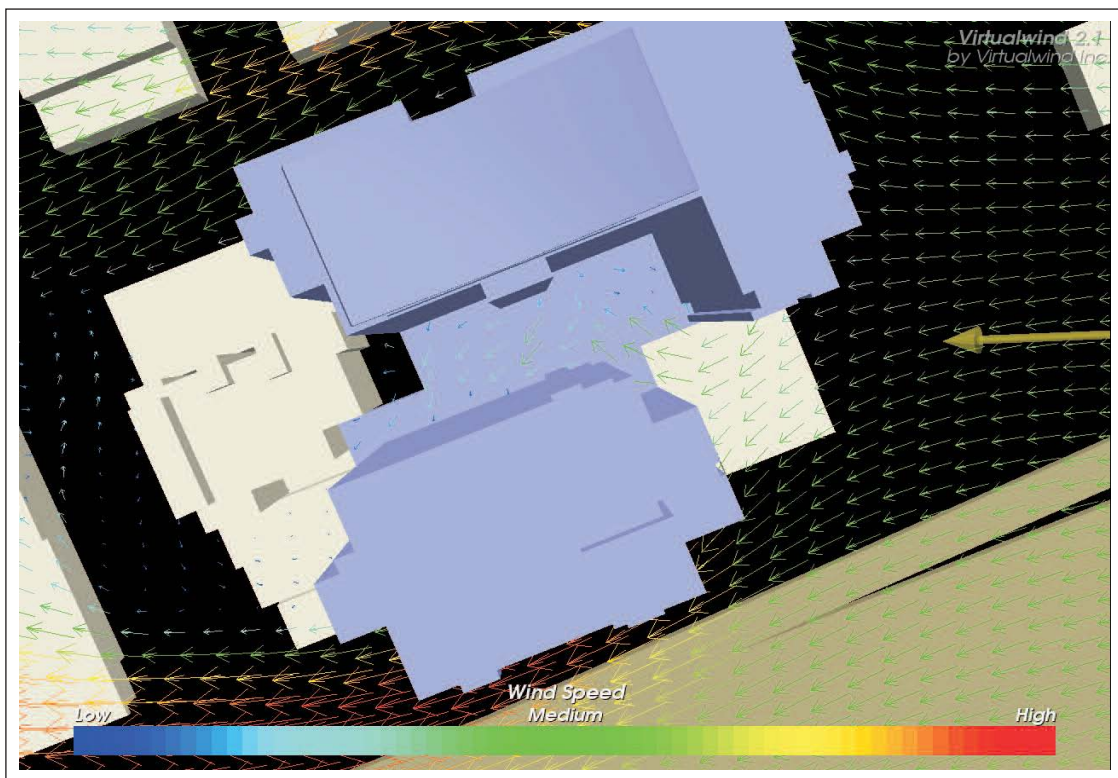


View 2 - Southeast Winds

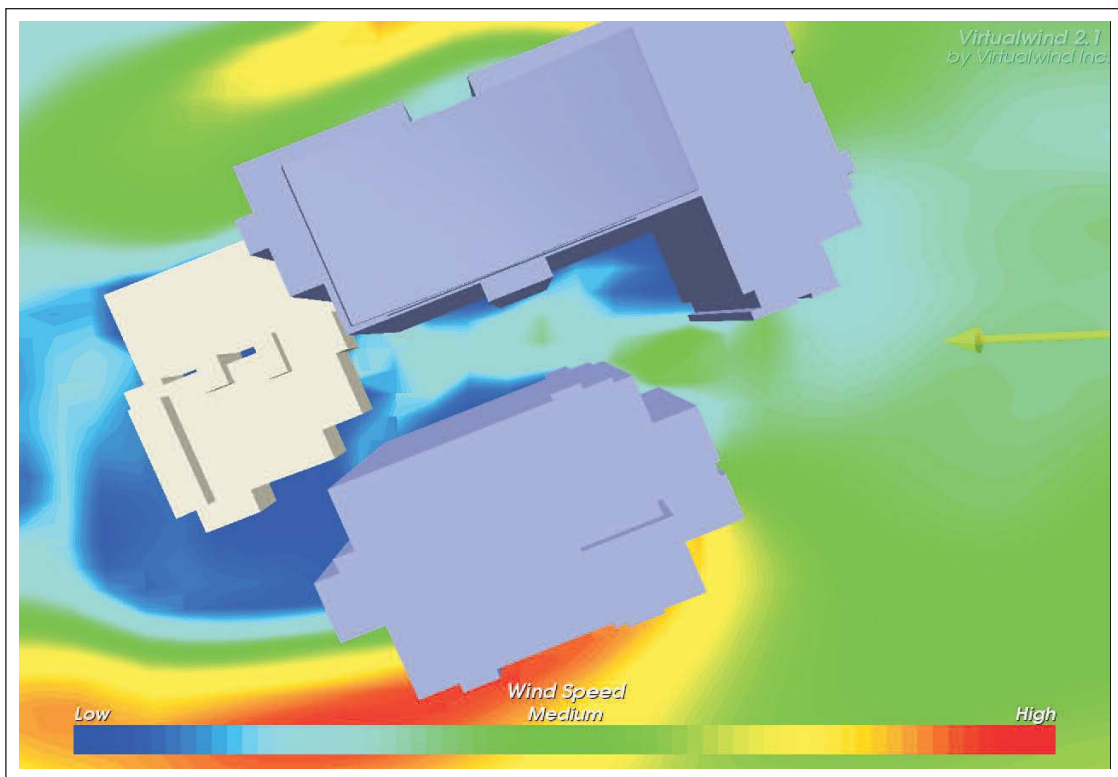
Figure 4.1-18
Wind Simulation, Grade Level, Southeast Winds



Source: RWDI

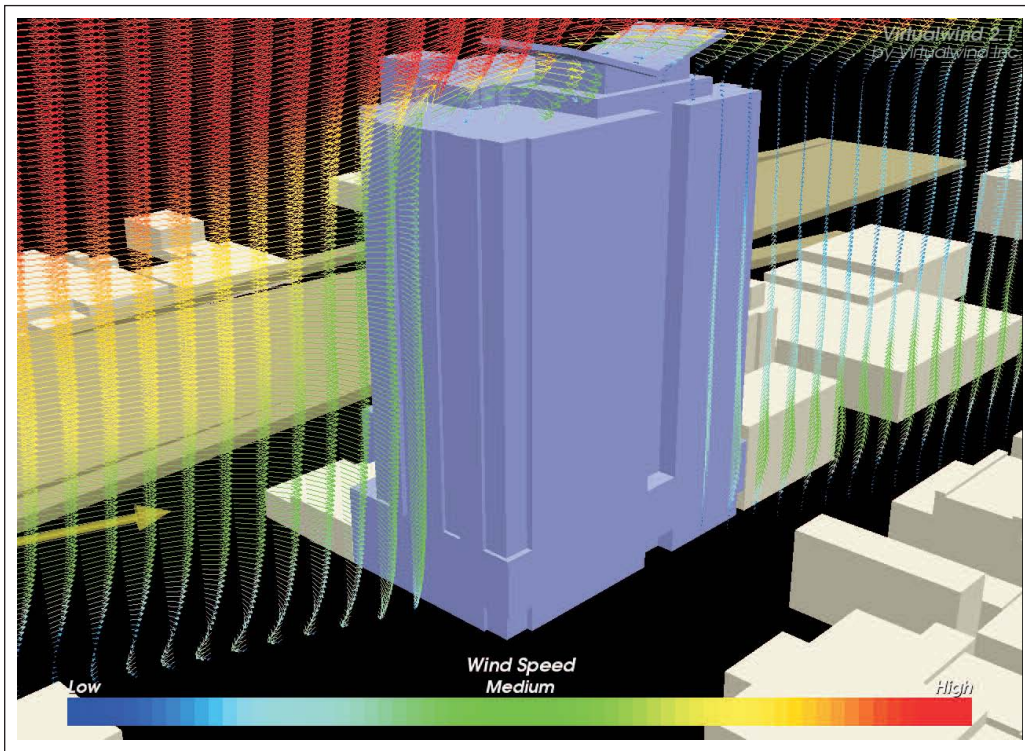


View 1 - Southeast Winds

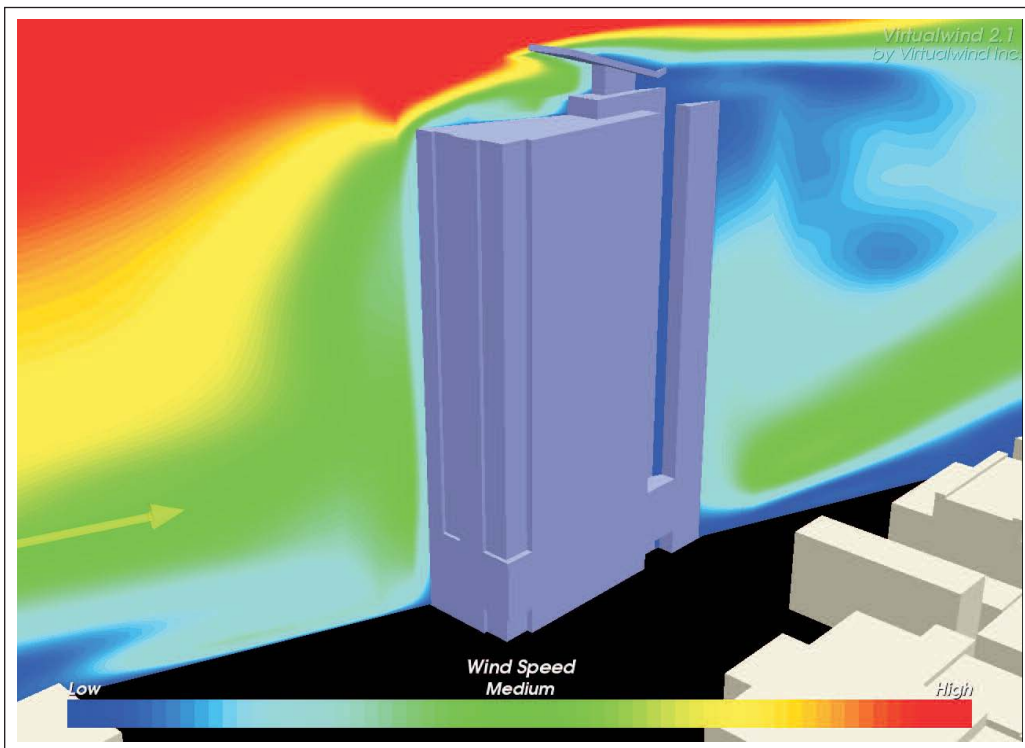


View 2 - Southeast Winds





View 1 - Southeast Winds



View 2 - Southeast Winds

Visual Impacts

Impact Aesth-5: Although visible from many vantage points, the Project's proposed height, massing and design would not constitute a demonstrable negative aesthetic effect, and the Project-related visual impacts would be less than significant. **(LTS)**

The Project site is visible from several public vantage points, including public sidewalks, streets, and the nearby Chinese Garden Park. Given the height of the proposed structures, the Project would also be visible from long-range vantage points given the existing, generally lower height of structures in the immediate vicinity. The Project would alter the overall sky plane by adding a new identifiable element. In response to scoping comments made at the City Planning Commissioning hearing, computer-generated photo simulations have been prepared illustrating "before" and "after" views and vistas which incorporate the Project site. **Figure 4.1-21** shows the viewpoint locations. **Figure 4.1-22** through **Figure 4.1-27** show photos of existing conditions and photo simulations with the Project. These visual simulations show the proposed Project in the context of other relatively tall structures that are present in downtown Oakland, and provide a sense of how changes in the skyline resulting from construction of the Project would be perceived from various viewpoints.

The altered sky plane would primarily be visible from long-range viewpoints that would also encompass major existing components including downtown Oakland and San Francisco, views of San Francisco Bay and the Estuary, Port of Oakland facilities, and overall development of the East Bay, which contains nodes of tall structures visible against the sky plane views from distant locations.

As a result of required design review by both staff and the Planning Commission, the proposed Project would not degrade the visual quality of the site or the vicinity and would be consistent with the high-density development within Oakland's downtown area.

SIGNIFICANT AESTHETIC IMPACTS

The proposed Project would not result in any significant aesthetic-related impacts.



Figure 4.1-21
Project Skyline Visual Analysis: Key Map



Source: YLA Architects





Athol Plaza -- Existing Conditions



Athol Plaza -- Proposed Conditions





Mariner's Plaza -- Existing Conditions



Mariner's Plaza -- Proposed Conditions





880 Northbound -- Existing Conditions



880 Northbound -- Proposed Conditions





880 Southbound -- Existing Conditions



880 Southbound -- Proposed Conditions





Laney College -- Existing Conditions



Laney College -- Proposed Conditions





Snow Park -- Existing Conditions



Snow Park -- Proposed Conditions



CUMULATIVE IMPACTS

Cumulative Visual Impacts

Cumulative Impact Aesth-6: The Project's contribution to overall cumulative increase in building height and massing would not constitute a demonstrably negative cumulative aesthetic effect, and the cumulative visual impact would be less than significant. **(LTS)**

For purposes of this cumulative analysis, the cumulative scenario is comprised of all past, present, existing, pending and reasonably foreseeable future development in the area surrounding the project site as contained in the City's cumulative growth scenario and land use database¹, and which are located within close proximity to the Project site. This geographic area is more specifically defined as between Broadway and Oak Street, and between Embarcadero and 12th Street. In addition to existing development, the list of pending or reasonably foreseeable projects located within this geographic area includes projects at:

- 2nd Street and Webster (377 2nd Street)
- 6th and Oak Street (609 Oak Street)
- 2nd Street and Harrison Street (the Colony at Jack London Square)
- 12th Street and Alice Street (Jackson Center 2)
- 11th Street and Jackson Street (188 11th Street)
- 11th Street and Broadway (1100 Broadway), and
- 7th Street and Broadway

Project structures, when combined with other relatively tall structures associated with other recent or reasonably foreseeable future development projects in the vicinity, would alter the overall cumulative sky plane of Oakland by adding new identifiable elements. Given the height of these cumulative projects, they would be visible from long-range vantage points as part of a cumulative scenic vista that would include future development in the downtown Oakland area.

In response to scoping comments made at the City Planning Commission hearing, the Project applicant has developed visual simulations showing the proposed Project in the context of other relatively tall structures that are part of the cumulative development proposed within downtown Oakland. These simulations provide a sense of how the evolving skyline would be perceived from four viewpoints (see **Figure 4.1-28** through **Figure 4.1-29**).² The cumulatively altered sky plane would be visible from long-range viewpoints including downtown Oakland and San Francisco, views of San Francisco Bay and the Estuary, Port of Oakland facilities, and overall development of the East Bay, which all contains nodes of tall structures visible against the sky plane.

¹ City of Oakland, Cumulative Development Project file as of April 2009

² Views from the I-880 Northbound viewpoint and the Snow Park viewpoint under cumulative conditions would be similar to those shown for with project conditions in Figure 4-9 and Figure 4.15, and so are not duplicated here.

Although these cumulative projects would be visible from many vantage points, the Project's contribution to this overall cumulative increase in building height and massing would not constitute a demonstrably negative cumulative aesthetic effect, and the cumulative visual impact would be less than significant.

Other project's adherence to applicable standards and regulations similar to those applied to the proposed Project would ensure quality cumulative development and avoid cumulative adverse effects to existing views and vistas of Oakland and the East Bay area viewshed.



Athol Plaza -- Cumulative Conditions



Mariner's Plaza -- Cumulative Conditions





880 Southbound -- Cumulative Conditions



Laney College -- Cumulative Conditions



Cumulative Shadow Impacts

Cumulative Impact Aesth-7: The Project's contribution to increased shadows would not have an adverse cumulative effect on solar collection, beneficial uses of parks or shadowing of historic resources, and the cumulative shadow impact would be less than significant. **(LTS)**

For purposes of this cumulative analysis, the cumulative scenario is comprised of all past, present, existing, pending and reasonably foreseeable future development in the area surrounding the project site as contained in the City's cumulative growth scenario and land use database, and which are located within the vicinity of those shadows cast by the proposed Project. The only pending or reasonably foreseeable project that is within this geographic area is located at 7th Street and Broadway. All other pending or reasonably foreseeable projects as defined for the cumulative aesthetic scenario (above) are not so close to the Project site that their shadows would overlap or combine.

Shadow simulations have been prepared which illustrate the contribution of the Project to shadows within the context of cumulative development in the vicinity of the Project site. These simulations are shown in **Figure 4.1-30** through **Figure 4.1-33**.

As indicated in these figures, the Project would not cast shadows into the same locations as shadows cast by other reasonably foreseeable development projects, nor would other cumulative projects cast shadows into the same locations as the shadows cast by the Project. The Project's shadows would not contribute to any significant cumulative increase in shadows other than those which it casts on its own, as evaluated in prior sections of this chapter.

Although cumulative development within downtown Oakland would result in greater areas being shadowed at various times of the day, the Project's contribution to increased shadows would not have an adverse cumulative effect on solar collection, beneficial uses of parks or shadowing of historic resources, and the cumulative shadow impact would be less than significant.



March 23, 9:00 AM -- Cumulative Conditions



March 23, 12:00 Noon -- Cumulative Conditions



March 23, 3:00 PM -- Cumulative Conditions



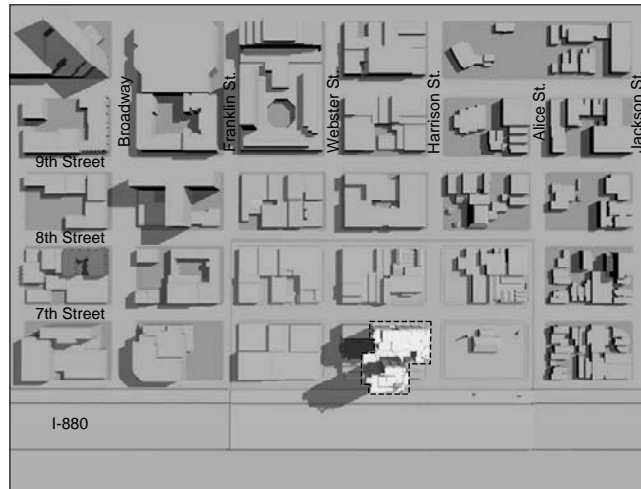
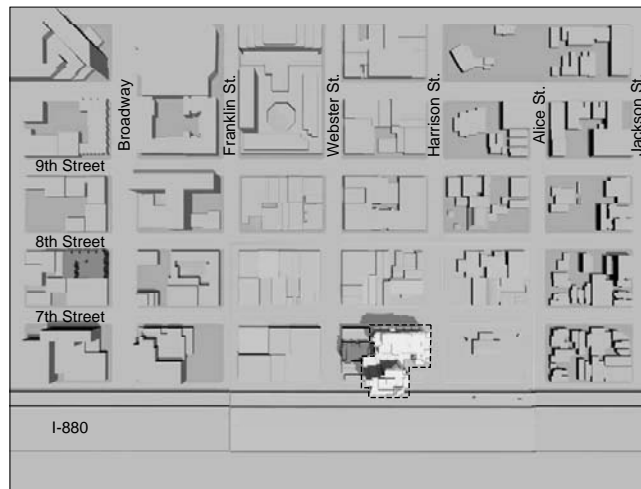
- Legend
-  Project Site
 -  Other Projects in Immediate Vicinity

Figure 4.1-30
Project Shadow Impact Study:
March 23, Cumulative Conditions

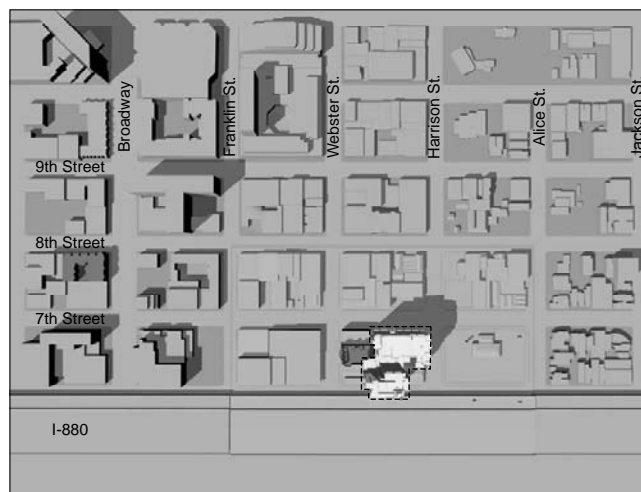




June 23, 9:00 AM -- Cumulative Conditions



June 23, 12:00 Noon -- Cumulative Conditions



June 23, 3:00 PM -- Cumulative Conditions



- Legend
-  Project Site
 -  Other Projects in Immediate Vicinity

Figure 4.1-31
Project Shadow Impact Study:
June 23, Cumulative Conditions





September 23, 9:00 AM -- Cumulative Conditions



September 23, 12:00 Noon -- Cumulative Conditions



September 23, 3:00 PM -- Cumulative Conditions



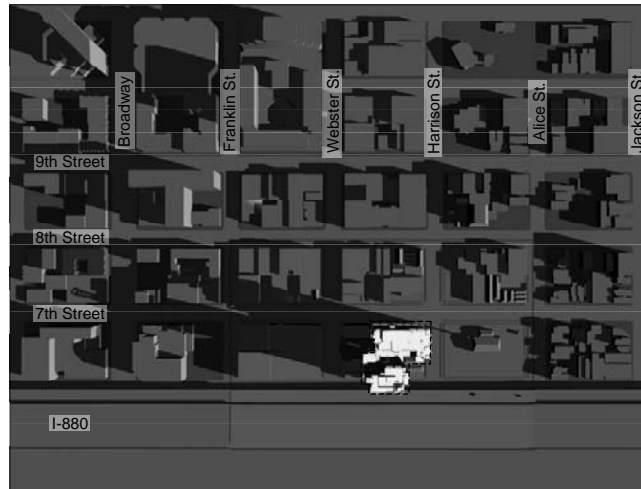
- Legend
-  Project Site
 -  Other Projects in Immediate Vicinity

Figure 4.1-32
Project Shadow Impact Study:
September 23, Cumulative Conditions





December 23, 9:00 AM -- Cumulative Conditions



December 23, 12:00 Noon -- Cumulative Conditions



December 23, 3:00 PM -- Cumulative Conditions



- Legend
-  Project Site
 -  Other Projects in Immediate Vicinity

Figure 4.1-33
Project Shadow Impact Study:
December 23, Cumulative Conditions



Cumulative Wind Impacts

Cumulative Impact Aesth-8: The Project's contribution to increased wind conditions would be less than significant. (LTS)

RWDI assessed the potential for the Project to contribute to increased cumulative wind conditions in downtown Oakland. Based on RWDI's experience and expertise, they do not believe that other cumulative development within the Project site vicinity will have a measurable effect on the predicted wind conditions as presented for the Project-only condition, as there are very few cumulative projects in the immediate Project vicinity. The wind effects of other cumulative projects would be local to their specific sites and are not expected to result in a cumulative increase in wind conditions in the vicinity of the Project over that presented as Project-specific effects.³ The Project's contribution to increased wind would not have an adverse cumulative effect and the cumulative wind impact would be less than significant.

³ Personal communication, Jordan Gilmour, P.E., Rowan Williams Davies and Irwin, Inc., June 2009

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TRANSPORTATION, CIRCULATION AND PARKING

The December 2007 Initial Study Checklist indicated that there would be potentially significant Project-related environmental impacts associated with traffic and circulation, and that these potential effects would be studied in detail in the EIR. This section of the EIR describes the existing transportation, circulation, and parking conditions, including transit services, and pedestrian and bicycle facilities in the Project vicinity, and provides an analysis of the Project's potential impacts. Detailed traffic analysis modeling results and intersection movement calculation can be found in **Technical Appendix E** (CHS Consulting, April 2010).

SETTING

The existing transportation-related context in which the Project would be constructed is described below, beginning with a description of the study area and the street network that serves the site. Existing transit service, bicycle and pedestrian facilities, and on- and off-street parking in the vicinity of the Project site are also described. Intersection and roadway levels of service are then defined and current conditions for roadways and intersections in the Project vicinity are summarized, and planned transportation improvements in the Project vicinity are described.

STUDY AREA

The Project site is located along Harrison Street between 6th Street and 7th Street in Oakland, California, as shown on **Figure 4.2-1**. Intersection levels of services (LOS) were analyzed for the following 13 intersections in the vicinity of the proposed Project during the weekday AM (7:00 AM to 9:00 AM) and PM (4:00 PM. to 6:00 PM.) peak hours. These intersections were selected in coordination with City of Oakland staff and are inclusive of all locations which could be significantly affected by Project traffic (based on existing intersection operations, the amount of traffic generated by the Project during peak hours and the effect of that traffic on the surrounding street and intersection network).¹

1. 5th Street/Oak Street
2. 5th Street/Jackson Street
3. 6th Street/Oak Street
4. 6th Street/Jackson Street
5. 7th Street/Harrison Street

¹ Intersections within the City of Alameda were not studied because the volume of Project traffic entering and exiting the Webster Tube (the most direct access to and from Alameda) during the am and pm peak hours is projected to be only 16 and 18 vehicles respectively as compared to approximately 3,000 peak hour vehicles entering and exiting the Tube. This Project traffic represents such a small component (approximately one-half of one percent) of all peak hour traffic using the Webster Tube during that period as to be less than significant. Moreover, once through the Tube in Alameda, Project traffic would be distributed throughout the street network and various intersections.

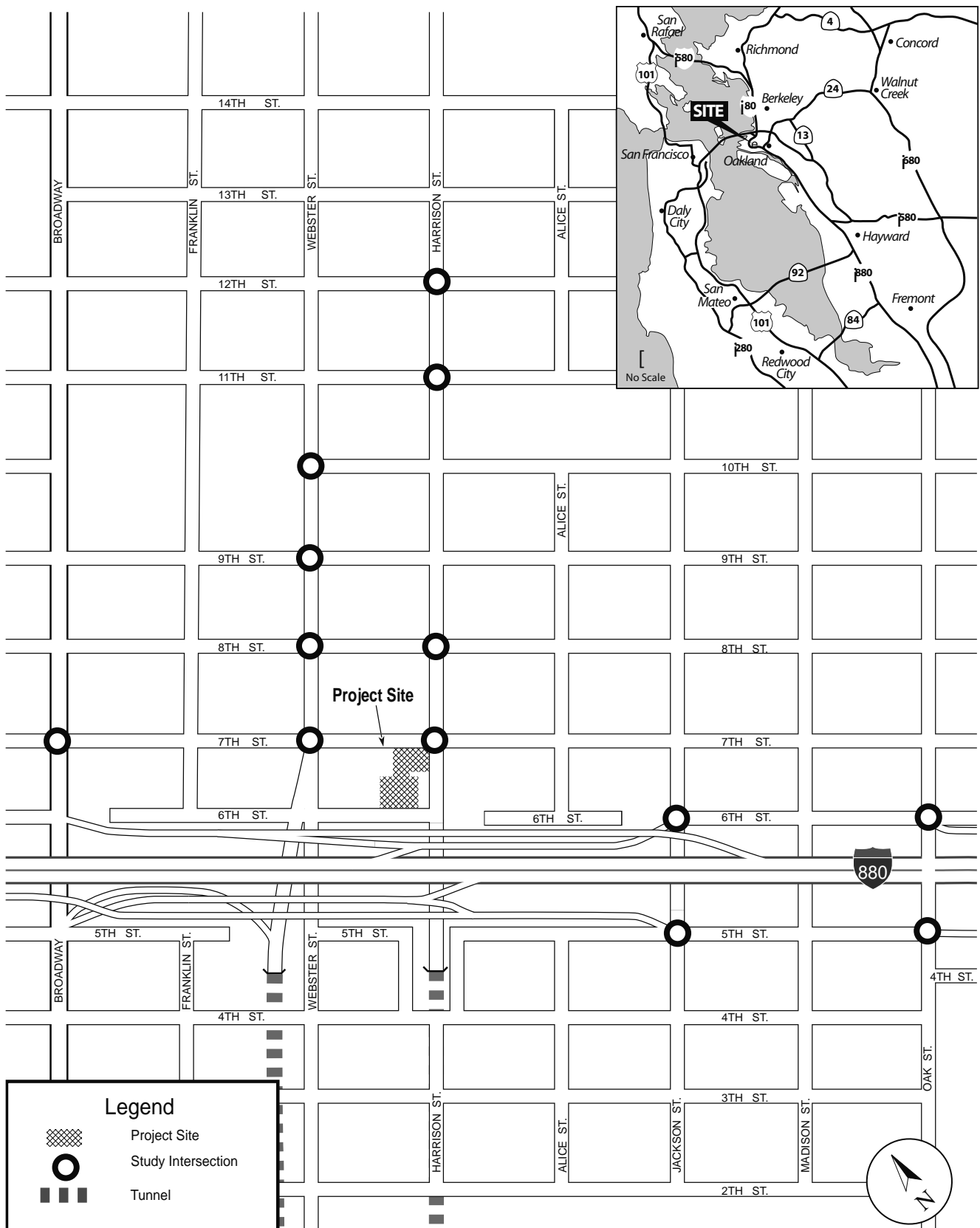


Figure 4.2-1
Project Location and Study Intersections



Source: CHS Consulting Group

6. 7th Street/Webster Street
7. 7th Street/Broadway
8. 8th Street/ Harrison Street
9. 8th Street/ Webster Street
10. 9th Street/Webster Street
11. 10th Street/Webster Street
12. 11th Street/Harrison Street
13. 12th Street/Harrison Street

EXISTING ROADWAY NETWORK

Regional Roadways

Interstate 580 (I-580), Interstate 880 (I-880), and Interstate 980 (I-980) provide the regional connections to the Project site.

Interstate 580

I-580 is an eight-lane, limited-access, divided facility that runs between U.S. Highway 101 (US 101) in the City of San Rafael to the west, and the Central Valley City of Tracy, where it terminates at Interstate 5 to the east. I-580 extends east and southeast through Oakland, Castro Valley and Pleasanton (where it crosses Interstate 680), to the eastern edge of Alameda County and into San Joaquin County. Near the proposed Project, it interchanges with I-980 to access I-880, State Route 13 (SR 13) to Berkeley, and State Route 24 (SR 24) to Contra Costa County. Vehicles with gross weight over 4½ tons (except buses) are prohibited from using I-580 within the cities of Oakland and San Leandro. Near the proposed Project, I-580 can be accessed via I-880 or I-980 or directly via Harrison Street/Oakland Avenue ramps about 1.7 miles north of the proposed Project.

Interstate 880

I-880 is a limited-access, divided facility with four travel lanes in each direction. The freeway has interchanges with I-980 approximately ½ mile west of the proposed Project, and connects Interstate 80 with the San Francisco-Oakland Bay Bridge about 3 miles northwest of the proposed Project. I-880 travels north-south along the eastern shore of the San Francisco Bay and ends in San Jose. The freeway lies immediately south of the proposed Project. I-880 can be accessed via the northbound on-ramp at 6th Street/Jackson Street, the northbound off-ramp at 6th Street/Oak Street, the southbound on-ramp at 5th Street/Oak Street, and the southbound off-ramp at 5th Street/Jackson Street.

Interstate 980

I-980 runs between I-880 and I-580. North of I-580, it becomes SR 24. This eight-lane north-south limited-access divided facility is approximately 2 miles long and has direct access to and from the proposed Project on Castro and Brush Streets at Eleventh and Twelfth Streets. I-980 can also be accessed via I-880 northbound on-ramp at 6th Street/Jackson Street.

Local Roadways

In the vicinity of the proposed project, the roadway is a grid system, with numbered streets oriented roughly east-west, and named streets roughly north-south. Most streets are one-way in Chinatown, with the exception of Broadway and 6th Street along the proposed project's frontage. All intersections are

signalized, with the exception of Webster Street/6th Street and Harrison Street/6th Street. The City of Oakland classifies 5th Street, 7th Street, 8th Street, Webster Street, Harrison Street, Jackson Street, and Oakland Street as arterial streets. 6th Street and 9th Street are classified as local streets.

Broadway

Broadway is a major north-south arterial that runs west of the proposed Project site, from Jack London Square in the south to SR 24 to the north. Near the proposed project, Broadway has two lanes in both directions with parking on both sides, except the section underneath 1-880 between 5th and 7th Streets. Broadway is classified as a Primary Pedestrian Route in the City of Oakland's *Pedestrian Master Plan*.

Franklin Street

Franklin Street is a northbound one-way roadway from 6th Street to Broadway with a two-way segment between 6th Street and 7th Street.. In the vicinity of the proposed project, Franklin Street has three northbound traffic lanes. It is located one and a half blocks west of the proposed project. Franklin Street forms a one-way couplet with Webster Street. These two arterials are designed to carry much of the north-south through traffic in the downtown Oakland area, and traffic signals are coordinated to improve traffic flow. Franklin Street is classified as an arterial street in the City of Oakland's *General Plan Land Use and Transportation Element*. In the vicinity of the proposed project, Franklin Street has on-street parking on both sides of the street. Franklin Street between Franklin Street between 8th Street and 21st Street is a part of the Proposed Class 2 Bikeway Network in the City of Oakland's *Bicycle Master Plan*.

Webster Street

Webster Street is a one-way street with three southbound traffic lanes, and is located immediately west of the proposed project. It provides a direct connection to the City of Alameda via the Webster Tube, just southwest of the proposed project. Traffic signals on both Franklin and Webster Streets are coordinated to facilitate through traffic on these two key arterials. In the vicinity of the proposed project, Webster Street has on-street parking on both sides of the street. Webster Street is classified as an arterial street in the City of Oakland's *General Plan Land Use and Transportation Element*, and the Secondary Pedestrian Route in the City of Oakland's *Pedestrian Master Plan*. Webster Street north of 8th Street is a part of the Proposed Class 2 Bikeway Network in the City of Oakland's *Bicycle Master Plan*.

Harrison Street

Harrison Street bounds the eastern edge of the proposed Project site. It connects to the Posey Tube (from the City of Alameda), and is one-way northbound south of 10th Street. In the vicinity of the proposed project, Harrison Street has three northbound lanes. Along the frontage of the Project site, on-street parking is not permitted on either side of Harrison south of 7th Street. Harrison Street is classified as an arterial street in the City of Oakland's *General Plan Land Use and Transportation Element*. Harrison Street south of 6th Street is an existing Class 1 bike route.

Jackson Street

Jackson Street is a two-way north-south roadway that runs from the Oakland Estuary at the railroad tracks along Embarcadero to Lake Merritt at Lakeside Drive. In the vicinity of the proposed project, Jackson Street is a two-lane roadway and has metered parking on both sides of the street. Jackson Street is classified as a Secondary Pedestrian Route in the City of Oakland's *Pedestrian Master Plan* and an arterial street in the *General Plan Land Use and Transportation Element*. The intersections of Jackson at 5th Street and 6th Street provide access to and from I-880 and I-980.

Oak Street

Oak Street is a north-south roadway that runs from the Oakland Estuary along Embarcadero to Lake Merritt at Lakeside Drive. It carries two-way traffic south of 6th Street, and one-way northbound traffic north of 6th Street. Oak Street becomes Lakeside Drive north of 14th Street by Lake Merritt. The City of Oakland *Bicycle Master Plan* includes Oak Street as part of the Recommended Bikeway Network with proposed Class II on-street striped bike lanes. In the vicinity of the proposed project, Oak Street is a four-lane roadway with street parking on both sides. It provides access to I-880 at Fifth Street (southbound on-ramp) and 6th Street (northbound off-ramp).

5th Street

5th Street is a one-way eastbound roadway that parallels the I-880 freeway on its south side. It provides connections with southbound I-880 at Oak Street (on-ramp) and Jackson Street (off-ramp). The City of Oakland's *General Plan Land Use and Transportation Element* identifies 5th Street as an arterial street. In the vicinity of the Project site, 5th Street has three travel lanes and on-street parking available only on its south side.

6th Street

Adjacent to the Project site, 6th Street is a two-way roadway that parallels the I-880 freeway on its north side. It connects with northbound I-880 by ramp connections at Oak and Jackson Streets. In the vicinity of the Project site, 6th Street has three travel lanes and on-street parking on its north side only.

7th Street

7th Street is an east-west roadway running between the Ben E. Nutter container terminal at the western end of the Port of Oakland and Fifth Avenue. It bounds the north side of the Project site. In the vicinity of the proposed project, 7th Street is a four-lane, one-way roadway with on-street parking on both sides and 10-foot sidewalks. It provides connections with the Harrison Street (Posey) and Webster Street tubes that connect with Alameda. The City of Oakland's *Bicycle Master Plan* includes 7th Street west of Oak Street as part of the Proposed Bikeway Network with proposed Class 2 on-street striped bike lanes.

8th Street

8th Street is an east-west roadway running between Pie Street and Fallon Street. It is interrupted between Market Street and Castro Street by I-980. In the vicinity of the proposed project, 8th Street is a one-way, four-lane street in the westbound direction, and has street parking on both sides of the street. It also provides connections with the Harrison Street (Posey Tube) and Webster Street tubes that connect with Alameda. 8th Street is classified as a Primary Pedestrian Route in the City of Oakland's *Pedestrian Master Plan*. 8th Street between Broadway and Harrison Street is classified as a proposed arterial bike route (Class 3A), and 8th Street between Harrison Street and Oak Street is classified as a proposed Class 2 on-street bike lane in the City of Oakland's *Bicycle Master Plan*.

9th Street

9th Street is an east-west roadway running between Pine Street and Fallon Street. It is interrupted between Castro Street and Mandela Parkway, and again between Peralta Street and Willow Street. In the vicinity of the Project site, 9th Street is a one-way, three-lane street in the eastbound direction, and has on-street parking on both sides of the street. It also provides connections with the Harrison Street (Posey Tube) and Webster Street tubes that connect with Alameda. Ninth Street is classified as a Primary Pedestrian Route in the City of Oakland's *Pedestrian Master Plan* from Broadway to Oak Street. 9th Street between Washington and Harrison Street is classified as a proposed arterial bike route (Class 3A), and 8th

Street between Harrison Street and Oak Street is classified as a proposed Class 2 on-street bike lanes in the City of Oakland's *Bicycle Master Plan*.

10th Street

10th Street is an east-west roadway connecting Laney College with East Oakland. It is discontinuous between Webster Street and Broadway in the vicinity of the proposed project. In the vicinity of the Project site, 10th Street is a one-way, three-lane street in the westbound direction, and has on-street parking on both sides of the street.

11th Street

11th Street is an east-west roadway connecting East and West Oakland. It forms a one-way couplet with 12th Street. In the vicinity of the Project site, 11th Street is a one-way, three-lane street in the eastbound direction, and has on-street parking on both sides of the street.

12th Street

12th Street is an east-west roadway connecting West Oakland with the Fruitvale District. It forms a one-way couplet with 11th Street. In the vicinity of the Project site, 12th Street is a one-way, three-lane street in the westbound direction, and has on-street parking on both sides of the street.

EXISTING TRANSIT SERVICE

The Project site is served by AC Transit and BART. **Figure 4.2-2** illustrates the transit lines and stops within the Project site vicinity.

Alameda-Contra Costa Transit District

The Alameda-Contra Costa Transit District (AC Transit) provides direct bus service connection to the proposed Project site. The service area for AC Transit primarily includes the portion of the East Bay from El Sobrante to Fremont. Two AC Transit bus lines have bus stops in the immediate vicinity of the proposed Project: #11-Harrison and #62-San Antonio. Eight additional AC Transit bus lines have stops in the vicinity of the Project. Of these nine bus lines, seven are local bus lines, one is a school service line (services provided before and after school hours during school days), and one is an owl service line. AC Transit service in the proposed Project area is described in **Table 4.2-1**.

TABLE 4.2-1: AC TRANSIT BUS LINES AND AM AND PM PEAK FREQUENCIES

Route	AM and PM Peak Frequency
11-Harrison	20 minutes
19-Hollis	30 minutes
51-Broadway	8 to 10 minutes
62-San Antonio	20 minutes
63-Alameda Point	30 minutes
72-San Pablo Avenue	30 minutes
72M-MacDonald	30 minutes
72R-San Pablo Rapid	12 minutes
651-Holy Names	One AM northbound and one PM southbound runs
851-Broadway	No peak runs; 60-minute frequency during late night

Source: AC Transit, Routes and Bus schedule, effective June 18, 2006.

11-Harrison: Route 11 serves Piedmont, Downtown Oakland, the Kaiser Center, Lake Merritt BART, Laney College, the San Antonio District, Highland Hospital, and the Dimond District. It operates every 20 minutes on weekdays from approximately 6:00 AM to 8:00 PM, and every hour on weekends from 7:00 AM to 7:50 PM.

19-Hollis: This line operates every 30 minutes daily from approximately 6:00 AM to 10:30 PM. It serves Berkeley, Emeryville, Downtown Oakland, and Alameda, stopping at BART stations in North Berkeley, Fruitvale, West Oakland, and 12th Street, as well as the Amtrak station near the Posey Tube.

51-Broadway: The 51-Broadway serves Berkeley, Oakland, and Alameda via University Avenue, Bancroft, College Avenue, and Broadway stopping at the 12th Street and 19th Street BART stations. This route operates from approximately 4:55 AM until 12:50 AM daily, every 8 to 10 minutes weekdays and every 15 minutes on weekends.

62-San Antonio: The 62 line serves West Oakland, Twelfth Street, Lake Merritt and Fruitvale BART. It operates daily from approximately 5:30 AM to 12:39 PM northbound and from approximately 6:20 AM to 12:52 AM southbound. It runs every 20 minutes on weekdays and every 30 minutes on weekends.

63-Alameda Point: This line serves Alameda Point, 12th Street BART, Lake Merritt BART, and Fruitvale BART daily from approximately 5:30 AM. to 12:50 AM northbound and from approximately 6:00 AM to 12:20 AM southbound. It operates every 30 minutes.

72-San Pablo Avenue (northbound and southbound): These lines serves Oakland, Emeryville, Berkeley, Albany, Richmond, El Cerrito, and San Pablo daily from approximately 5:00 AM to 12:57 AM northbound, and from approximately 3:40 AM to 1:23 AM southbound. They operate every 30 to 40 minutes, principally along San Pablo Avenue, from Hilltop Mall to San Pablo to the Amtrak station at Second/Alice Streets.

72M-MacDonald: This line serves Point Richmond, Richmond, Albany, Emeryville, Berkeley, and Oakland via Garrard Boulevard and MacDonald Avenue, then follows the same route as the 72-line but with limited stops. It operates daily from approximately 6:00 AM to 12:30 AM northbound, and from approximately 4:45 AM to 12:20 AM southbound at 30- to 40-minute intervals.

72R-San Pablo Rapid: This line serves Contra Costa College in San Pablo, then follows the same route as the 72-line but terminates at Second Street/Clay Street. It has fewer stops than the 72M. It operates weekdays only from 6:00 AM to 8:15 PM at 12-minute intervals.

651-Holy Names: This is a school service that operates weekdays once a day in each direction—from 2nd Street/Broadway to Holy Names High School at 7:18 AM, and from Holy Names High School to 2nd Street/Broadway at 3:15 PM.

851-Broadway All Nighter: This line serves Berkeley, Oakland, and Alameda via University Avenue, Bancroft, College, and Broadway to Alameda. It operates daily from 12:15 AM to 5:58 AM northbound, and from 12:05 AM to 4:49 AM southbound on an hourly schedule.

Bay Area Rapid Transit District

Bay Area Rapid Transit (BART) provides rail rapid transit services to the proposed Project area via the 12th Street Oakland City Center and Lake Merritt stations. The closest access point to the 12th Street Oakland City Center BART station is at the northern corner of 11th Street/Broadway about six blocks to the northwest of the proposed Project. Lake Merritt BART station is located six blocks northeast of the proposed Project at Oak Street/8th Street. Approximately 4,800 and 11,800 BART patrons exit the Lake Merritt station and 12th Street Oakland City Center station on each weekday, respectively. The 12th Street Oakland City Center station serves as a transfer point between lines. Three BART lines serve the 12th Street Oakland City Center station and two lines serve the Lake Merritt stations. Only one line, Richmond-Fremont, serves both stations.

Richmond-Daly City: The line originates at the Daly City BART station and ends at the Richmond BART station. Rush hour service extends to the Colma BART station. Service is provided every 15 minutes during the AM and PM peak periods at the 12th Street Oakland City Center station.

Fremont-Daly City: This line originates from the Daly City BART station and ends at the Fremont BART station. Service is provided every 15 minutes during the AM and PM peak periods at the Lake Merritt station.

Pittsburg/Bay Point-Daly City: This line originates at the Colma BART Station and ends at the Pittsburg/Bay Point BART station. Rush hour service extends to the Colma BART station. Service is provided every 15 minutes during the AM and PM peak periods at the 12th Street Oakland City Center station.

Dublin/Pleasanton-SFO/Millbrae: This line originates at the Millbrae BART station and ends at the Dublin/Pleasanton BART station. Service is provided every 15 minutes during the AM and PM peak periods at the Lake Merritt station.

Richmond-Fremont: This line originates at the Fremont BART station and ends at the Richmond BART station. Service is provided every 15 minutes during the AM and PM peak periods at both 12th Street Oakland City Center and Lake Merritt stations.

Oakland/Alameda Ferry Service

The Oakland/Alameda Ferry Service operates from Jack London Square at the foot of Clay Street, the Alameda Ferry Terminal off Main Street, to the San Francisco Ferry Building near the foot of Market Street, and Pier 41 near Fisherman's Wharf. The service provides free validated parking for passengers

who park in the Washington Street garage and free transfers to and from the terminals on AC Transit and San Francisco Muni buses.

The weekday service runs between 6:00 AM and 9:25 PM, with headways of 30 minutes to one hour during the peak periods, and two-hour during off-peak periods. The service to Pier 41 runs every two hours, between 8:30 AM and 11:00 PM, five to seven times per day compared to twelve times per day at the Ferry Building. The weekend service operates about every two hours. It includes service to Angel Island State Park during the summer. The service to Angel Island is offered once per day in each direction.

Amtrak

The Amtrak station is located on Second Street between Jackson and Alice Streets. The Capitol and San Joaquin intercity trains, and the long distance Coast Starlight train, stop at the Jack London Square station. There is a 115-space parking lot, and bicycle racks are available on the Capitol and San Joaquin trains on a first-come, first-served basis at no charge. The station is open between 6:00 AM and 9:00 PM seven days per week.

Amtrak's Capitol Corridor service travels between Oakland and Sacramento about 12 trains per day in each direction (five in the morning and seven in the afternoon). For service from Oakland to San Jose, there are five runs in the morning and afternoon, but three of the five runs in each direction are via Amtrak motor coach buses rather than trains. Amtrak also provides bus service to destinations beyond the train route, such as San Francisco and Monterey. Amtrak's San Joaquin trains (to Bakersfield via Modesto and Fresno) operate four trains per day in each direction with connecting bus service to a dozen cities including San Francisco and San Jose. Amtrak's Coast Starlight trains (between Seattle and Los Angeles) operate one train per day in each direction, with connecting bus service to many cities, including San Francisco.

EXISTING PEDESTRIAN AND BICYCLE NETWORK

Sidewalks

Most streets in the Oakland Chinatown core have sidewalks on both sides. In the immediate vicinity of the proposed project, sidewalks exist on both sides of most roadway segments except along the south side of 6th Street. The sidewalk widths on the perimeter of the proposed Project are ten feet on 7th Street, eleven feet on Webster Street, thirteen feet on Harrison Street, and seventeen feet on 6th Street. There are no major obstacles along these sidewalks. Pedestrian volumes in the vicinity of the proposed Project are low during the AM peak hour and moderate to high during weekday mid-day period and weekends.

However, further away from the proposed project, in the core of Oakland Chinatown, effective sidewalk widths (clear walkways for pedestrian circulation) are narrowed at several locations due to the presence of merchandise displays on the sidewalk, shoppers milling in front of those displays, and street furniture. Vendor displays occur generally in front of grocery and produce markets. These stores are mostly concentrated along 8th Street (from Franklin to Harrison Streets) and Webster Street (from 7th to 9th Streets). Some vendor displays occupy approximately 25 percent of the sidewalk width, while others occupy up to 75 percent of the sidewalk width, leaving an effective width of two feet for pedestrian movement. In the most congested areas, the effective sidewalk width is as narrow as two feet.

The City of Oakland's Pedestrian Master Plan (2002) designates all streets in Chinatown as part of the downtown pedestrian district. In the vicinity of the proposed Project, the Plan designates Broadway, 8th, and 9th Streets as Primary Pedestrian Routes, and Webster, Jackson, and Oak Streets as Secondary Pedestrian Routes. Such designations target the City's long-term pedestrian improvements resources, and ensure that the present and future planning process promotes pedestrian safety and access.

Crosswalks and Signals

In the immediate vicinity of the proposed project, crosswalks are located at most of the area's intersections, except at 6th Street/Webster Street and 6th Street/Harrison Street, where there are no crosswalks to cross Webster and Harrison Streets because of their proximity to the entrance and exit to the Webster and Posey Tubes which connect to the City of Alameda.

A survey of pedestrian signals was conducted at all study intersections. Pedestrian signal heads are present on all 13 signalized study intersections. None of the intersections have a pedestrian pushbutton. All but one of the study intersections has pedestrian heads at each approach; the only intersection missing pedestrian heads at any approach is 6th Street/Jackson Street. The two intersections have audible signals; at 7th Street/Harrison Street and 7th Street/Broadway. 7th Street/Harrison Street has audible signals at each approach, but 7th Street/Broadway is missing them on both sides of the street westbound and eastbound. The intersections of 8th Street/Webster Street, 8th Street/Franklin, 9th Street/Franklin and 9th Street/Webster have a pedestrian scramble system, meaning pedestrians cross at all directions in an exclusive signal phase without conflict with vehicular movements.

The "Revive Chinatown" Project recommended several pedestrian improvements in Oakland Chinatown, and the City of Oakland has recently completed the expansion of the pedestrian scramble system to the intersections of 8th Street and Franklin Street, Franklin Street and 9th Street, and 9th Street and Webster Street, as well as corner bulb-outs and pedestrian countdown signals at these core area intersections. It also recommended the addition of pedestrian countdown signals at additional intersections, enhancement of the pedestrian crosswalks, and the removal of the pedestrian crossing barrier at 10th Street and Webster Street.

Curb Ramps

CHS recently conducted an evaluation of the existing curb ramps in the vicinity of the Project site. Per City of Oakland Standard Details for Curb Ramps², most ramps are not compliant with the Americans with Disabilities Act (ADA) guidelines. **Table 4.2-2** presents the curb ramp conditions at each of the study intersections adjacent to the Project site.

TABLE 4.2-2: CURB RAMPS SUMMARY

Intersection	Crosswalks	Ramps	ADA Compliant	Notes
Webster/8th	Yes	Yes	No	Ramps are not ADA .compliant.
Webster/7th	Yes	Yes	No	Three of the four ramps are not ADA compliant and the northeast ramp is ADA compliant but does not include domes.
Harrison/8th	Yes	Yes	No	Two of the four ramps are not ADA compliant and the northeast and southeast ramps are ADA compliant but does not include domes.
Harrison/7th	Yes	Yes	Yes	Ramps are ADA compliant in size; however, no domes are provided.

² City of Oakland Standards Details for Public Works Construction. 2002.

Bicycle Facilities

The City of Oakland's *Bicycle Master Plan (2007)* is the governing planning document for new bicycle facilities in the city. While no bicycle lanes/markings currently exist in the proposed Project vicinity, Harrison Street south of 6th Street is an existing Class 1 bike route.

The *Bicycle Master Plan* proposes designating several streets in the Project vicinity as either bicycle lanes or bicycle routes. Class II bicycle lanes consist of striped bicycle lanes on the roadways. Bike routes (Class III) are shared lanes on collector and arterial streets only when bicycle lanes are infeasible. Proposed Class II bike lanes are proposed on the following streets:

- 7th Street, west of Oak Street,
- 8th Street, between Harrison Street and Oak Street,
- 9th Street between Harrison Street and Oak Street,
- Oak Street,
- Webster Street, north of 8th Street,
- Franklin Street, between 8th Street and 21st Street, and
- Broadway between 6th and 7th Streets.

Class III bike routes are proposed on the following streets:

- 8th Street, between Broadway and Harrison Street, and
- 9th Street, between Washington and Harrison Street.

The Broadway corridor north of 7th Street is included as part of a special study area for potential bikeways.

A number of bicycle racks are provided on the west side of Harrison Street between 8th and 9th Streets, with other racks scattered within the Chinatown and Project study area.

EXISTING PARKING CHARACTERISTICS

The existing on-street and off-street parking conditions within the Project study area are described below.

On-Street Parking Conditions

On-street parking supply and occupancy data was obtained from field observations performed on April 13, 2006 (weekday midday) and August 28, 2008 (weekday evening between 7:00 PM and 9:00 PM). Eighty percent of on-street parking spaces in the study area are metered, with time limits between one and two hours. Commercial loading zones are scattered throughout the area, usually in front of retail businesses and restaurants.

In general, field review shows that on-street parking in the study area is full (approximately 96 percent occupied) during a typical weekday mid-day (see **Table 4.2-3**). Observation also shows some storeowners use on-street parking spaces for temporary storage of boxes and pallets, causing pedestrian, parking and traffic circulation impacts. Parking occupancy for the on-street spaces within the study area is substantially lower at night than during the day, but substantially higher than the off-street parking facilities. After 9:00 PM, on-street parking occupancy becomes very low because most of the restaurants begin to close.

TABLE 4.2-3: WEEKDAY MID-DAY ON-STREET PARKING SUPPLY AND OCCUPANCY

Block #	On-Street Facility Location	Supply	Weekday Midday Occupancy		Weekday Evening Occupancy	
1	Broadway / Franklin / 9 th / 8 th	33	31	94%	28	85%
2	Franklin / Webster / 9 th / 8 th	44	41	93%	40	91%
3	Webster / Harrison / 9 th / 8 th	34	31	91%	30	88%
4	Harrison / Alice / 9 th / 8 th	28	30	107%	26	93%
5	Alice / Jackson / 9 th / 8 th	30	26	87%	23	77%
6	Broadway / Franklin / 8 th / 7 th	34	27	79%	27	79%
7	Franklin / Webster / 8 th / 7 th	40	33	83%	29	73%
8	Webster / Harrison / 8 th / 7 th	31	29	94%	29	94%
9	Harrison / Alice / 8 th / 7 th	28	33	118%	25	89%
10	Alice / Jackson / 8 th / 7 th	28	26	93%	24	86%
11	Broadway / Franklin / 7 th / 6 th	15	8	53%	5	33%
12	Franklin / Webster / 7 th / 6 th	22	19	86%	18	82%
13	Webster / Harrison / 7 th / 6 th	18	21	117%	16	89%
14	Harrison / Alice / 7 th / 6 th	16	16	100%	14	88%
15	Alice / Jackson / 7 th / 6 th	23	23	100%	19	83%
16	Broadway / Webster / 6 th / 5 th	30	33	110%	0	0%
17	Webster / Harrison / 6 th / 5 th	14	16	114%	6	43%
18	Harrison / Jackson / 6 th / 5 th	49	52	106%	43	88%
	TOTAL	517	495	96%	402	78%

Off-Street Parking Conditions

The off-street parking supply and occupancy data for the weekday midday period (10:00 AM. to 1:00 PM) was counted on April 13, and July 25, 2006. An evening parking survey was conducted on August 28, 2008. Within an approximately two-block radius of the proposed Project there are six publicly-accessible off-street parking garages and lots with a total of 255 public parking spaces (see **Table 4.2-4**). Most facilities within the study area are closed for overnight parking.

Average weekday midday parking occupancy is approximately 67 percent. Approximately 85 parking spaces were not occupied. A parking facility is considered to be effectively full when it reaches 85 percent occupancy level. Above 85 percent occupancy there are parking spaces available, but people often have to circle the facility to find a space. Parking occupancy at these facilities is substantially lower at night than during the day (25 percent vs. 67 percent), because most of the retail stores in Oakland Chinatown are closed at night and there is plenty of free on-street parking space after 6:00 PM.

TABLE 4.2-4: WEEKDAY MIDDAY PUBLIC OFF-STREET PARKING SUPPLY AND OCCUPANCY

#	Public Off-street Parking Facility	Type	Supply	Weekday Midday Occupancy	Weekday Evening Occupancy
1	8 th /Alice Sts (Douglas Parking) ¹	Lot	38	25 66%	0 NA
2	7 th , 8 th , Franklin Sts. & Broadway (Aki Parking)	Lot	51	40 78%	11 22%
3	328 7 th St (Central Parking Systems)	Lot	24	12 50%	5 21%
4	625-635 Harrison St (Central Parking Systems)	Lot	28	10 36%	9 32%
5	726 Harrison St (Bay Area Parking)	Lot	44	41 93%	18 41%
6	Star Park Corp. under I-880)	Lot	70	42 60%	11 16%
TOTAL			255	170 67%	54 25% ²

Source: CHS Consulting Group, 2006

1 This parking lot is closed at night

2 Evening occupancy does not include Lot #1 because it is closed at night.

EXISTING TRAFFIC CONDITIONS

Traffic operating characteristics of intersections are described by the concept of level of services (LOS). LOS is a qualitative description of an intersections' performance based on the average delay per vehicle, and ranges from LOS A (free flow or excellent conditions with short delays) to F (congested or overloaded conditions with extremely long delays). The City of Oakland defines LOS E as the threshold in the Downtown area, below which the intersection would be considered operating at deficient conditions. LOS is the most commonly used method by local jurisdictions to assess intersection operating conditions.

The intersection LOS analysis was performed using SYNCHRO model as required by the City of Oakland and based on the *Highway Capacity Manual 2000* (HCM 2000) Operations method. This method determines the capacity for each lane group approaching an intersection. The LOS is based on average control delay per vehicle (seconds) for the various movements within the intersection. Adjustments can be made to the LOS analysis to reflect location-specific conditions such as heavy pedestrian volumes, delays due to bus stops, or narrow lane widths. **Table 4.2-5** provides a summary of LOS definitions.

TABLE 4.2-5: LEVELS OF SERVICE DEFINITION – SIGNALIZED INTERSECTIONS

Level of Service	Signal Control Delay	Qualitative Traffic Description
A	0 - 10	Excellent, Light Traffic
B	10 – 20	Good, Light to Moderate Traffic
C	20 – 35	Moderate Traffic, with Insignificant Delay
D	35 – 55	Heavy Traffic, with Significant Delay
E	55 – 80	Severe Congestion and Delay
F	> 80	Failed, Indicated Levels Cannot be Handled

Source: Highway Capacity Manual, 2000, Transportation Research Board, Washington, D.C.

No intersections along the Embarcadero were analyzed because there would be nominal (or no) project-generated traffic that would cross intersections along the Embarcadero during the PM peak hour. The only

project-related traffic that would cross these intersections would be vehicles driven by residents living at the Project site, who park their vehicles in the parking garage on the west side of the Embarcadero.

All study intersections are controlled by traffic signals. Four intersections in the study area (8th Street/Franklin, 8th Street/Webster, 9th Street/Franklin, and 9th Street/Webster) have an exclusive pedestrian scramble signal phase and 90-second cycle length. During the scramble phase, pedestrians can cross in all directions, and all vehicle movements are prohibited.

Existing intersection turning movement volumes for the 13 study intersections were originally collected on April 19, 2006 during the AM (7:00 a.m. to 9:00 a.m.) and PM (4:00 p.m. to 6:00 p.m.) peak periods. Because the original traffic volumes are more than three years old, traffic counts from recent projects were used for three intersections (5th Street/Oak Street, 6th Street/Oak Street, and 6th Street/Jackson Street). For the remaining 10 intersections that no recent counts are available, sample traffic counts were collected December 9, 2009 for the following five intersections to determine whether traffic volumes have changes significantly since 2006. These five intersections are along major arterial roads and were selected with a consultation with the City of Oakland CEDA staff and agreed to subsequently.

- (#5): 7th Street/Harrison Street (AM and PM peak hours)
- (#7): 7th Street/Broadway (AM peak hour),
- (#10): 9th Street/Webster Street (PM peak hour)
- (#12): 11th Street/Harrison Street (PM peak hour)
- (#13): 12th Street/Harrison Street (PM peak hour)

The survey results show that there is no significant change in traffic volume at these five intersections between the 2006 and 2009 counts; thus, the original traffic counts are considered valid for use in the analysis and no other traffic counts are collected for the remaining intersections. **Figure 4.2-3** shows the existing weekday AM and PM peak-hour intersection turning volumes for the study intersections. The AM and PM peak hours of traffic at the study intersections are generally 7:45 a.m. to 8:45 a.m. and 4:45 p.m. to 5:45 p.m., respectively.

Table 4.2-6 presents the results of the AM and PM peak hour LOS analysis for the 13 study intersections. It shows that 9 of the 13 intersections currently operate at LOS D or better conditions. The following intersections, however, operate at LOS E or F during selected peak hour:

- (#1): 5th Street/Oak Street – LOS F, PM peak hour
- (#4): 6th Street/Jackson Street – LOS E, AM and PM peak hours
- (#5): 7th Street/Harrison Street – LOS E, AM peak hour
- (#9): 8th Street/Webster Street – LOS F, PM peak hour

It should be noted that while the intersections of 6th Street/Jackson Street and 7th Street/Harrison Street operate at LOS E, they are at an acceptable level per City of Oakland standard for downtown intersections. The LOS F for the intersection of 8th Street/Webster Street during the PM peak hour is caused by vehicle congestion along Webster Street. The LOS F for the intersection of 5th Street/Oak Street during the PM peak hour is caused by vehicles queuing from downstream I-880 southbound onramp ramp metering signal. A field observation shows that vehicle queuing extends approximately 2/3 of the block along 5th Street between Oak and Madison Streets.

The intersection of 6th Street/Jackson Street operates at LOS E during the AM and PM peak hours. Field observations show that the southbound approach to this intersection has frequent vehicle queues that extend upstream to the intersection of 7th Street/Jackson Street. At times, the queue is caused by the heavy traffic volumes along I-880 northbound rather than the capacity of the intersection.

TABLE 4.2-6: INTERSECTION LEVEL OF SERVICE: EXISTING WEEKDAY AM AND PM PEAK HOURS

Study Intersections	AM Peak Hour		PM Peak Hour	
	Delay (sec./veh.)	LOS	Delay (sec./veh.)	LOS
#1: 5 th Street/Oak Street	43.3	D	> 80	F
#2: 5 th Street/Jackson Street	13.8	B	13.3	B
#3: 6 th Street/Oak Street	9.9	A	9.0	A
#4: 6 th Street/Jackson Street	55.1	E	55.5	E
#5: 7 th Street/Harrison Street	59.3	E	48.1	D
#6: 7 th Street/Webster Street	11.7	B	15.2	B
#7: 7 th Street/Broadway	14.5	B	15.7	B
#8: 8 th Street/Harrison Street	21.1	C	24.0	C
#9: 8 th Street/Webster Street	22.0	C	89.6	F
#10: 9 th Street/Webster Street	27.1	C	39.1	D
#11: 10 th Street/Webster Street	7.5	A	8.2	A
#12: 11 th Street/Harrison Street	17.4	B	12.3	B
#13: 12 th Street/Harrison Street	19.9	B	17.7	B

Source: CHS Consulting Group, April 2010

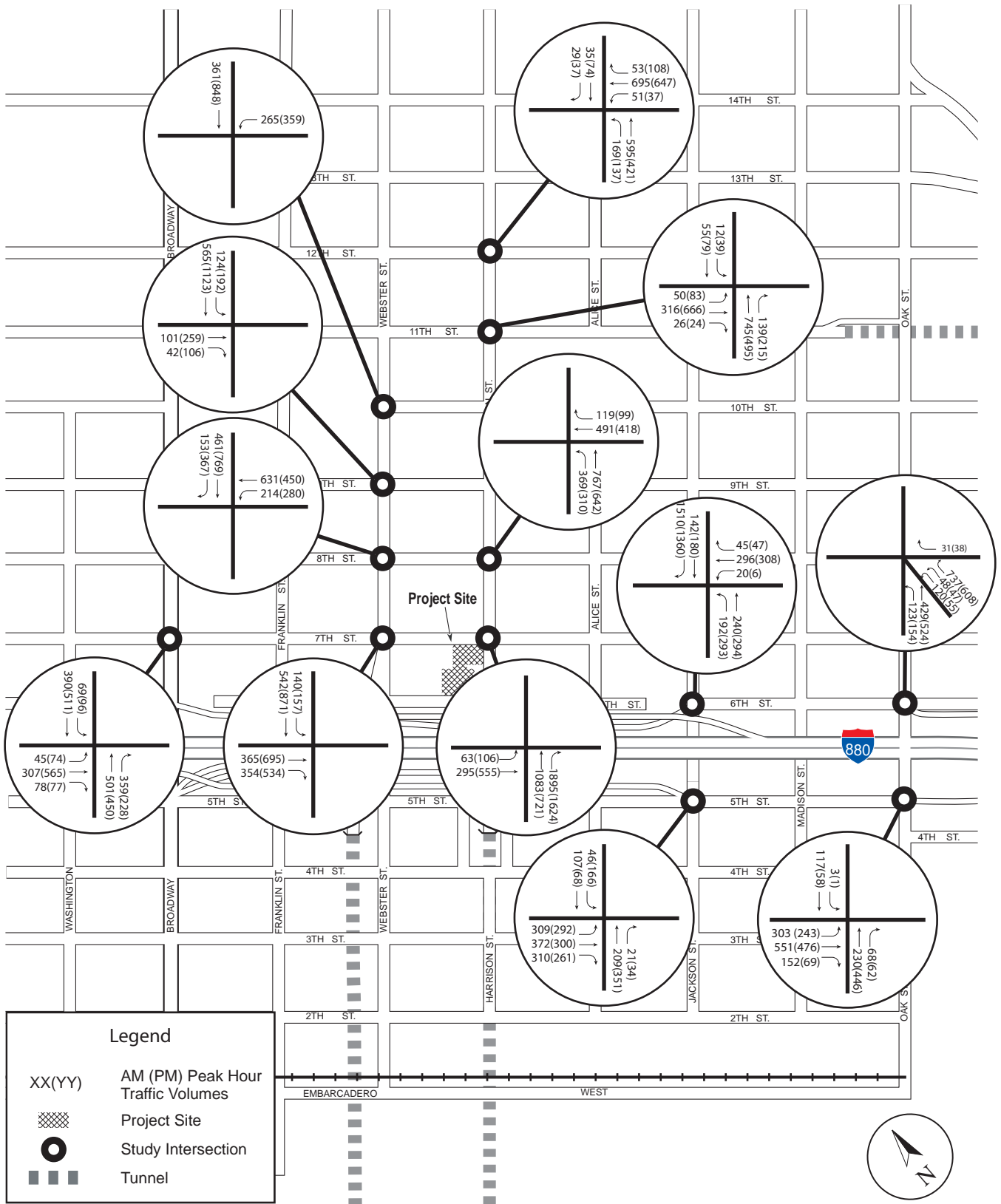


Figure 4.2-3
Existing AM and PM Peak Hour Traffic Volumes

Source: CHS Consulting Group

PEDESTRIAN AND TRAFFIC SAFETY

Vehicle, pedestrian, and bicycle collision data for a 3-year period between June 30, 2003 and June 30, 2006 were reviewed for the 13 study intersections. **Table 4.2-7** summarizes the collision data by intersection and number of collisions by type.

TABLE 4.2-7: COLLISIONS BY LOCATION AND SEVERITY

Intersection	Number of Collisions (6/30/2003 to 6/30/2006)			
	Collisions	Fatal	Injury	Non-Injury
5 th Street/Oak Street	15	0	2	13
5 th Street/Jackson Street	14	0	1	13
6 th Street/Oak Street	6	0	0	6
6 th Street/Jackson Street	28	0	7	21
7 th Street/Webster Street	26	0	5	21
7 th Street/Harrison Street	37	0	8	29
7 th Street/Broadway	36	0	5	31
8 th Street/Webster Street	51	0	4	47
8 th Street/Harrison Street	17	0	6	11
9 th Street/Webster Street	21	0	5	16
10 th Street/Webster Street	5	0	0	5
11 th Street/Harrison Street	10	0	1	9
12 th Street/Harrison Street	44	0	18	26

Over the 3-year period, the following intersections had over 20 collisions:

- 8th Street/Webster Street (51)
- 12th Street/Harrison Street (44)
- 7th Street/Harrison Street (37)
- 7th Street/Broadway Street (36)
- 6th Street/Jackson Street (28)
- 7th Street/Webster Street (26)
- 9th Street/Webster Street (21)

Table 4.2-8 presents the types of collisions for the study intersections. Fifteen of the 310 accidents during the three years involved pedestrians. The majority accidents were vehicle-to-vehicle collisions. Each intersection has unique problems. Sideswipe is a predominate cause of collision at seven intersections: 6th Street/Oak Street, 7th Street/Webster Street, 7th Street/Harrison Street, 8th Street/Webster Street, 8th Street/Harrison Street, 9th Street/Webster Street, and 10th Street/Webster Street. The major type of collision at 7th Street/Harrison Street is rear-end. Broad-side is the predominant type of collision at six intersections: 5th Street/Oak Street, 5th Street/Jackson Street, 6th Street/Jackson Street, 8th Street/Harrison Street, and 11th Street/Harrison Street.

TABLE 4.2-8: TRAFFIC ACCIDENT PATTERNS

Intersection	Type of Collision (6/30/2003 – 6/30/2006)								Total
	Side-swipe	Rear-End	Broad-side	Hit Object	Vehicle-Pedestrian	Head-On	Not stated	Other	
5 th Street/Oak Street	2	0	11	0	0	0	1	1	15
5 th Street/Jackson Street	2	3	9	0	0	0	0	0	14
6 th Street/Oak Street	4	1	0	0	0	0	1	0	6
6 th Street/Jackson Street	2	2	22	0	0	2	0	0	28
7 th Street/Webster Street	11	2	9	0	2	0	0	2	26
7 th Street/Harrison Street	7	14	5	4	5	1	1	0	37
7 th Street/Broadway	16	11	9	0	0	0	0	0	36
8 th Street/Webster Street	30	11	9	0	0	0	1	0	51
8 th Street/Harrison Street	6	0	6	0	3	2	0	0	17
9 th Street/Webster Street	8	4	3	1	3	0	1	1	21
10 th Street/Webster Street	3	1	1	0	0	0	0	0	5
11 th Street/Harrison Street	1	2	5	0	0	2	0	0	10
12 th Street/Harrison Street	4	4	33	0	2	1	0	0	44

The cause of rear-end collision is often recorded as vehicles following too closely or traveling at unsafe speed. In-depth field reviews are needed to determine why drivers fail to maintain safe distances, as well as to determine appropriate mitigation. Head-on, broadside, and sideswipe collisions are typically a result of right-of-way violations.

PLANNED TRANSPORTATION IMPROVEMENTS

In August of 2008, the Alameda County Transportation Improvement Authority (ACTIA) prepared a Project Study Report (PSR) for the I-880 Broadway to Jackson Interchange project. The project is one of the major projects listed in ACTIA's 20-year Expenditure Plan. The PSR is a cooperative effort between the City of Oakland, the City of Alameda, ACTIA, and Caltrans.

The I-880 Broadway to Jackson Interchange project includes a direct connection from the Posey tube to 6th Street, and this connection would eliminate existing and proposed access along 6th Street to all properties between Harrison Street and Webster Street, including the proposed Project. The geometry and storage requirements of the left-turn lane would also necessitate partial right-of-way acquisition from the property owners along 6th Street. The purpose of this direct connection is to reduce the amount of traffic at the intersection of 7th Street and Harrison Street, in particular, the northbound to eastbound traffic at this intersection.

This transportation improvement is further discussed in the Alternatives chapter of this EIR. However, because the PSR for this transportation improvement has not been completed; has not been approved by the City of Oakland, the City of Alameda, ACTIA, or Caltrans; no environmental analysis has been completed; and no full funding source identified; this transportation improvement is not included as part of the transportation network analyzed in this EIR traffic analysis. Furthermore, public comments expressed during the public review period for the 2008 PSR (particularly comments expressed by

residents and representatives from the Oakland Chinatown neighborhood) indicated concern about the proposed design. As of August 2010, ACTIA (now ACTC) has not moved forward with processing of this PSR.

REGULATORY SETTING

Regional Agencies

AC Transit

Short-Range Transit Plan: AC Transit, the provider of bus transit service in the Project study area, has established goals related to transit service. These goals are documented in the Short-Range Transit Plan – FY 2003 to FY 2012 (AC Transit, 2004). Some of the major goals of AC Transit include:

- Goal 1: Provide High Quality, useful Transit Service for Customers in the East Bay.
- Goal 4: Plan and Advocate for the Funding and Implementation of Future Projects.
- Work with City and Local agencies to make transit usage as safe, secure, reliable, and quick as possible and to promote transit usage in the planning process.
- Promote “Transit First” development practices and increased funding for transit through transit mitigation funding for new developments.

Strategic Vision: AC Transit has also established a Strategic Vision (AC Transit, 2002) to provide fast, frequent, reliable service on a wide variety of routes with attractive vehicles and an easy-to-use, affordable fare structure. Key elements of the AC Transit Strategic Vision include: increased frequency of buses to reduce wait time; greater frequency of service during midday, evening and owl travel times; an easy-to-use, integrated fare system; flexible routes, adequate around-the-clock service; a redesigned network that matches travel patterns and helps meet demand in the high-density urban core; gradual transition to “Bus Rapid Transit” in the highest ridership corridors; and bus stop improvements including real-time display of arrival times.

BART

Strategic Plan: BART, the provider of rail transit service in the Project study area, has established several goals related to transit service. These goals are documented in the 1999 BART Strategic Plan (BART, Updated in 2003). Some of the relevant goals of BART include:

- Customer Experience: Goal 2: Maximize regional transit access, convenience, and ease of use through effective coordination among transit providers.
- *Strategies:* Work with transit partners to improve feeder service for customers; support the development of incentives to spur further improvements in the quality of transit connections.
- Transit Travel Demand: Goal 3: Encourage and facilitate improved access to and from our stations by all modes.

Strategies: Improve access via taxis, shuttles, buses, walking, bicycles, and other transit.

City of Oakland Local Plans and Policies

General Plan

The Oakland General Plan is comprised of numerous elements, and those containing policies relevant to transportation resources primarily are contained in the Land Use and Transportation Element (LUTE).

The City of Oakland, through various policy documents, states a strong preference for encouraging the use of alternative transportation modes. The following policies are included in LUTE:

Land Use and Transportation Element (LUTE) Policy Framework: Encouraging Alternative Means of Transportation. A key challenge for Oakland is to encourage commuters to carpool or use alternative modes of transportation, including bicycling or walking. The Policy Framework proposes that congestion be lessened by promoting alternative means of transportation, such as transit, biking, and walking, providing facilities that support alternative modes, and implementing street improvements. The City will continue to work closely with local and regional transit providers to increase accessibility to transit and improve intermodal transportation connections and facilities. Additionally, policies support the introduction of light rail and trolley buses along appropriate arterials in heavily traveled corridors, and expanded use of ferries in the bay and estuary.

Policy T3.5. Including Bikeways and Pedestrian Walks. The City should include bikeways and pedestrian walks in the planning of new, reconstructed, or realigned streets, wherever possible.

Policy T4.1. Incorporating design Features for Alternative Travel. The City will require new development, rebuilding, or retrofit to incorporate design features in their projects that encourage use of alternative modes of transportation such as transit, bicycling, and walking.

Pedestrian Master Plan. In November 2002, the Pedestrian Master Plan (PMP) was adopted by the City Council and incorporated into the adopted General Plan. The PMP identifies policies and implementation measures that promote a walkable City. The PMP designates all streets in Chinatown as part of the downtown pedestrian district. In the vicinity of the proposed Project, the Plan designates Broadway, 8th, and 9th Streets as Primary Pedestrian Routes, and Webster, Jackson, and Oak Streets as Secondary Pedestrian Routes.

The PMP includes the following relevant policies and actions:

PMP Policy 1.2: Use traffic signals and their associated features to improve pedestrian safety at dangerous intersections.

General Plan Policy T 3.5: The City should include bikeways and pedestrian walks in the planning of new, reconstructed, or realigned streets, wherever possible.

PMP Policy 2.1: Create and maintain a pedestrian route network that provides direct connections between activity centers.

Action 2.1.1: Improve existing connections across/under freeways to activity centers using lighting, acoustics, and other design features.

Action 2.1.4: Avoid the use of pedestrian overpasses and underpasses for pedestrian crossings on surface streets.

PMP Policy 2.3: Implement pedestrian improvements along major AC Transit lines and at BART stations to strengthen connections to transit.

Action 2.3.1: Develop and implement street designs (like bus bulbouts) that improve pedestrian/bus connections.

Action 2.3.4: Improve pedestrian wayfinding by providing local area maps and directional signage at major AC Transit stops and BART stations.

PMP Policy 3.2: Promote land uses and site designs that make walking convenient and enjoyable.

Action 3.2.4: Require contractors to provide safe, convenient, and accessible pedestrian rights-of-way along construction sites that require sidewalk closure.

Action 3.2.8: Discourage motor vehicle parking facilities that create blank walls, unscreened edges along sidewalks, and/or gaps between sidewalks and building entrances

City of Oakland Bicycle Master Plan

The Oakland City Council adopted the 2007 Oakland Bicycle Master Plan (BMP) on December 4, 2007. The adopted BMP includes the following policy-supporting actions that are applicable to the proposed Project:

Policy 1: Create, enhance and maintain the recommended bicycle network.

Policy 4: Include provisions for safe and direct bicycle access to special development areas and key corridors.

Policy 5: Promote secure and conveniently located bicycle parking at destinations throughout Oakland.

Policy 8: Insure that the needs of bicyclists are considered in the design of new development and redevelopment projects.

The 2007 BMP also contains requirements that new development provide both short-term (i.e., bike racks) and long-term bicycle parking (i.e., lockers or indoor storage) for bicycles.

City of Oakland “Transit First” Policy

The City of Oakland adopted a “Transit First” Resolution in October 1996 which states the City’s support for public transit and other alternatives to the single-occupant vehicle. This policy focused on resolving conflicts between public transit and single occupant vehicles on City streets in favor of the transit mode that has the potential to provide the greatest mobility for people rather than vehicles.

City of Oakland Standard Conditions of Approval

The City’s Standard Conditions of Approval relevant to this impact topic are listed below for reference. The conditions of approval will be adopted as requirements of the proposed project if the project is approved by the City to help ensure that no significant impacts (for the applicable topic) occur. As a result, they are not listed as mitigation measures.

SCA Traf-1: Parking and Transportation Demand Management. *Prior to issuance of a final inspection of the building permit.* The applicant shall submit for review and approval by the Planning and Zoning Division a Transportation Demand Management (TDM) plan containing strategies to reduce on-site parking demand and single occupancy vehicle travel. The applicant shall implement the approved TDM plan. The TDM shall include strategies to increase bicycle, pedestrian, transit, and carpools/vanpool use. All four modes of travel shall be considered. Strategies to consider include the following:

- a. Inclusion of additional bicycle parking, shower, and locker facilities that exceed the requirement
- b. Construction of bike lanes per the Bicycle Master Plan; Priority Bikeway Projects
- c. Signage and striping onsite to encourage bike safety
- d. Installation of safety elements per the Pedestrian Master Plan (such as cross walk striping, curb ramps, count down signals, bulb outs, etc.) to encourage convenient crossing at arterials
- e. Installation of amenities such as lighting, street trees, trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan.
- f. Direct transit sales or subsidized transit passes
- g. Guaranteed ride home program

- h. Pre-tax commuter benefits (checks)
- i. On-site car-sharing program (such as City Car Share, Zip Car, etc.)
- j. On-site carpooling program
- k. Distribution of information concerning alternative transportation options
- l. Parking spaces sold/leased separately
- m. Parking management strategies; including attendant/valet parking and shared parking spaces.

To further implement this Standard Condition of Approval, the Project applicant shall:

- n. Investigate the possibility of contracting with off-site locations to provide additional parking,
- o. All good-faith efforts made by the applicant to identify potential off-site parking shall be submitted to the City for review and approval.

SCA Traf-2: Construction Traffic and Parking. *Prior to the issuance of a demolition, grading or building permit.* The project applicant and construction contractor shall meet with appropriate City of Oakland agencies to determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion and the effects of parking demand by construction workers during construction of this project and other nearby projects that could be simultaneously under construction. The project applicant shall develop a construction management plan for review and approval by the Planning and Zoning Division, the Building Services Division, and the Transportation Services Division. The plan shall include at least the following items and requirements:

- a. A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes.
- b. Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur.
- c. Location of construction staging areas for materials, equipment, and vehicles at an approved location.
- d. A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager. The manager shall determine the cause of the complaints and shall take prompt action to correct the problem. Planning and Zoning shall be informed who the Manager is prior to the issuance of the first permit issued by Building Services.
- e. Provision for accommodation of pedestrian flow.
- f. Provision for parking management and spaces for all construction workers to ensure that construction workers do not park in on-street spaces.
- g. Any damage to the street caused by heavy equipment, or as a result of this construction, shall be repaired, at the applicant's expense, within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to issuance of a final inspection of the building permit. All damage that is a threat to public health or safety shall be repaired immediately. The street shall be restored to its condition prior to the new construction as established by the City Building Inspector and/or photo documentation, at the applicant's expense, before the issuance of a Certificate of Occupancy.
- h. Any heavy equipment brought to the construction site shall be transported by truck, where feasible.
- i. No materials or equipment shall be stored on the traveled roadway at any time.

- j. Prior to construction, a portable toilet facility and a debris box shall be installed on the site, and properly maintained through project completion.
- k. All equipment shall be equipped with mufflers.
- l. Prior to the end of each work day during construction, the contractor or contractors shall pick up and properly dispose of all litter resulting from or related to the project, whether located on the property, within the public rights-of-way, or properties of adjacent or nearby neighbors.

PROJECT TRANSPORTATION CHARACTERISTICS

This section provides an estimate of the new vehicle trips generated by the Proposed Project, using the traditional four-step method of trip generation, modal split, trip distribution, and traffic assignment.

VEHICLE TRIP GENERATION AND MODE SPLIT

Table 4.2-9 shows the vehicle trip generation calculation made for the proposed Project. Trip generation for the proposed Project was calculated based on the vehicle trip generation rates from the Institute of Transportation Engineers (ITE) *Trip Generation Manual*, 7th Edition for retail, office, and residential uses. The fitted curve equation was applied using the standard procedures described in the ITE Trip Generation Manual. Because the ITE standard trip generation rates are developed typically based on suburban development where almost all peak hour trips are made by automobiles, an adjustment was made to the total number of vehicle trips generated to account for the urban setting of Oakland Chinatown.

According to 2000 U.S. Census data, non-automobile usage (transit, walking, and bicycling) for residents in the Oakland Chinatown was approximately 59.5 percent, and in the Oakland Chinatown/Lakeside area was approximately 57.9 percent. This is due to several factors:

- extensive transit service is available in the area (two BART Stations, one at 12th Street and one at Lake Merritt, and ten AC Transit bus lines);
- a significant number of employment opportunities in Oakland Chinatown and Downtown Oakland, all within a reasonable walking distance; and
- a high proportion of elderly residents in Oakland Chinatown.

The traffic analysis performed for this Project used a reasonably conservative adjustment factor provided by the City of Oakland Planning Department and Public Works Department TSD staff. These staff persons suggest that ITE trip generation rates for the residential land use can be adjusted to reflect a modal split of 83 percent auto use and 17 percent other modes.

Trip generation rates for the retail uses are based on “Shopping Centers,” because Oakland Chinatown consists of numerous small shops much like a shopping center where most patrons to the retail stores visit more than one store. The retail businesses in Oakland Chinatown would also attract pass-by trips. Pass-by trips are intermediate stops on the way from an origin to a primary trip destination. Pass-by trips are attracted from traffic passing the site on an adjacent street, thereby adding no extra trips to the surrounding roadway systems. For example, Chinatown retail businesses may attract a portion of the traffic passing through Chinatown on the way to Alameda. Those vehicles attracted to Chinatown retail stores do not generate new traffic to the adjacent street system. For shopping centers, the ITE *Trip Generation Handbook*, 2nd Edition estimates an average pass-by trip percentage of 65 percent or more for shopping centers of less than 25,000 square feet of gross lease-able area during the PM peak hour. For this analysis, 65 percent of the PM peak hour trips generated by the neighborhood commercial uses were considered internal and pass-by trips already existing in the area, and were not included as new vehicle trips generated by the proposed project. No internal or pass-by trip reductions are assumed for the retail

uses during the AM peak hour. ITE trip generation rates for general office were used to calculate office trips using the fitted curve, and were also adjusted for the modal split.

The Project would generate an estimated 2,144 daily, 165 AM peak hour, and 268 PM peak hour vehicle trips. Table 4.2-9 presents the trip generation calculation by land use. Existing trips to and from the Project site (a repair shop and a parking lot) were counted on April 13, 2006 during the AM and PM peak hours, and have been deducted from the Project trip generation. A recent field visit in 2010 confirmed that the repair shop and the parking lot are still in operation and the survey count is valid. The survey shows that a total of two vehicles arrived and none departed during the AM peak hour, and a total of one vehicle arrived and five vehicles departed the Project site during the PM peak hour. The total net new vehicle trips generated by the proposed Project would be 2,102 on a typical day, 163 during the AM peak hour and 262 during the PM peak hour.

TABLE 4.2-9: PROJECT VEHICLE TRIP GENERATION

Land Use (ITE Land Use Code)	gsf/units	Daily Trips	Total Trips AM Peak	PM Peak
Residential Condominium (230)	380 units	1,996	150	180
Mode Adjustment ¹		-399	-26	-31
Residential Total		1,657	125	149
Retail (820)	6,795 gsf	1,183	31	106
Adjustment for Pass-by		-769	NA	-69
Retail Total		414	31	37
Office (710)	2,315 gsf	73	9	81
Total Project Trips		2,144	164	268
Existing Uses		-42 ²	-2	-6
Net New		2,102	163	262

Notes:

¹ Mode adjustment includes all non-motorized trips such as walking, bicycling, and transit trips at 17 percent.

² Existing vehicle trip survey was conducted on April 13, 2006 during the AM and PM peak hours. Daily trips derived from peak hour trips as 19 percent of daily trips.

Source: CHS Consulting Group, 2006.

PROJECT TRIP DISTRIBUTION

Trip distribution patterns were obtained from the Alameda County Congestion Management Agency's Countywide Travel Forecasting Model (Alameda Model) for the traffic analysis zone (TAZ) that covers the proposed project. These distribution patterns were used to assign proposed Project traffic to the roadway network to calculate the LOS at the study intersections for the Existing + Project condition. **Figure 4.2-4** and **Figure 4.2-5** show the trip assignments entering and exiting the Project site, separately for residential and non-residential uses. **Figure 4.2-6** shows the trip assignment of the proposed Project for both AM and PM peak hour.

SITE ACCESS AND CIRCULATION

The Project site currently has vehicular access from 7th Street, Harrison Street and 6th Street, with driveway on each of these streets. With development of the Project site as proposed, vehicle access points would be provided along 7th Street and along 6th Street. Pedestrian circulation would be provided by

sidewalks along 7th Street, Harrison Street and 6th Street, while bicycle and motor vehicle circulation would be provided along each of these three public streets adjoining the Project site.

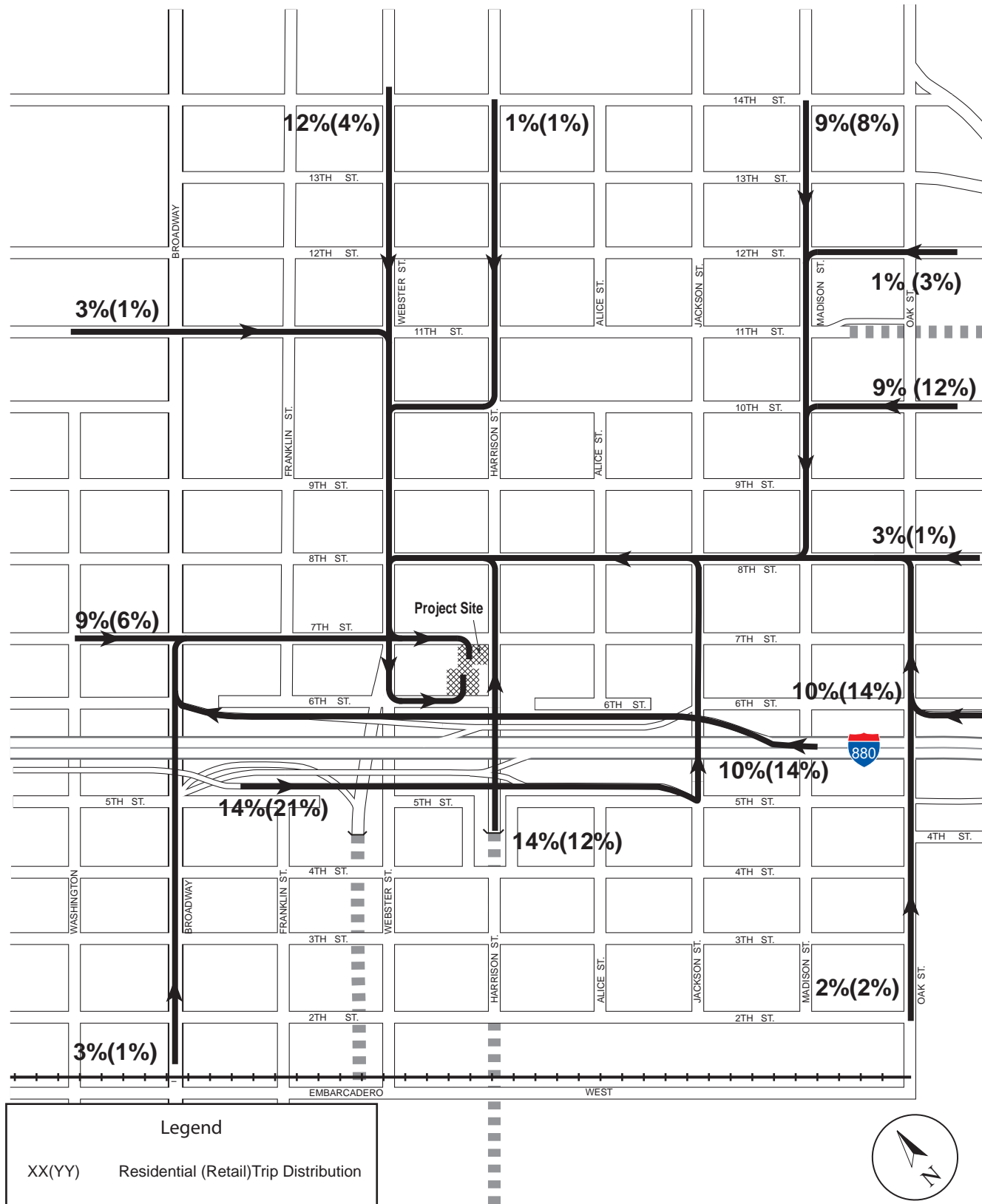


Figure 4.2-4
Project Traffic Assignment (Entering the Project)

Source: CHS Consulting Group

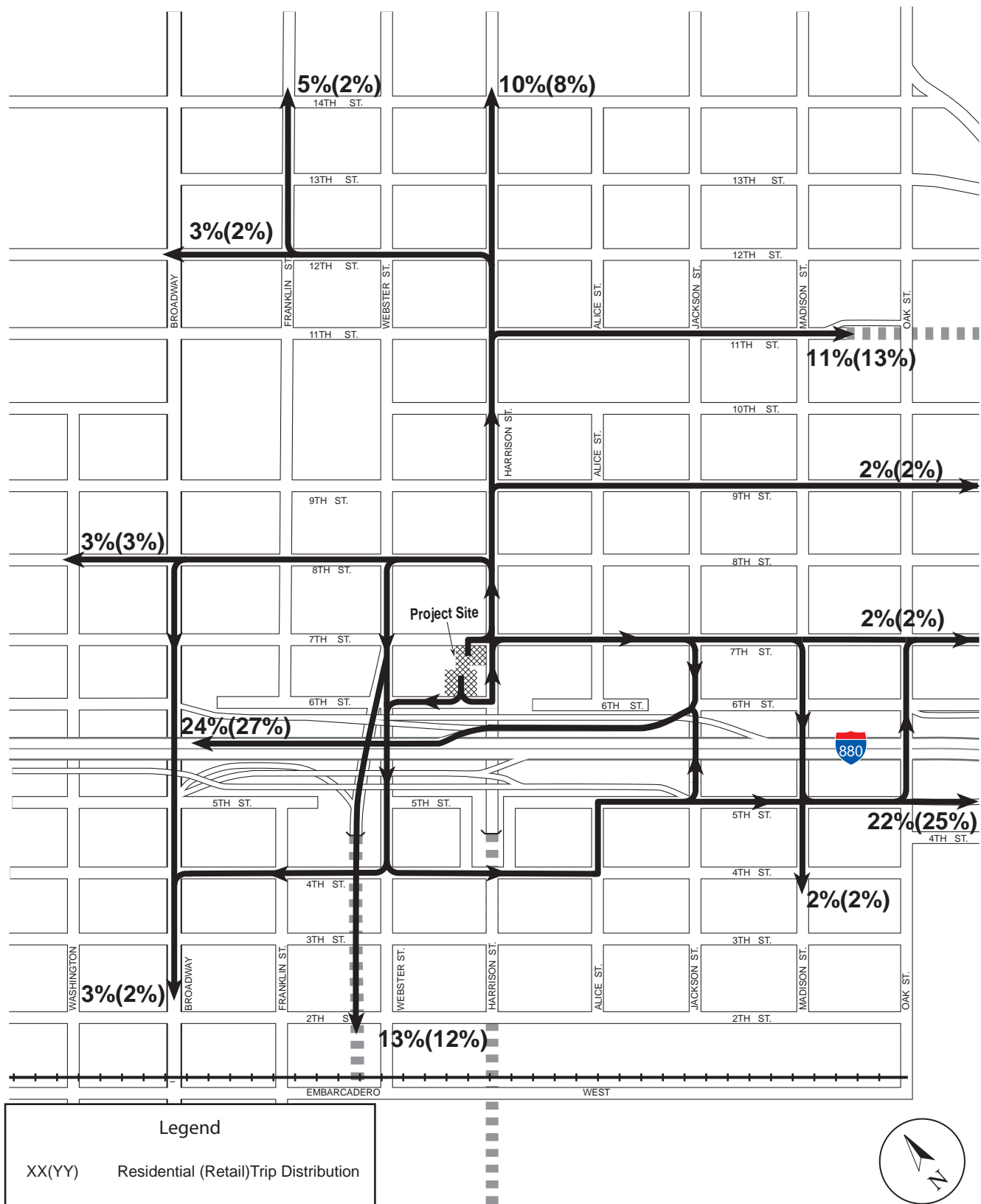


Figure 4.2-5
Project Trip Assignment (Exiting the Project)



Source: CHS Consulting Group

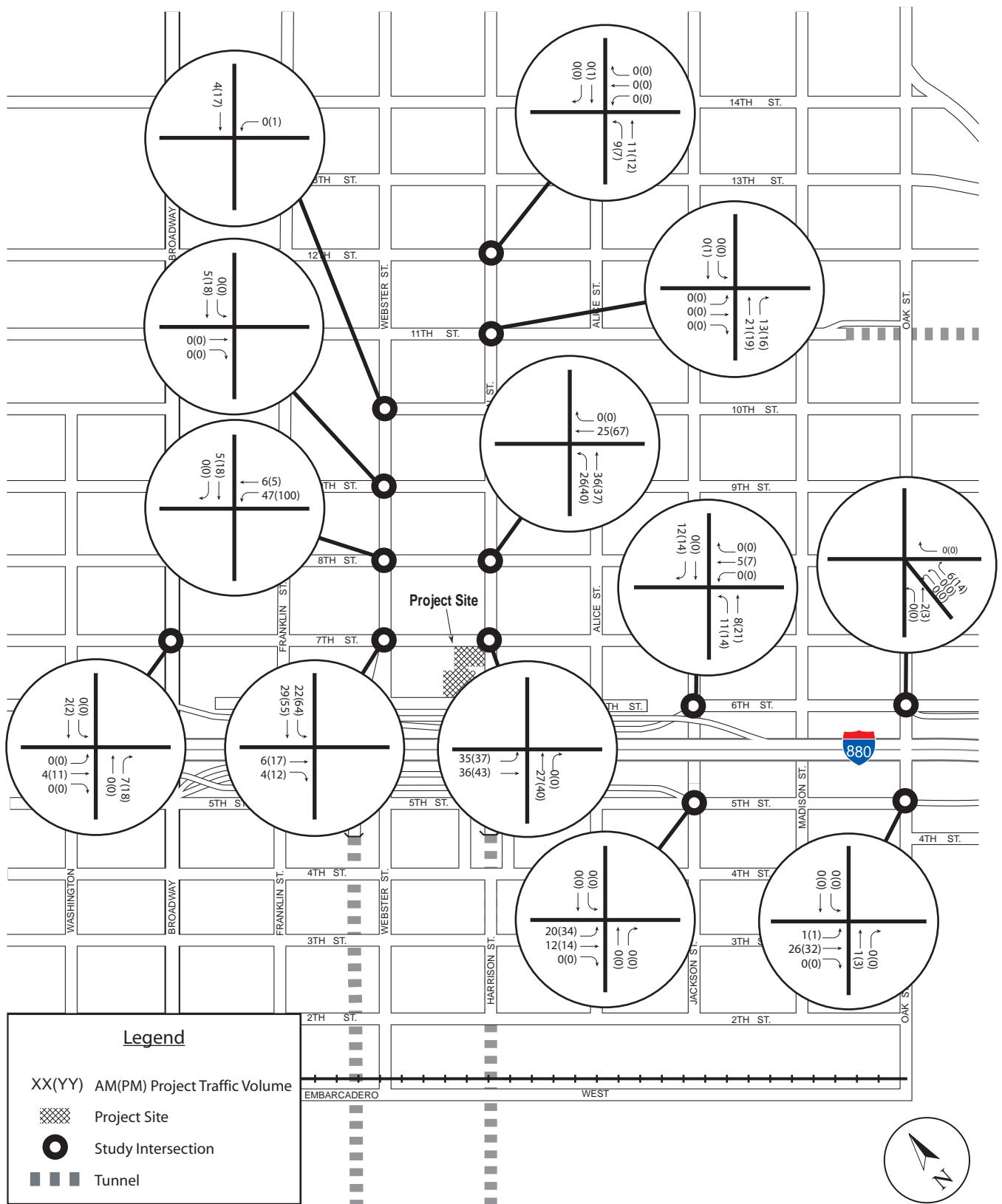


Figure 4.2-6
Project Trips AM (PM) Peak Hour

Source: CHS Consulting Group

IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES

This section analyzes the proposed Project with regard to the following types of transportation impacts:

- Operation, in terms of intersection levels of service
- Construction period effects
- Consistency with adopted transit policies
- Site access and circulation
- Pedestrian, bicycle or vehicles safety
- Traffic operations on the CMP roadway network

CRITERIA OF SIGNIFICANCE

The project would have a significant impact on the environment if it would:

Project Impacts:

Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including, but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit, specifically:

Traffic Load and Capacity Thresholds

- At a study signalized intersection which is located **outside the Downtown** area, the project would cause the level of service (LOS) to degrade to worse than LOS D (i.e., E);
- At a study signalized intersection which is located **within the Downtown** area, the project would cause the LOS to degrade to worse than LOS E (i.e., F);
- At a study signalized intersection **outside the Downtown** area where the level of service is LOS E, the project would cause the total intersection average vehicle delay to increase by four (4) or more seconds, or degrade to worse than LOS E (i.e., F);
- At a study signalized intersection for **all areas** where the level of service is LOS E, the project would cause an increase in the average delay for any of the critical movements of six (6) seconds or more, or degrade to worse than LOS E (i.e., F);
- At a study, signalized intersection for all areas where the level of service is LOS F, the project would cause (a) the total intersection average vehicle delay to increase by two (2) or more seconds, or (b) an increase in the average delay for any of the critical movements of four (4) seconds or more; or (c) the volume-to-capacity (“V/C”) ratio exceeds three (3) percent (but only if the delay values cannot be measured accurately);
- At a study, unsignalized intersection the project would add ten (10) or more vehicles and after project completion satisfy the Caltrans peak hour volume warrant;
- For a Congestion Management Program (CMP) required analysis, (i.e., projects that generate 100 or more p.m. peak hour trips) cause a roadway segment on the Metropolitan Transportation System to

operate at LOS F or increase the V/C ratio by more than three (3) percent for a roadway segment that would operate at LOS F without the project;

- Result in substantially increased travel times for AC Transit buses;³

Other Thresholds

- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase traffic hazards to motor vehicles, bicycles, or pedestrians due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in less than two emergency access routes for streets exceeding 600 feet in length unless otherwise determined to be acceptable by the Fire Chief, or his/her designee, in specific instances due to climatic, geographic, topographic, or other conditions; or
- Fundamentally conflict with adopted policies, plans, programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities.

Cumulative Thresholds

- A project's contribution to cumulative impacts is considered "considerable" (i.e., significant) when a project exceeds at least one of the thresholds listed above under a future year scenario.⁴

PLANNING-RELATED NON-CEQA ISSUES

The following transportation-related topics are not considerations under CEQA but should be evaluated in order to inform decision-makers and the public about these issues.

Parking

This transportation analysis assesses the issue of parking as a non-CEQA impact. Parking impacts are assessed according to the following language, which was developed by the City of Oakland:

The Court of Appeal has held that parking is not part of the permanent physical environment, that parking conditions change over time as people change their travel patterns, and that unmet parking demand created by a project need not be considered a significant environmental impact under CEQA unless it would cause significant secondary effects.⁵ Similarly, the December 2009 amendments to the State CEQA Guidelines (which were effective March 18, 2010) removed parking from the State's Environmental Checklist (Appendix G of the State CEQA Guidelines) as an environmental factor to be considered under CEQA. Parking supply/demand varies by time of day, day of week, and seasonally. As parking demand increases faster than the supply, parking prices rise to reach equilibrium between supply and demand. Decreased availability and increased costs result in changes to people's mode and pattern of travel. However, the City of Oakland, in review of the proposed project, wants to ensure that the project's provision of additional parking spaces along with measures to lessen parking demand (by encouraging the

³ Factors to consider in evaluating the potential impact include, but are not limited to, the proximity of the project site to the transit corridor(s), the function of the roadway segment(s), and the characteristics of the potentially affected bus routes(s). The evaluation may require a qualitative and/or quantitative analysis depending upon these relevant factors.

⁴ The cumulative analysis shall analyze both the near-term future year and the long-term future year scenario of the most current Alameda County Congestion Management Agency countywide transportation model.

⁵ San Franciscans Upholding the Downtown Plan v. the City and County of San Francisco (2002) 102 Cal.App.4th 656

use of non-auto travel modes) would result in minimal adverse effects to project occupants and visitors, and that any secondary effects (such as an air quality due to drivers searching for parking spaces) would be minimized. As such, although not required by CEQA, parking conditions are evaluated in this document.

Parking deficits may be associated with secondary physical environmental impacts, such as air quality and noise effects, caused by congestion resulting from drivers circling as they look for a parking space. However, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, shuttles, taxis, bicycles, or travel by foot), may induce drivers to shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service, in particular, would be in keeping with the City's "Transit First" policy.

Additionally, regarding potential secondary effects, cars circling and looking for a parking space in areas of limited parking supply is typically a temporary condition, often offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts that might result from a shortfall in parking in the vicinity of the proposed Project are considered less than significant.

This EIR evaluates if the project's estimated parking demand (both project-generated and Project displaced) would be met by the project's proposed parking supply or by the existing parking supply within a reasonable walking distance of the Project site. Project-displaced parking results from the project's removal of standard on-street parking, City or Redevelopment Agency owned/controlled parking and/or legally required off-street parking (non-open-to-the-public parking which is legally required). Therefore, the analysis must compare the proposed parking supply with both the estimated demand and the Oakland Planning Code requirements.

Transit

This transportation analysis assesses the issue of transit as a non-CEQA impact. The following aspects of transit operations are evaluated, to see if the proposed project would:

- increase the average ridership on AC Transit lines by three percent at bus stops where the average load factor with the project in place would exceed 125 percent over a peak 30-minute period;
- increase the peak-hour average ridership on BART by three percent where the passenger volume would exceed the standing capacity of BART trains;
- increase the peak-hour average ridership at a BART station by three percent where average waiting time at fare gates would exceed one minute; or

Queuing

This transportation analysis evaluates the project's potential effect on 95th percentile queuing, to see if the proposed project would cause an increase in 95th percentile queue length of 25 feet or more at a signalized study intersection.

Traffic Control Devices

This transportation analysis evaluates the need for additional traffic control devices (e.g., stop signs, street lighting, crosswalks, traffic calming devices) using the California Manual on Uniform Traffic Control Devices (MUTCD) and applicable City standards.

Collision History

This transportation analysis evaluates five years of vehicle, pedestrian, and bicycle collision data for intersections and roadway segments within three blocks of the Project site to determine if the proposed

Project would contribute to an existing problem or if any improvements are recommended in order to alleviate potential effects of the project.

LESS THAN SIGNIFICANT TRAFFIC IMPACTS

Construction Period Impacts

Impact Traf-1: Construction activities could cause significant disruptions to transportation and pedestrian movement at the Project site, and could substantially reduce the availability of parking opportunities. These potential impacts would be reduced or avoided through implementation of the City's Standard Conditions of Approval that require preparation of a Construction Traffic and Parking Management Plan. **(LTS, with Standard Conditions of Approval)**

Throughout the construction period, temporary transportation impacts can be anticipated to result from construction truck traffic, construction workers arriving and departing, and construction equipment potentially obstructing circulation paths. During certain phases of construction, particularly during demolition and use of heavy equipment, it may be necessary to close adjacent sidewalks, re-route traffic flow and relocate transit stops. Even if these construction activities do not cause a significant change in the level of service at adjacent intersections, they could cause significant disruptions to transportation and pedestrian movement at the Project site, and could substantially reduce the availability of parking opportunities.

The City's Standard Conditions of Approval will be adopted as requirements for the proposed Project if the Project is approved by the City. The Project will be required to comply with all of the provisions of City of Oakland Standard Conditions of Approval, including **SCA Trans-2: Construction Traffic and Parking**. This condition requires preparation of a set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes. Implementation of this Standard Condition of Approval would reduce construction-period traffic impacts to levels of less than significant.

Adequate Emergency Access

Impact Traf-2: The Project would not result in inadequate emergency access routes. **(LTS)**

Project access and circulation were analyzed for the proposed project. The site plan indicates access from 7th Street and 6th Street via two Project driveways. Both Project driveways would provide ingress to and egress from the Project site. Based on this access plan, the Project would not result in inadequate emergency access routes.

Pedestrian and Traffic Safety

Impact Traf-3: Although the Project would increase both pedestrian activity and vehicular traffic in and around the Project area, the increase in vehicular traffic at the study intersections would not cause significant impacts on pedestrian movements, and additional pedestrian volumes generated by the proposed Project would continue to be accommodated by existing sidewalks and crosswalks. **(LTS)**

The proposed Project would add about 553 daily pedestrians, 33 pedestrians during the AM peak hour and 62 pedestrians during the PM peak hour in the vicinity of the Project site. The proposed driveways would have standard width (20 feet on 6th Street and 24 feet on 7th Street) and existing sidewalk width

along 6th and 7th Street would not change. Existing and proposed pedestrian volumes along 6th Street is and would be very low and along 7th Street is and would be relatively low. However, the Project Sponsor would install a warning device at the 7th Street driveway.

The Project would increase both pedestrian activity and vehicular traffic in and around the Project area. Among the intersections having over 20 collisions during the three years, the proposed Project would add approximately between 70 and 150 vehicle trips to the intersections of 7th Street/Harrison Street, 7th Street/Webster Street, and 8th Street/Webster Street during AM and PM peak hour. Several improvements would be needed at these locations, including a signal upgrade and pavement markings, which will improve pedestrian safety by reducing conflicts with vehicles and providing pedestrians with better information about safely crossing streets. The Revive Chinatown Community Transportation Plan recommended installation of pedestrian countdown signal heads at the intersection of 7th Street and Harrison Street. These enhancements would safely accommodate vehicular and pedestrian traffic, and the Project would not cause a substantial increase in traffic hazards to motor vehicles, bicycles, or pedestrians.

Recommended Measure:

Although not necessary to address a significant CEQA impact, the following condition is recommended to improve pedestrian access and flow within the Project site and immediate vicinity:

Recommended Condition Traf-3: Pedestrian Enhancements: The Project is anticipated to generate approximately 553 daily walking trips. It is likely that most of these walking trips would be toward the Lake Merritt or 12th Street BART, or toward Chinatown. In order to improve pedestrian flow, it is recommended that the following intersections be upgraded as follows:

- Audible signals should be installed at the intersection of 7th Street/Broadway, both westbound and eastbound.
- Pedestrian countdown signals should be installed at the intersection of 7th Street/Harrison Street.
- Enhancement of pedestrian crosswalks and installation of ADA compliant ramps with domes should be conducted at the intersections of 7th Street/Webster Street, 7th Street/Harrison Street, and 8th Street/Harrison Street.

Increased Travel Time for AC Transit

Impact Traf-4: The proposed Project would not increase peak hour travel times along most nearby transit corridors by more than a few seconds, and would have a minimal effect on transit travel times outside of the peak hours. Even on the most affected transit corridors, Project-related increases in travel time along key transit corridors would represent only a fraction of the increase in travel time caused by other existing and cumulative traffic. **(LTS)**

An AC Transit travel time analysis was conducted along the following corridors in order to determine the impacts of Project-generated traffic on the operations of key AC Transit bus lines in Downtown Oakland:

- 7th Street eastbound, from Broadway to Jackson Street – AC Transit bus lines #11, 19, 51, 62, 63 and 851 utilize this corridor.
- 8th Street westbound, from Jackson Street to Broadway - AC Transit bus lines #11, 19, 51, 62 and 851 utilize this corridor.
- 11th Street eastbound, from Broadway to Jackson Street - AC Transit bus lines #1, 1R, 14, 18, 40, 88, 801 and 840 utilize this corridor.

- 12th Street westbound, from Jackson Street to Broadway - AC Transit bus lines #1, 1R, 14, 18, 40, 88, 614, 801 and 840 utilize this corridor.
- Broadway northbound, from 7th Street to 12th Street - AC Transit bus lines #11, 19, 51, 72, 72M, 72R, 651 and 851 utilize this corridor.
- Broadway southbound, from 12th Street to 7th Street - AC Transit bus lines #11, 19, 51, 72, 72M, 72R, 651 and 851 utilize this corridor.
- Webster Street southbound, from 11th Street to 7th Street - AC Transit bus line #314 utilizes this corridor.
- Harrison Street northbound, from 7th Street to 12th Street - AC Transit bus lines #19, 51, 63 and 314 utilize this corridor.

All the corridors were analyzed for both the AM and PM peak hours. **Table 4.2-13** summarize the results of the travel time analysis for the AM and PM peak hours, respectively. Corridor travel times for existing conditions were obtained from the Synchro traffic model arterial travel time, while travel time differentials were obtained from the Synchro traffic model networks as used in the intersection LOS analysis.

It should be noted that travel time estimates as presented only represent the time it takes automobiles to travel the length of the corridor. Obtaining a travel time estimate for transit vehicles traveling through the same corridors is complicated by many additional variables than that for automobiles. These variables include schedule adherence and on-time performance. A transit vehicle that is already behind schedule can quickly get further behind schedule due to accumulating passenger demand at transit stops, resulting in longer-than-usual dwell times to allow passengers to board and alight. In addition, because transit vehicles must follow the same route, there is less flexibility than with automobiles in events such as accidents or unexpected congestion, increasing delays further. Given these considerations, the values in the following tables should be viewed as the incremental increase in transit travel time from one analysis scenario to the next.

**TABLE 4.2-10: CORRIDOR TRAVEL TIME
(INCREMENTAL INCREASE IN SECONDS)**

Route	Existing Conditions	Existing Plus Project	2015 No Project	2015 Plus Project / Project Increase	2030 No Project	2030 Plus Project / Project Increase
Weekday AM Peak Hour						
7th Street EB Broadway to Jackson Street	1:51	+1	+6	+5 / 0	+9	+8 / 0
8th Street WB Jackson Street to Broadway	2:17	+1	+6	+7 / +1	+17	+22 / +5
11th Street EB Broadway to Jackson Street	1:58	0	0	0 / 0	+1	+1 / 0
12th Street WB Jackson Street to Broadway	2:11	0	+1	+1 / 0	+1	+1 / 0
Broadway NB 7th Street to 12th Street	1:05	0	+33	+33 / 0	+33	+33 / 0
Broadway SB 12th Street to 7th Street	2:08	0	+1	+1 / 0	+4	+5 / +1
Webster Street SB 11th Street to 7th Street	1:43	0	+93	+97 / +4	+269	+276 / +7
Harrison Street NB 7th Street to 12th Street	2:33	+40	+40	+52 / +12	+131	+163 / +32
Weekday PM Peak Hour						
7th Street EB Broadway to Jackson Street	1:41	0	+1	+1 / 0	+14	+14 / 0
8th Street WB Jackson Street to Broadway	2:09	+2	+10	+14 / +4	+16	+19 / +3
11th Street EB Broadway to Jackson Street	2:05	0	+1	+1 / 0	+2	+2 / 0
12th Street WB Jackson Street to Broadway	2:12	0	+1	+1 / 0	+4	+4 / 0
Broadway NB 7th Street to 12th Street	1:04	0	0	0 / 0	+3	+3 / 0
Broadway SB 12th Street to 7th Street	2:21	0	+1	+1 / 0	+53	+56 / +3
Webster Street SB 11th Street to 7th Street	4:51	+14	+23	+36 / +13	+94	+131 / +37
Harrison Street NB 7th Street to 12th Street	3:09	+8	+41	+52 / +11	+126	+149 / +23

As shown above, the proposed Project would not increase peak hour travel times along most corridors by more than a few seconds as a result of increased intersection delay. The following corridors are expected to be most affected by the proposed Project:

- Webster Street southbound, between 11th Street and 7th Street
- Harrison Street northbound between 7th Street and 12th Street

The proposed Project would increase existing PM peak hour travel time along the Webster Street corridor by 14 seconds; would increase projected year 2015 AM and PM peak hour travel times by 4 seconds and 13 seconds respectively; and would increase projected year 2030 AM and PM peak hour travel times by 7 seconds and 37 seconds respectively.

The proposed Project would increase existing AM and PM peak hour travel time along the Harrison Street corridor by 40 seconds and 8 seconds, respectively; would increase projected year 2015 AM and PM peak hour travel times by 12 seconds and 11 seconds respectively; and would increase projected year 2030 AM and PM peak hour travel times by 32 and 23 seconds respectively.

Outside of the peak periods, the effect of the Project on transit travel times along these corridors is expected to be minimal.

Given that both Webster and Harrison Streets are major corridors with a significant number of vehicles traveling to and from the Tube connections to Alameda, transit vehicles on these routes already experience delay during the peak periods, and would continue to do so in the analysis years of 2015 and 2030. In all scenario years analyzed, Project-related increases in corridor travel time represent only a fraction of the increase in travel time that would result from other existing and other cumulative traffic. In the worst case scenario, Project-related delays during the PM peak period along the Webster corridor represent less than 30% of the total delay caused by other cumulative traffic. As these are both key transit and vehicle corridors, diverting either vehicle or transit service off of these roadways would be undesirable, but would likely improve travel times.

The Project would not cause a substantial increase in the travel time for AC Transit busses along key transit corridors.

Consistency with Adopted Policies, Plans, or Programs Supporting Alternative Transportation

Impact Traf-5: The proposed Project would not conflict with adopted transportation policies, plans and programs supporting alternative transportation, and would be required to comply with City Standard Conditions of Approval that require preparation and implementation of a Parking and Transportation Demand Management Plan. **(LTS, with Standard Conditions of Approval)**

The City of Oakland General Plan, the Land Use and Transportation Element (LUTE) states a strong preference for encouraging the use of alternative transportation modes, such as transit, bicycling, and walking. The proposed Project would encourage use of alternative modes because it is located near Broadway which is a major AC Transit corridor and also two AC Transit bus lines have bus stops in the immediate vicinity of the Proposed Project. In addition, the Proposed Project is close to the 12th Street Oakland City Center and Lake Merritt BART stations.

The proposed Project would not cause conflict with adopted transportation policies, plans, and programs supporting alternative transportation, and would be required to comply with **COA Traf-1: Parking and Transportation Demand Management**, above. Thus, the proposed Project would not cause significant impacts pertaining to consistency with adopted policies, plans, or programs supporting alternative transportation.

Required CMP Analysis

Impact Traf-6: The proposed Project would not cause a significant impact on the Alameda County Congestion Management Program or the Metropolitan Transportation System roadways in the Project vicinity. **(LTS)**

The Alameda County Congestion Management Program (CMP) requires the assessment of development-driven impacts on regional roadways. Because the Project would generate more than 100 “net new” PM peak hour trips, the CMP requires the use of the ACCMA Countywide Travel Demand Model to assess the impacts on regional roadways in the Project vicinity during the AM and PM peak hours. The CMP and Metropolitan Transportation System (MTS) roadways in the Project vicinity include I-880, I-980, Broadway, Webster Street, Harrison Street, 5th Street, 7th Street and 8th Street.

The ACCMA Countywide Model is a regional travel demand model that uses socio-economic data and roadway and transit network assumptions to forecast traffic volumes and transit ridership using a four-step modeling process that includes trip generation, trip distribution, mode split, and trip assignment. This process accounts for changes in travel patterns due to future growth and balances trip productions and attractions.

For the purposes of the CMP Analysis, the land uses of the proposed Project were added to the assumptions in the Countywide Model; the land use assumptions in the Countywide Model for the rest of the City of Oakland were not modified. At this time, these land uses are different from the Oakland Cumulative Scenario that was used for the Cumulative 2015 and 2030 Year Baseline intersection operations analyses. This version of the Countywide Model is based on Association of Bay Area Governments (ABAG) *Projections 2005* land uses for 2015 and 2030.

The traffic baseline forecasts for 2015 and 2030 were extracted for the CMP and MTS roadway segments from the Countywide Model. Due to fluctuations in the model forecasts and the model’s limited number of Traffic Analysis Zones (TAZs) in the Project area, the “+ Project” forecasts were not used directly for the CMP roadway analysis. Instead, vehicle trip generation estimates were computed for the proposed Project and manually added to the 2015 and 2030 baseline volumes from the Countywide Model.

Operations of the MTS freeway and surface street segments were assessed using a volume to-capacity (v/c) ratio methodology. For freeway segments, a per-lane capacity of 2,000 vehicles per hour (vph) was used, consistent with the 2007 Congestion Management Program documents. For surface streets, a per-lane capacity of 800 vehicles per hour was used. Roadway segments with a v/c ratio greater than 1.00 signify LOS F.

The “+ Project” results were compared to the baseline results for each horizon year. Based on the analysis, the proposed Project would not cause a significant impact on the CMP and MTS roadways. The 2015 and 2030 peak hour volumes, v/c ratios and the corresponding level of service for baseline and “+ Project” conditions are provided in **Table 4.2-13** and **Table 4.2-14**.

TABLE 4.2-11 – SUMMARY OF CONGESTION MANAGEMENT PROGRAM ANALYSIS –2015

Link Location	AM No Project Volume	AM Project Volume	AM With Project Volume	AM V/C Project	AM V/C No Project	AM No Project LOS	AM With Project LOS	AM Change in V/C > 3%	AM Change in LOS	PM No Project Volume	PM Project Volume	PM With Project Volume	PM V/C Project	PM V/C No Project	PM No Project LOS	PM With Project LOS	PM Change in V/C > 3%	PM Change in LOS
State Highways																		
I-880																		
Castro St. - Broadway (NB)	4618	20	4638	0.58	0.58	B	B	No	no change	4033	22	4055	0.50	0.51	B	B	No	no change
Broadway - Oak St. (NB)	5358	34	5392	0.54	0.54	B	B	No	no change	5540	49	5589	0.55	0.56	B	B	No	no change
Oak St. - 5th Ave. (NB)	7157	12	7169	0.89	0.90	D	D	No	no change	6544	28	6572	0.82	0.82	D	D	No	no change
Castro St. - Broadway (SB)	3215	7	3222	0.40	0.40	B	B	No	no change	3269	13	3282	0.41	0.41	B	B	No	no change
Broadway - Oak St. (SB)	5709	9	5718	0.57	0.57	B	B	No	no change	5553	21	5574	0.56	0.56	B	B	No	no change
Oak St. - 5th Ave. (SB)	6322	26	6348	0.79	0.79	D	D	No	no change	7417	33	7450	0.93	0.93	E	E	No	no change
I-980																		
I-880 - Grand Ave. (EB)	2733	8	2741	0.46	0.46	B	B	No	no change	3914	13	3927	0.65	0.65	C	C	No	no change
I-880 - Grand Ave. (WB)	4439	2	4441	0.74	0.74	C	C	No	no change	2557	8	2565	0.43	0.43	B	B	No	no change
Arterials																		
Broadway																		
Embarcadero - 4th St. (NB)	261	1	262	0.16	0.16	A	A	No	no change	1158	3	1161	0.72	0.73	C	C	No	no change
4th St. - 6th St. (NB)	276	1	277	0.17	0.17	A	A	No	no change	497	3	500	0.31	0.31	A	A	No	no change
6th St. - 7th St. (NB)	286	7	293	0.18	0.18	A	A	No	no change	197	17	214	0.12	0.13	A	A	No	no change
7th St. - 8th St. (NB)	141	0	141	0.09	0.09	A	A	No	no change	147	0	147	0.09	0.09	A	A	No	no change
Embarcadero - 4th St. (SB)	683	3	686	0.43	0.43	B	B	No	no change	434	3	437	0.27	0.27	A	A	No	no change
4th St. - 6th St. (SB)	1097	1	1098	0.69	0.69	C	C	No	no change	694	1	695	0.43	0.43	B	B	No	no change
6th St. - 7th St. (SB)	192	1	193	0.12	0.12	A	A	No	no change	326	1	327	0.20	0.20	A	A	No	no change
7th St. - 8th St. (SB)	79	1	80	0.05	0.05	A	A	No	no change	199	1	200	0.12	0.13	A	A	No	no change
5th Street																		
Jackson St. - Madison St.	377	26	403	0.16	0.17	A	A	No	no change	992	33	1025	0.41	0.43	B	B	No	no change
Madison St. - Oak St.	607	26	633	0.25	0.26	A	A	No	no change	1616	33	1649	0.67	0.69	C	C	No	no change
7th Street																		
Washington St. - Broadway	1071	4	1075	0.33	0.34	A	A	No	no change	1177	11	1188	0.37	0.37	B	B	No	no change
Broadway - Franklin St.	1102	11	1113	0.34	0.35	A	A	No	no change	1100	28	1128	0.34	0.35	A	A	No	no change
Franklin St. - Webster St.	831	11	842	0.26	0.26	A	A	No	no change	879	28	907	0.27	0.28	A	A	No	no change
Webster St. - Harrison St.	231	71	302	0.07	0.09	A	A	No	no change	452	80	532	0.14	0.17	A	A	No	no change
Harrison St. - Jackson St.	1600	36	1636	0.50	0.51	B	B	No	no change	1661	43	1704	0.52	0.53	B	B	No	no change
8th Street																		
Washington St. - Broadway	1084	5	1089	0.34	0.34	A	A	No	no change	1047	4	1051	0.33	0.33	A	A	No	no change
Broadway - Franklin St.	1001	6	1007	0.31	0.31	A	A	No	no change	975	5	980	0.30	0.31	A	A	No	no change
Franklin St. - Webster St.	1202	6	1208	0.38	0.38	B	B	No	no change	914	5	919	0.29	0.29	A	A	No	no change
Webster St. - Harrison St.	1786	79	1865	0.56	0.58	B	C	No	Yes	1316	145	1461	0.41	0.46	B	B	Yes	no change
Harrison St. - Jackson St.	1631	25	1656	0.51	0.52	B	B	No	no change	605	67	672	0.19	0.21	A	A	No	no change
Webster Street																		
9th St. - 8th St.	728	5	733	0.23	0.23	A	A	No	no change	1200	18	1218	0.38	0.38	B	B	No	no change
8th St. - 7th St.	1311	51	1362	0.55	0.57	B	B	No	no change	1602	119	1721	0.67	0.72	C	C	Yes	no change
7th St. - Webster Tube	2363	15	2378	0.84	0.85	D	D	No	no change	3032	17	3049	1.08	1.09	F	F	No	no change
Harrison Street																		
Posey Tube - 7th St.	3083	6	3089	1.10	1.10	F	F	No	no change	2671	18	2689	0.95	0.96	E	E	No	no change
7th St. - 8th St.	1612	62	1674	0.67	0.70	C	C	No	no change	1501	77	1578	0.63	0.66	C	C	Yes	no change
8th St. - 9th St.	1449	36	1485	0.60	0.62	C	C	No	no change	840	37	877	0.35	0.37	A	B	No	Yes

TABLE 4.2-11 – SUMMARY OF CONGESTION MANAGEMENT PROGRAM ANALYSIS –2030

Link Location	AM No Project Volume	AM Project Volume	AM With Project Volume	AM V/C Project	AM V/C No Project	AM No Project LOS	AM With Project LOS	AM Change in V/C > 3%	AM Change in LOS	PM No Project Volume	PM Project Volume	PM With Project Volume	PM V/C Project	PM V/C No Project	PM V/C Project	PM No Project LOS	PM With Project LOS	PM Change in V/C > 3%	PM Change in LOS
State Highways																			
I-880																			
Castro St. - Broadway (NB)	5150		5161	0.64	0.65	C	C	No	no change	4760	22	4780	0.59	0.60	0.60	C	C	No	no change
Broadway - Oak St. (NB)	6174	34	6201	0.62	0.62	C	C	No	no change	6343	49	6391	0.63	0.64	0.64	C	C	No	no change
Oak St. - 5th Ave. (NB)	7907	12	7925	0.99	0.99	E	E	No	no change	7187	28	7217	0.90	0.90	0.90	D	E	No	Yes
Castro St. - Broadway (SB)	4107	7	4115	0.51	0.51	B	B	No	no change	3734	13	3747	0.47	0.47	0.47	B	B	No	no change
Broadway - Oak St. (SB)	6579	9	6579	0.66	0.66	C	C	No	no change	5964	21	5964	0.59	0.60	0.60	C	C	No	no change
Oak St. - 5th Ave. (SB)	7374	26	7390	0.92	0.92	E	E	No	no change	7890	33	7920	0.99	0.99	0.99	E	E	No	no change
I-980																			
I-880 - Grand Ave. (EB)	2721	8	2728	0.45	0.45	B	B	No	no change	4083	13	4096	0.68	0.68	0.68	C	C	No	no change
I-880 - Grand Ave. (WB)	4762	2	4767	0.79	0.79	D	D	No	no change	2824	8	2832	0.47	0.47	0.47	B	B	No	no change
Arterials																			
Broadway																			
Embarcadero - 4th St. (NB)	518	1	519	0.32	0.32	A	A	No	no change	1399	3	1402	0.87	0.88	0.88	D	D	No	no change
4th St. - 6th St. (NB)	333	1	334	0.21	0.21	A	A	No	no change	808	3	811	0.51	0.51	0.51	B	B	No	no change
6th St. - 7th St. (NB)	286	7	296	0.18	0.19	A	A	No	no change	451	17	469	0.28	0.29	0.29	A	A	No	no change
7th St. - 8th St. (NB)	132	0	132	0.08	0.08	A	A	No	no change	185	0	185	0.12	0.12	0.12	A	A	No	no change
Embarcadero - 4th St. (SB)	964	3	966	0.60	0.60	C	C	No	no change	565	3	569	0.35	0.36	0.36	A	B	No	Yes
4th St. - 6th St. (SB)	954	1	956	0.60	0.60	C	C	No	no change	934	1	936	0.58	0.59	0.59	C	C	No	no change
6th St. - 7th St. (SB)	368	1	370	0.23	0.23	A	A	No	no change	502	1	504	0.31	0.32	0.32	A	A	No	no change
7th St. - 8th St. (SB)	165	1	167	0.10	0.10	A	A	No	no change	434	1	436	0.27	0.27	0.27	A	A	No	no change
5th Street		0									0								
Jackson St. - Madison St.	934	26	950	0.39	0.40	B	B	No	no change	1241	33	1271	0.52	0.53	0.53	B	B	No	no change
Madison St. - Oak St.	982	26	998	0.41	0.42	B	B	No	no change	1628	33	1658	0.68	0.69	0.69	C	C	No	no change
7th Street		0									0								
Washington St. - Broadway	1427	4	1432	0.45	0.45	B	B	No	no change	2349	11	2360	0.73	0.74	0.74	C	C	No	no change
Broadway - Franklin St.	1377	11	1392	0.43	0.44	B	B	No	no change	2547	28	2576	0.80	0.81	0.81	D	D	No	no change
Franklin St. - Webster St.	1021	11	1036	0.32	0.32	A	A	No	no change	1994	28	2023	0.62	0.63	0.63	C	C	No	no change
Webster St. - Harrison St.	309	71	333	0.08	0.10	A	A	No	no change	1350	80	1399	0.41	0.44	0.44	B	B	No	no change
Harrison St. - Jackson St.	1975	36	2002	0.61	0.63	C	C	No	no change	3091	43	3143	0.97	0.98	0.98	E	E	No	no change
8th Street		0									0								
Washington St. - Broadway	1992	5	1994	0.62	0.62	C	C	No	no change	951	4	955	0.30	0.30	0.30	A	A	No	no change
Broadway - Franklin St.	2011	6	2014	0.63	0.63	C	C	No	no change	1557	5	1563	0.49	0.49	0.49	B	B	No	no change
Franklin St. - Webster St.	2462	6	2465	0.77	0.77	D	D	No	no change	1285	5	1291	0.40	0.40	0.40	B	B	No	no change
Webster St. - Harrison St.	2569	79	2608	0.79	0.82	D	D	No	no change	1280	145	1354	0.38	0.42	0.42	B	B	Yes	no change
Harrison St. - Jackson St.	2718	25	2737	0.85	0.86	D	D	No	no change	1347	67	1380	0.41	0.43	0.43	B	B	No	no change
Webster Street		0									0								
9th St. - 8th St.	1399	5	1405	0.44	0.44	B	B	No	no change	1349	18	1366	0.42	0.43	0.43	B	B	No	no change
8th St. - 7th St.	1505	51	1548	0.62	0.65	C	C	No	no change	1551	119	1638	0.63	0.68	0.68	C	C	Yes	no change
7th St. - Webster Tube	3008	15	3016	1.07	1.08	F	F	No	no change	3339	17	3356	1.19	1.20	1.20	F	F	No	no change
Harrison Street		0									0								
Posey Tube - 7th St.	3496	6	3505	1.25	1.25	F	F	No	no change	3199	18	3217	1.14	1.15	1.15	F	F	No	no change
7th St. - 8th St.	1695	62	1725	0.69	0.72	C	C	No	no change	1453	77	1516	0.60	0.63	0.63	C	C	Yes	no change
8th St. - 9th St.	1826	36	1845	0.75	0.77	D	D	No	no change	921	37	962	0.59	0.60	0.60	B	B	No	no change

Due to differences in the land use assumptions and differences in analysis methodologies, the forecasted traffic volumes on the roadway links can be different from the intersection volumes, particularly at the local level. The MTS roadway analysis is based on the outputs of the ACCMA model directly on a roadway segment level. It is not unusual to have discrepancies given that the two analyses measure impacts at a different scale. For local streets, intersections are typically a more accurate measure of operating conditions because the capacity of an urban street, defined as the number of vehicles that can pass through its intersections, is controlled by the capacity at its intersections.

The Project would contribute to 2015 and 2030 increases in traffic congestion on MTS roadways. However, the Project would not cause a roadway segment on the MTS to degrade from LOS E or better to LOS F. The roadway segments that would operate at LOS F are Posey and Webster tubes. The project-generated increase to the v/c ratio on the Posey and Webster tubes would not exceed the 3-percent threshold of impact significance. Thus, this is a less-than-significant impact, and as a result, no mitigation measures are required.

SIGNIFICANT TRAFFIC IMPACTS

EXISTING + PROJECT INTERSECTION LEVEL OF SERVICE

Existing + Project traffic volumes were estimated by assigning the Project trips to the 13 study intersections using the distribution patterns described above. The Existing + Project roadway network is expected to remain the same as the existing network. **Figure 4.2-7** presents the AM and PM peak hour Existing + Project traffic volumes at the study intersections, respectively. **Table 4.2-10** presents the LOS and delays for the Existing and Existing + Project conditions.

Under Existing + Project conditions, all of the nine study intersections that currently operate at LOS D or better in either the AM or PM peak period are expected to continue to operate at LOS D or better condition, with no significant changes to average intersection delay as a result of the Project. These intersections include:

- (#2): 5th Street/Jackson Street
- (#3): 6th Street/Oak Street
- (#6): 7th Street/Webster Street
- (#7): 7th Street/Broadway
- (#8): 8th Street/ Harrison Street
- (#10): 9th Street/Webster Street
- (#11): 10th Street/Webster Street
- (#12): 11th Street/Harrison Street
- (#13): 12th Street/Harrison Street

The Project would not result in a significant impact at the intersection of 7th Street/ Harrison Street (#5). Although this intersection currently operates at LOS E during the AM peak hour, the addition of Project-generated traffic would not cause the intersection to degrade to LOS F and would not increase the average delay for critical movements.

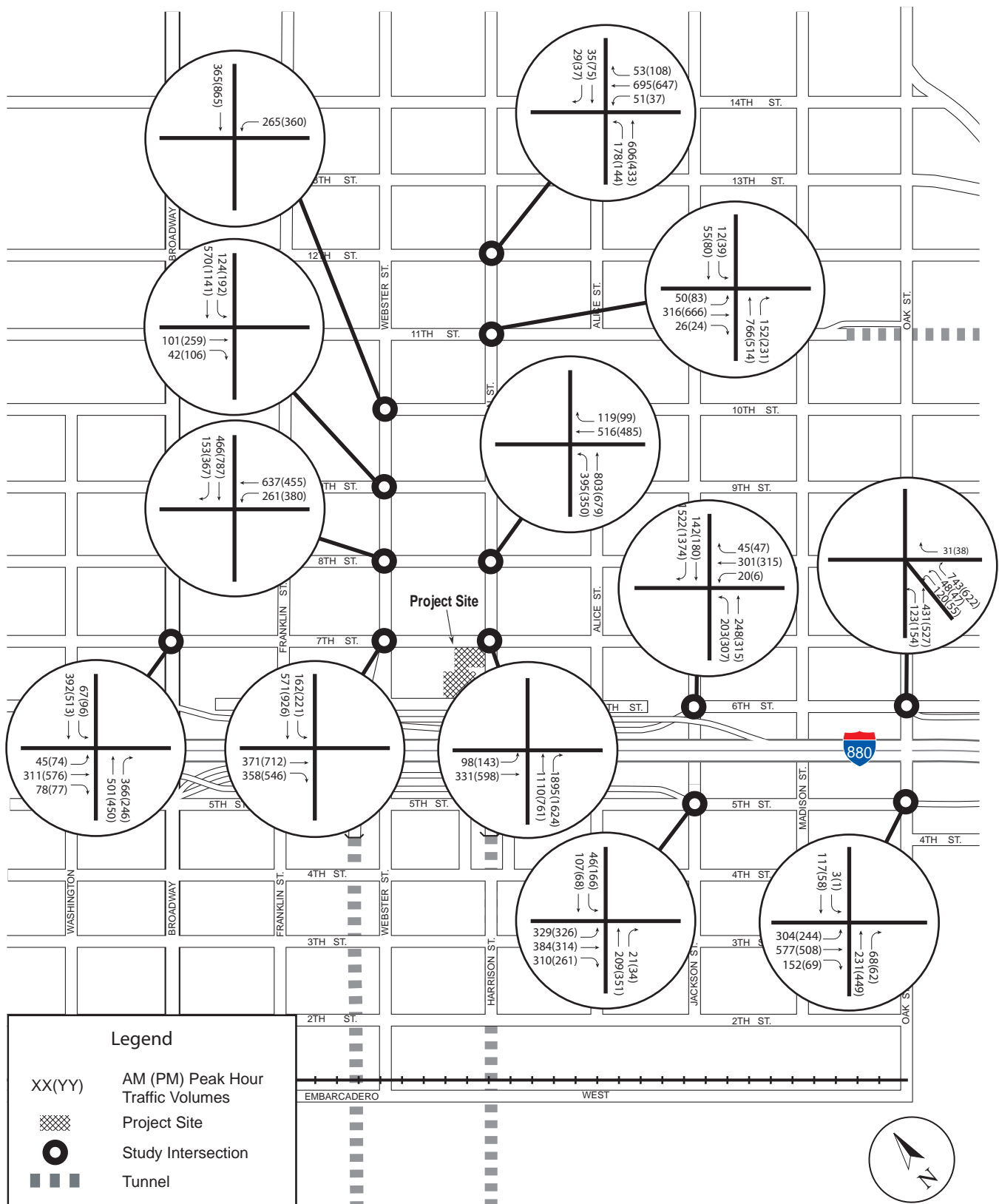


Figure 4.2-7
Existing + Project AM (PM) Peak Hour
Traffic Volume

Source: CHS Consulting Group

Based on the data presented in Table 4.2-12, the proposed Project would not cause significant traffic impacts under the Existing + Project condition at 10 of the thirteen study intersections.

As discussed in greater detail below, the Project would have potentially significant traffic impacts at three study intersections (intersections #1, #4 and #9), as indicated in bold below.

**TABLE 4.2-12: INTERSECTION LOS IMPACTS:
EXISTING + PROJECT WEEKDAY AM AND PM PEAK HOURS**

Intersection	AM Peak Hour				PM Peak Hour			
	Existing		Existing + Project		Existing		Existing + Project	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
(#1): 5th Street/Oak Street	43.3	D	51.4	D	> 80	F	> 80	F
(#2): 5 th Street/Jackson Street	13.8	B	14.2	B	13.3	B	13.7	B
(#3): 6 th Street/Oak Street	9.9	A	9.9	B	9.0	A	9.0	A
(#4): 6th Street/Jackson Street	55.1	E	57.1	E	55.5	E	60.5	E
(#5): 7 th Street/Harrison Street	59.3	E	59.4	E	48.1	D	48.5	D
(#6): 7 th Street/Webster Street	11.7	B	12.0	B	15.2	B	16.9	B
(#7): 7 th Street/Broadway	14.5	B	14.6	B	15.7	B	15.8	B
(#8): 8 th Street/Harrison Street	21.1	C	20.7	C	24.0	C	22.5	C
(#9): 8th Street/Webster Street	22.0	C	22.9	C	89.6	F	91.4	F
(#10): 9 th Street/Webster Street	27.1	C	27.2	C	39.1	D	40.9	D
(#11): 10 th Street/Webster Street	7.5	A	7.5	A	8.2	A	8.2	A
(#12): 11 th Street/Harrison Street	17.4	B	18.3	B	12.3	B	12.6	B
(#13): 12 th Street/Harrison Street	19.9	B	20.9	C	17.7	B	18.1	B

Note: Delay is seconds per vehicle. Delay presented in HCM average control delay.

Source: CHS Consulting Group, March 2010

5th Street/Oak Street (Intersection #1)

Impact Traf-7: The existing LOS F conditions at the intersection of 5th Street/Oak Street would prevail during the PM peak hour under the Existing + Project condition. The LOS would worsen with the addition of Project traffic. The Project generated increases in vehicle delay on the critical movement (eastbound through) would exceed the four-second threshold. **(Potentially Significant)**

Mitigation Measures

Mitigation Measure Traf-7: Optimize the traffic signal timing at the intersection of 5th Street/Oak Street. Optimization of traffic signal timing shall include adjusting the signal cycle length from 45 seconds to 60 seconds, and determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches. Coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group.

To implement this measure, the Project sponsor shall submit the following to City of Oakland's Transportation Service Division and Caltrans for review and approval:

- Plans, Specifications, and Estimates (PS&E) to modify the intersection. All elements shall be designed to City standards in effect at the time of construction and all new and upgraded signals should include these enhancements. All other facilities supporting vehicle travel and alternative modes through the intersection should be brought up to both City standards and ADA standards (according to Federal and State Access Board guideline) at the time of construction. Current City Standards call for among other items the elements listed below:
 - 2070L Type Controller
 - Full signal actuation (includes video detection, bicycle detection, pedestrian push buttons)
 - Fiber signal interconnect for corridors identified in the City's ITS Master Plan for a maximum of 600 feet
 - GPS communication clock
 - Accessible pedestrian crosswalks according to Federal and State Access Board Guidelines
 - Accessible pedestrian signals audible and tactile according to Federal Access Board guidelines
 - Countdown Pedestrian Signals
 - Signal timing plans for the signals in the coordination group.

The Project sponsor shall fund, prepare and install the approved plans and improvements.

Significance after Mitigation: Conservatively Deemed Significant and Unavoidable

After implementation of these measures, the intersection would continue to operate at LOS F in the PM peak hour, but the average delay would be lower than under the Existing (No Project) condition, and the Project impact would therefore be mitigated to a less than significant level. This mitigation measure is consistent with what was found as part of the *Oak to Ninth Avenue Project EIR*. This mitigation measure would not require an encroachment permit from Caltrans since the signal hardware and timing is operated and maintained by the City of Oakland through a service agreement contract. However, because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the Project impact is considered significant and unavoidable.

Potential Secondary Effects

The mitigation measure described above provides for signal timing optimization to minimize the delay to vehicle traffic. However, there can be unintended consequences such as increased pedestrian delay and vehicle queues. Signal timing optimization and the benefit to drivers traveling through the area needs to be balanced against the impacts to pedestrians crossing at intersection, transit riders on buses, drivers waiting in vehicle queues, and bicyclists waiting for a green light at a traffic signal.

Changes to signal operations, including timing and signal phasing, were considered to mitigate impacts to less than significant levels only if the changes can be accomplished within the current signal cycle length, or if the cycle length would be no greater than 90 seconds. Longer cycle lengths are considered to cause adverse impacts to pedestrians and bicyclists and so do not fully mitigate intersection impacts. Therefore, the mitigation measure recommended above (and those similar measures Traf-8 and Traf-9 recommended below) would not result in significant secondary effects.

6th Street/Jackson Street (Intersection #4)

Impact Traf-8: The intersection of 6th Street/Jackson Street would operate at LOS E in the AM and PM peak hours. During the AM peak hour, the addition of Project traffic would cause an increase in the average delay for the critical movements (southbound right and westbound through) of 5.9 seconds, less than the City's six second threshold of significance. Therefore, the Project impact in the AM peak hour would be less than significant. During the PM peak hour, the Project generated increases in the average delay for the critical movements (7 seconds for southbound right and 2.6 seconds for westbound through) would exceed the City's six-second threshold of significance. **(Potentially Significant)**

Mitigation Measures

Mitigation Measure Traf-8: Optimize the traffic signal timing at the intersection of 6th Street/Jackson Street. Optimization of traffic signal timing shall include adjusting cycle length from 60 seconds to 75 seconds, and determination of allocation of green time for each intersection approach in tune with the relative traffic volumes on those approaches.

To implement this measure, the Project sponsor shall submit the following to City of Oakland's Transportation Service Division and Caltrans for review and approval:

- Plans, Specifications, and Estimates (PS&E) to modify the intersection. All elements shall be designed to City standards in effect at the time of construction and all new and upgraded signals should include these enhancements. All other facilities supporting vehicle travel and alternative modes through the intersection should be brought up to both City standards and ADA standards (according to Federal and State Access Board guideline) at the time of construction. Current City Standards call for among other items the elements listed below:
 - 2070L Type Controller
 - Full signal actuation (includes video detection, bicycle detection, pedestrian push buttons)
 - Fiber signal interconnect for corridors identified in the City's ITS Master Plan for a maximum of 600 feet
 - GPS communication clock
 - Accessible pedestrian crosswalks according to Federal and State Access Board Guidelines
 - Accessible pedestrian signals audible and tactile according to Federal Access Board guidelines
 - Countdown Pedestrian Signals
- Signal timing plans for the signals in the coordination group.

The Project sponsor shall fund, prepare and install the approved plans and improvements.

Significance after Mitigation: Conservatively Deemed Significant and Unavoidable

After implementation of this measure, the intersection would operate at an acceptable LOS D during the PM hour and the Project impact would therefore be mitigated to a less than significant level. This mitigation measure would not require an encroachment permit from Caltrans since the signal hardware and timing is operated and maintained by the City of Oakland through a service agreement contract. However, because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the Project impact is conservatively deemed significant and unavoidable.

8th Street/Webster Street (Intersection #9)

Impact Traf-9: The LOS F conditions at the intersection of 8th Street/Webster Street would prevail during the PM peak hour under the Existing + Project condition. The LOS would worsen with the addition of Project traffic. The Project generated increases in vehicle delay on the critical movement (southbound through) would exceed the four-second threshold. **(Potentially Significant)**

Mitigation Measure

Mitigation Measure Traf-9: Optimize the traffic signal timing at the intersection of 8th Street/Webster Street. Optimization of traffic signal timing would include determination of allocation of green time within the current 90 second signal cycle length for each intersection approach in tune with the relative traffic volumes on those approaches, and implementing signal actuation.

To implement this measure, the Project sponsor shall submit the following to City of Oakland's Transportation Service Division for review and approval:

- Plans, Specifications, and Estimates (PS&E) to modify the intersection. All elements shall be designed to City standards in effect at the time of construction and all new and upgraded signals should include these enhancements. All other facilities supporting vehicle travel and alternative modes through the intersection should be brought up to both City standards and ADA standards (according to Federal and State Access Board guideline) at the time of construction. Current City Standards call for among other items the elements listed below:
 - 2070L Type Controller
 - Full signal actuation (includes video detection, bicycle detection, pedestrian push buttons)
 - Fiber signal interconnect for corridors identified in the City's ITS Master Plan for a maximum of 600 feet
 - GPS communication clock
 - Accessible pedestrian crosswalks according to Federal and State Access Board Guidelines
 - Accessible pedestrian signals audible and tactile according to Federal Access Board guidelines
 - Countdown Pedestrian Signals
- Signal timing plans for the signals in the coordination group.

The Project sponsor shall fund, prepare and install the approved plans and improvements.

Significance after Mitigation: Less than Significant

After implementation of this measure, the intersection would operate at an acceptable LOS D during the PM peak hour and the Project impact would therefore be mitigated to a less than significant level.

YEAR 2015 BASELINE + PROJECT INTERSECTION LEVEL OF SERVICE

Year 2015 Baseline traffic volumes were obtained from the most recent version of the Alameda CMA travel demand model in May 2008. Traffic growth between the model base year (2005) and the future year were calculated for each intersection and then added to existing traffic volumes to derive 2015

Baseline traffic volumes. Year 2015 + Project traffic volumes were developed by adding Project traffic volumes to the 2015 Baseline traffic volumes. The 2015 analysis assumed no change in existing intersection geometries or traffic controls. **Table 4.2-13** shows the LOS for the 2015 Baseline and 2015 + Project conditions. **Figure 4.2-8** presents the 2015 Baseline + Project traffic volumes at the study intersections for the AM and PM peak hours.

**TABLE 4.2-13: INTERSECTION LOS IMPACTS:
2015 BASELINE AND 2015 WITH PROJECT LOS - AM AND PM PEAK HOURS**

	AM Peak Hour				PM Peak Hour			
	2015 Baseline		2015 + Project		2015 Baseline		2015 + Project	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
(#1): 5 th Street/Oak Street	68.1	E	77.2	E	> 80	F	> 80	F
(#2): 5 th Street/Jackson Street	15.2	B	15.9	B	21.4	C	25.3	C
(#3): 6 th Street/Oak Street	10.6	B	10.7	B	23.0	C	23.0	C
(#4): 6 th Street/Jackson Street	> 80	F	> 80	F	62.0	E	65.3	E
(#5): 7 th Street/Harrison Street	75.3	E	75.7	E	> 80	F	> 80	F
(#6): 7 th Street/Webster Street	15.7	B	16.3	B	17.2	B	21.7	C
(#7): 7 th Street/Broadway	15.7	B	15.7	B	16.6	B	16.7	B
(#8): 8 th Street/Harrison Street	20.7	C	20.4	C	26.2	C	25.0	C
(#9): 8 th Street/Webster Street	51.3	D	53.3	D	> 80	F	> 80	F
(#10): 9 th Street/Webster Street	34.8	D	35.1	D	39.4	D	41.1	D
(#11): 10 th Street/Webster Street	7.7	A	7.7	A	8.2	A	8.2	A
(#12): 11 th Street/Harrison Street	18.4	B	19.5	B	14.0	B	14.6	B
(#13): 12 th Street/Harrison Street	20.6	C	22.1	C	22.1	C	23.1	C

Note: Delay is seconds per vehicle. Delay presented in HCM average control delay.

Source: CHS Consulting Group, March 2010

2015 Baseline

Under 2015 Baseline conditions, all nine of the thirteen study intersections that currently operate at LOS D or better (under existing conditions) are projected to remain at LOS D or better in either the AM or PM peak period. The four study intersections that currently operate at LOS E or F in either the AM or PM peak period will continue to operate at these levels of service under 2015 Baseline conditions, but with increased delays.

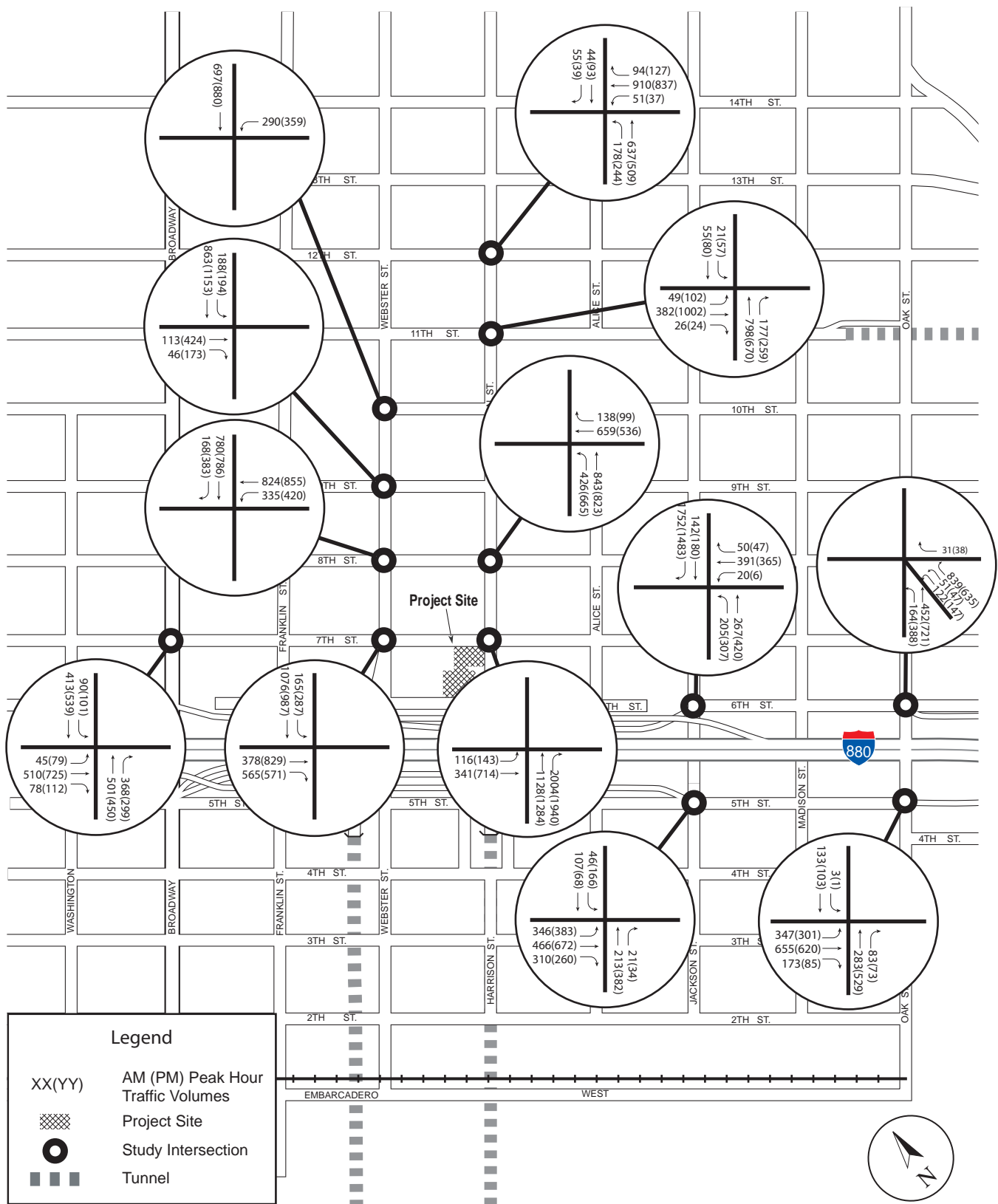


Figure 4.2-8
Year 2015 + Project AM (PM) Peak Hour
Traffic Volume

Source: CHS Consulting Group

2015 Baseline + Project

When traffic generated by the Project is added to the 2015 Baseline condition, all nine of the intersections projected to operate at LOS D or better under the 2015 Baseline are expected to continue to operate at LOS D or better, with no significant changes to average intersection delay. These intersections include:

- (#2): 5th Street/Jackson Street
- (#3): 6th Street/Oak Street
- (#6): 7th Street/Webster Street
- (#7): 7th Street/Broadway
- (#8): 8th Street/ Harrison Street
- (#10): 9th Street/Webster Street
- (#11): 10th Street/Webster Street
- (#12): 11th Street/Harrison Street
- (#13): 12th Street/Harrison Street

The Project would not result in a significant impact at the intersection of 7th Street/ Harrison Street (#5). Although this intersection is projected to operate at LOS E during the AM peak hour and LOS F during the PM peak hour, the addition of Project-generated traffic would not cause an increase in the total intersection average delay of more than one second over the 2015 Baseline condition, and would not increase in the average delay over the 2015 Baseline condition for the critical movement (northbound right) during either the AM and PM peak hours.

Based on the data presented in Table 4.2-11, the proposed Project would not cause significant traffic impacts under the 2015 Baseline + Project condition at 10 of the thirteen study intersections.

As discussed in greater detail below, the Project would have potentially significant traffic impacts under the 2015 Baseline + Project scenario at three study intersections (intersections #1, #4 and #9).

5th Street/Oak Street (Intersection #1) – Year 2015

Cumulative Impact Traf-10: The LOS E and F conditions at the intersection of 5th and Oak Streets during the AM and PM peak hours under the 2015 Baseline with Project condition, would worsen with the addition of traffic generated by the project. The Project generated increases in vehicle delay on the critical movement (eastbound through) of 12.4 seconds during the AM peak hour 29.1 seconds during the PM peak hour would exceed the City's threshold of significance. **(Potentially Significant)**

Mitigation Measure

Mitigation Measure Traf-10: Implement Mitigation Measure Traf-7.

Significance after Mitigation: Conservatively Deemed Significant and Unavoidable

After implementation of this measure, the intersection would operate at LOS C in the AM peak hour and at LOS F in the PM peak hour. LOS F is an unacceptable condition, but the average delay would be lower than under the 2015 Baseline (i.e., No Project) condition, and the Project impact would therefore be mitigated to a less than significant level. This mitigation measure would not require an encroachment permit from Caltrans since the signal hardware and timing is operated and maintained by the City of

Oakland through a service agreement contract. However, because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the Project impact is conservatively deemed significant and unavoidable.

6th Street/Jackson Street (Intersection #4) – Year 2015

Cumulative Impact Traf-11: The intersection of 6th Street/Jackson Street would continue to operate at LOS F in year 2015 during the AM Peak hour and LOS E during the PM Peak hour with the addition of Project traffic. The Project generated increases in vehicle delay on the critical movement (southbound right) of 4.8 seconds during the AM peak hour and 6.9 seconds during the PM peak hour would exceed the City's threshold of significance. **(Potentially Significant)**

Mitigation Measure

Mitigation Measure Traf-11: Implement Mitigation Measure Traf-8.

Significance after Mitigation: Conservatively Deemed Significant and Unavoidable

After implementation of this measure, the intersection would operate at LOS E, which is an acceptable condition for the downtown area, during the AM peak hour and LOS D during the PM peak hour. The Project impact would therefore be mitigated to a less than significant level. This mitigation measure would not require an encroachment permit from Caltrans since the signal hardware and timing is operated and maintained by the City of Oakland through a service agreement contract. However, because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the Project impact is conservatively deemed significant and unavoidable.

8th Street/Webster Street (Intersection #9) – Year 2015

Cumulative Impact Traf-12: The LOS F conditions at the intersection of 8th Street/Webster Street would prevail during the PM peak hour under the 2015 Baseline with Project condition. The LOS would worsen with the addition of Project traffic. The project-generated increases in vehicle delay on the critical movement (southbound through) would exceed the four-second threshold. **(Potentially Significant)**

Mitigation Measures:

Mitigation Measure Traf-12: Implement Mitigation Measure Traf-9.

Significance after Mitigation: Less than Significant

After implementation of this measure, the intersection would continue to operate at an unacceptable LOS F during the PM peak hour, but the average delay would be lower than under the baseline (No Project) condition, and the Project impact would therefore be mitigated to a less than significant level.

2030 CUMULATIVE + PROJECT INTERSECTION LEVEL OF SERVICE

The 2030 Cumulative + Project traffic volumes were developed using the similar methodology as the year 2015 analysis, except that the City's future land use database already includes assumed development generally consistent with that proposed under the Project. In order to create the 2030-without Project condition, a model run was performed by removing the employment and population data for the proposed Project from the TAZ where the proposed Project is located. Traffic growth between the model base year

(2005) and the future year were calculated for each intersection and then added to the existing traffic volumes to derive 2030 Baseline traffic volumes.

Table 4.2-14 shows the LOS for the 2030 Baseline and 2030 Cumulative + Project conditions. **Figure 4.2-9** presents the 2030 Cumulative + Project AM and PM peak hours traffic volumes at the study intersections.

2030 Baseline

Under 2030 Baseline conditions, all nine of the thirteen study intersections that currently operate at LOS D or better (under existing conditions) are projected to remain at LOS D or better in either the AM or PM peak period. The four study intersections that currently operate at LOS E or F in either the AM or PM peak period are projected to operate at LOS F under 2030 Baseline conditions, with increased delays over both Existing and Year 2015 Baseline conditions.

2030 Cumulative + Project

When traffic generated by the Project is added to the 2030 Baseline condition, all nine of the intersections projected to operate at LOS D or better under the 2030 Baseline are expected to continue to operate at LOS D or better, with no significant changes to average intersection delay. These intersections include:

- (#2): 5th Street/Jackson Street
- (#3): 6th Street/Oak Street
- (#6): 7th Street/Webster Street
- (#7): 7th Street/Broadway
- (#8): 8th Street/ Harrison Street
- (#10): 9th Street/Webster Street
- (#11): 10th Street/Webster Street
- (#12): 11th Street/Harrison Street
- (#13): 12th Street/Harrison Street

The Project would not result in a significant impact at the intersection of 7th Street/ Harrison Street (#5). Although this intersection is projected to operate at LOS F during both the AM and PM peak hour, the addition of Project-generated traffic would not cause an increase in the total intersection average delay of more than one second over the 2030 Baseline condition, and would not increase in the average delay over the 2030 Baseline conditions for the critical movement (northbound right) during either the AM and PM peak hours.

Based on the data presented in Table 4.2-12, the proposed Project would not cause significant traffic impacts under the 2030 Baseline + Project condition at 10 of the thirteen study intersections.

As discussed in greater detail in later portions of this chapter, under the 2030 Cumulative + Project conditions, the following three intersections would operate at LOS F during the AM and/or PM peak hours, and the Project would contribute a cumulatively significant traffic volume:

- #1: 5th Street/Oak Street (AM and PM peak hours)
- #4: 6th Street/Jackson Street (AM and PM peak hours)
- #9: 8th Street/Webster Street (AM and PM peak hours)

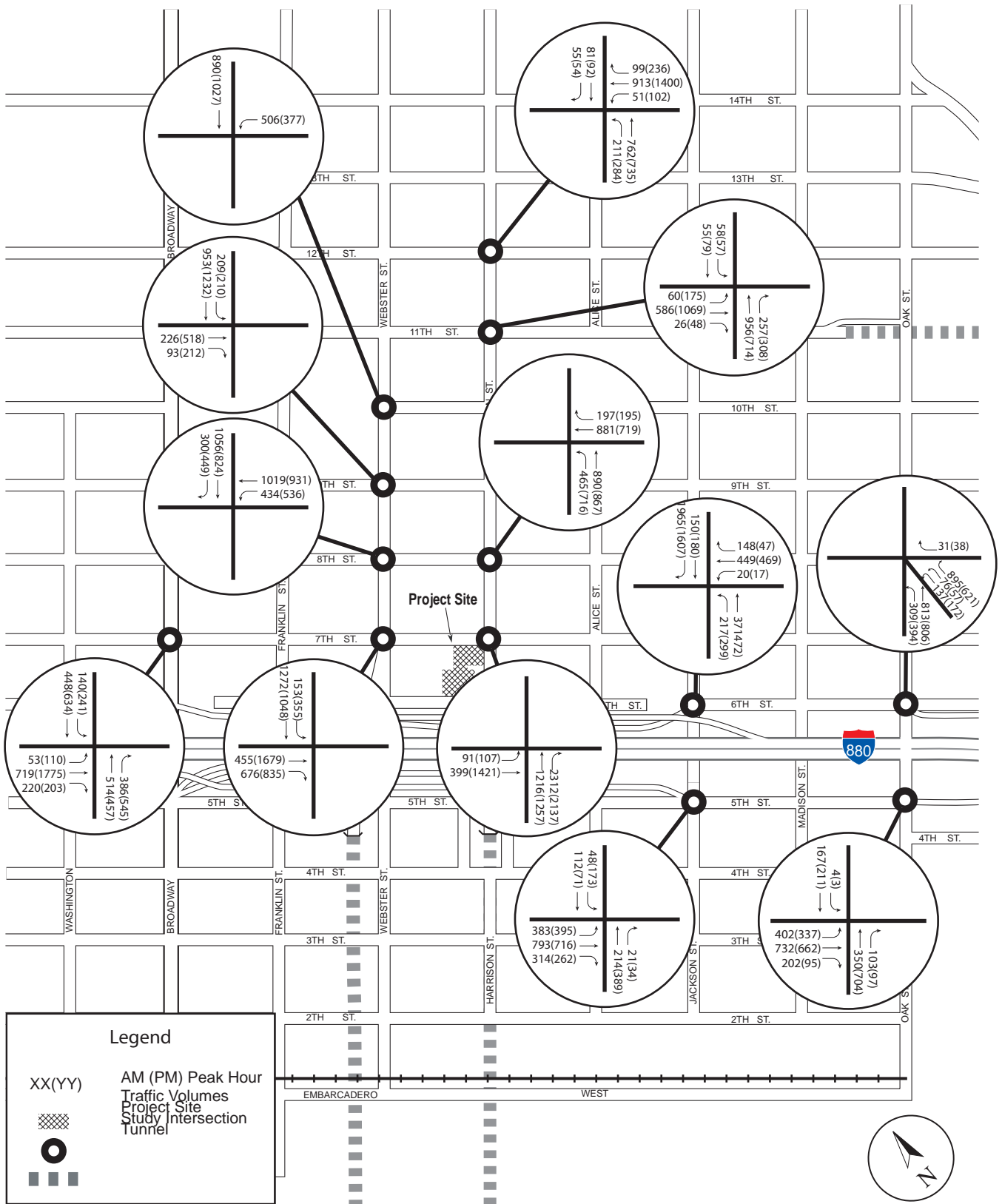


Figure 4.2-9
Year 2030 + Project AM (PM) Peak Hour
Traffic Volume

Source: CHS Consulting Group

TABLE 4.2-14: 2030 CUMULATIVE BASELINE, AND 2030 CUMULATIVE + PROJECT LOS –AM AND PM PEAK HOURS

	AM Peak Hour				PM Peak Hour			
	2030 Baseline		2030 + Project		2030 Baseline		2030 + Project	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
5 th Street/Oak Street	> 80	F	> 80	F	> 80	F	> 80	F
5 th Street/Jackson Street	45.8	D	53.3	D	26.2	C	32.4	C
6 th Street/Oak Street	34.8	C	35.1	C	35.0	C	35.5	C
6 th Street/Jackson Street	> 80	F	> 80	F	> 80	F	> 80	F
7 th Street/Harrison Street	> 80	F	> 80	F	> 80	F	> 80	F
7 th Street/Webster Street	18.9	B	20.3	C	29.0	C	40.8	D
7 th Street/Broadway	18.0	B	18.0	B	44.4	D	45.8	D
8 th Street/Harrison Street	21.4	C	21.4	C	23.7	C	23.5	C
8 th Street/Webster Street	> 80	F	> 80	F	> 80	F	> 80	F
9 th Street/Webster Street	40.9	D	41.6	D	50.3	D	53.2	D
10 th Street/Webster Street	9.1	A	9.1	A	8.4	A	8.4	A
11 th Street/Harrison Street	35.8	D	42.3	D	15.9	B	16.8	B
12 th Street/Harrison Street	48.3	D	53.9	D	50.1	D	54.1	D

Note: Delay is seconds per vehicle. Delay presented in HCM average control delay

Source: CHS Consulting Group, March 2010

5th Street/Oak Street (Intersection #1) – Year 2030

Cumulative Impact Traf-13: The LOS F conditions at the intersection of 5th Street/Oak Street during the AM and PM peak hours under the Cumulative 2030 conditions would worsen with the addition of traffic generated by the Project. The total intersection vehicle delay would exceed the City's two-second threshold of significance with the addition of traffic generated by the Project. **(Potentially Significant)**

Recommended Mitigation Measures

Mitigation Measure Traf-13: Implement Mitigation Measure Traf-7.

Significance after Mitigation: Conservatively Deemed Significant and Unavoidable

After implementation of this measure, the intersection would operate at LOS E, which is an acceptable condition for the downtown area, during the AM peak hour and at LOS F during the PM peak hour. LOS F is an unacceptable condition, but the average delay would be lower than under the baseline (No Project) condition, and the Project impact would therefore be mitigated to a less than significant level. This mitigation measure would not require an encroachment permit from Caltrans since the signal hardware and timing is operated and maintained by the City of Oakland through a service agreement contract. However, because the City of Oakland, as lead agency, could not implement the mitigation measure

without the approval of Caltrans, the Project impact is conservatively deemed significant and unavoidable.

6th Street/Jackson Street (Intersection #4) – Year 2030

Cumulative Impact Traf-14: The intersection of 6th Street/Jackson Street would operate at LOS F during the AM and PM peak hours. The 2030 Future Cumulative conditions would worsen with the addition of traffic generated by the project. The total intersection vehicle delay would exceed the City's threshold of significance with the addition of traffic generated by the project. **(Potentially Significant)**

Recommended Mitigation Measures

Mitigation Measure Traf-14: Implement Mitigation Measure Traf-8.

Significance after Mitigation: Conservatively Deemed Significant and Unavoidable

After implementation of this measure, the intersection would continue to operate at LOS F during the AM peak hour. LOS F is an unacceptable condition, but the average delay would be lower than under the cumulative baseline condition. The intersection would operate at LOS E during the PM peak hour, which is an acceptable condition for the downtown area. The Project impact would therefore be mitigated to a less than significant level. This mitigation measure would not require an encroachment permit from Caltrans since the signal hardware and timing is operated and maintained by the City of Oakland through a service agreement contract. However, because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the Project impact is conservatively deemed significant and unavoidable.

8th Street/Webster Street (Intersection #9) – Year 2030

Cumulative Impact Traf-15: The LOS F conditions at the intersection of 8th Street/Webster Street during the AM and PM peak hours under the Future Cumulative conditions would worsen with the addition of Project traffic. The Project traffic would increase total intersection average vehicle delay by more than two seconds, exceeding the City's threshold of significance during both the AM and PM peak hours. **(Potentially Significant)**

Recommended Mitigation Measures

Mitigation Measure Traf-15: Implement Mitigation Measure Traf-9.

Significance after Mitigation: Less than Significant

After implementation of this measure, the intersection would continue to operate at an unacceptable LOS F during the AM and PM peak hours, but the average delay would be lower than under the cumulative 2030 baseline (No Project) condition, and the Project impact would therefore be mitigated to a less than significant level.

DISCUSSION OF NON-CEQA TRANSPORTATION ISSUES

The following provides a discussion of transportation-related topics that are not specifically addressed by the City of Oakland's significance criteria and not considered significant impacts under CEQA, but are evaluated to inform decision makers and the public about these issues. The topics include:

- Transit Considerations

- Parking Considerations
- Sight access and traffic/parking controls
- Intersection Queuing Analysis

TRANSIT SERVICES

Although not required by CEQA, the City of Oakland requires an EIR to evaluate the project's potential to:

- Increase the average ridership on AC Transit lines by three (3) percent at bus stops where the average load factor with the project in place would exceed 125% over a peak thirty minute period;
- Increase the peak hour average ridership on BART by three (3) percent where the passenger volume would exceed the standing capacity of BART trains; and
- Increase the peak hour average ridership at a BART station by three (3) percent where average waiting time at fare gates would exceed one minute.

As presented in the **Table 4.2-15**, seventeen percent (17%) of the total Project trips would be non-auto modes, which include transit, walk, bicycle, and other modes. Using the same travel pattern reported for the Census Tract 4030, the 17 percent would be attributed to 10.3 percent walking, 4.1 percent subway/elevated (BART), and 2.2 percent bus service (AC Transit). This translates to 553 daily alternative mode trips, including 33 in the AM peak hour and 62 in the PM peak hour.

For AC Transit, which has a goal of 125 percent during the peak half-hour, the eight local bus lines that serve the Project site area provide about 13 buses during the peak half-hour based on current schedules. Because the project's 8 peak-hour bus trips would be distributed among approximately 25 AC Transit buses, the transit trips generated by the Project would not likely have any impact on AC Transit services in the area.

An impact would occur on a BART line if the Project would add more than three percent to the total ridership on a line when the passenger volume exceeds the standing capacity of BART trains. Based on the BART schedule, there are approximately 50 trains passing through the 12th Street or Lake Merritt BART station during the peak hour. The estimated 15 peak hour BART trips would add about one rider per train and would not cause increase in the average load factor.

TABLE 4.2-15 : NON-VEHICLE MODAL SPLIT

Mode	Modal Distribution	Daily Trips	AM Peak Trips	PM Peak Trips
AC Transit (Bus)	2.2%	71	4	8
BART (subway)	4.1%	135	8	15
Walk	10.3%	335	20	38
Other	0.4%	12	1	1
TOTAL	17%	553	33	62

Source: 2000 US Census for CT 4030.

PARKING

Parking Demand Estimation

The ITE Parking Generation Manual, 3rd Edition provides generalized parking demand estimates. Since the proposed Project is located in Oakland's Chinatown, where BART and AC Transit services are convenient and Oakland downtown employment centers are within reasonable walking distance, survey data of recently constructed residential buildings and high-rise residential buildings in Oakland were also used, as well as Census data and City Planning Code requirements, to provide estimates of the range of possible parking demand for the proposed Project, as shown in **Table 4.2-16**.

ITE Parking Generation Manual

The ITE manual suggests that the proposed project's parking demand would be approximately 580 spaces (555 for residential, 18 for retail and 6 for office uses). With a 17 percent reduction for transit, walking and bicycle modes for the residential use, the total parking demand would be reduced by 95 spaces to 485 spaces.

Survey of Similar Projects in the Area

CHS surveyed three high-rise residential buildings in Oakland Chinatown (Pacific Renaissance Center, 9th and Franklin Street building, and Franklin 88 at the corner of 9th/Franklin Streets). Of the three, Franklin 88 is recently constructed and most of the units are owner-occupied. Both Renaissance Center and Franklin Tower buildings have a mixed number of owner and tenant occupancy. The Franklin 88 building has a total of 230 parking spaces, of which 50 spaces are reserved for 88 dwelling units in the building, 50 spaces are reserved for retail employees, and the remaining 130 spaces are for the general public. The residential parking ratio for this building is approximately 0.57 parking spaces per unit (50 spaces per 88 units). Using the same parking ratio of 0.57 spaces per unit and applying it to the proposed Project, the Project would have a residential parking demand of 217 spaces, and the total Project demand would be 241 spaces.

Census Data

Year 2000 Census data shows an average vehicle ownership rate of 0.42 vehicles per household for the census tract covering Oakland Chinatown (CT 4030), and 0.61 vehicles per household for the census tracts covering Oakland Chinatown, Lakeside, Peralta/Laney, and southern Produce/Waterfront areas (CT 4030, 4033, and 4034). Using the more conservative (i.e., higher) average vehicle ownership rate of 0.61 vehicles per household derived from the larger assembly of Census tracts, the proposed project's residents would have a parking demand of 232 spaces, and the total Project demand would be 256 spaces.

TABLE 4.2-16: PROJECT PARKING DEMAND BY LAND USE

Land Use	GSF/Units	ITE	Parking Demand		Parking Supply
			Census Tract	Similar Project	
Residential	380 units	555 ¹	232 ²	217 ³	
17% Modal Adjustment ⁴		<u>-94</u>			
Subtotal Residential		461	232	217	380
Retail	6,795 gsf	18 ¹			
Office	2,315 gsf	<u>6</u> ¹			
Subtotal Retail/Office		24	24	24	19
Total		485	256	241	399

Footnote:

ITE Parking Generation Manual, Third Edition - Average peak period weekday parking demand is 1.46 per dwelling unit, 2.65 per 1,000 gsf of retail use, and 2.45 per 1,000 gsf of office use.

Vehicle ownership rate is 0.61.

Vehicle ownership rate is 0.57.

Based on the direction from the City of Oakland staff, the modal split used for this analysis is 83% auto and 17% for transit and other modes.

Parking Supply versus Planning Code Requirements

The City of Oakland Planning Code Section 17.116.060 requires one parking space for each multi-family dwelling unit in the R-70 Zone. It also requires one parking space per 400 square feet of retail space, but no off-street parking spaces are required for commercial office uses. The proposed Project has 380 dwelling units and 6,795 square feet of retail space, and would therefore be required to provide 397 spaces (380 off-street parking spaces to meet the residential requirement and 17 spaces to meet the retail requirement). The proposed Project provides 399 parking spaces, and thus meets the Planning Code requirements.

Bicycle Parking

The Bicycle Parking Ordinance requires new development to provide both short-term and long-term parking for bicycles. For multi-family residential uses with private garages, the short-term requirement is for one bicycle parking space per 20 units, with no long-term parking spaces required. For retail use, one short-term space per 5,000 square feet and one long-term bicycle parking spaces per 12,000 square feet are required. For office uses, the requirements are for one short-term space per 20,000 square feet and one long-term space per 10,000 square feet. To meet the requirements of the Bicycle Parking Ordinance, the Project would be required to provide 23 short term and 4 long-term bicycle parking spaces. At this time, the Project does not include any bicycle parking and is not required to provide this bicycle parking because the Project application was considered complete prior to adoption of the Bicycle Parking Ordinance.

Disabled Parking

Nine of the 399 parking spaces are designated for disabled use, which exceeds the City of Oakland's requirement. Three spaces on the ground level and two spaces each on the other three levels are provided. The City of Oakland uses the requirement established in the California State Accessibility Standards (in the State of California Administrative Code Title 24) for the disabled parking requirement. Title 24

requires eight disabled parking spaces for a parking garage with 301-400 spaces. Thus, the proposed Project would be required to provide eight disabled parking spaces, and would provide nine such spaces.

Loading

The proposed Project has 360,261 gross square feet (gsf) residential use, 2,315 gsf office use, and 6,795 gsf retail use. According to the Oakland Municipal Code Chapter 17.116.120-140, the proposed Project would be required to provide two off-street loading spaces. The proposed Project would provide two off-street loading spaces off 6th Street, thus meeting the Code requirements. However, the loading berths do not meet the dimensional requirements of the Planning Code.

Parking Supply versus Parking Demand

As shown in Table 4.2-16, the parking demand for the proposed Project could range from 241 to 485 spaces. The proposed Project provides 399 spaces (380 for the residents and 19 for the office and retail uses). Therefore, there is the potential that the proposed Project may not have sufficient parking spaces to meet its demand. A potential shortage of residential parking would result if the Project's actual parking demand is greater than one space per unit. This would only occur if the buyers of the condominium units have substantially higher vehicle ownership rate than those currently living in Chinatown and the Lakeside area, and those who purchased units in Chinatown at Franklin 88 building.

The office and retail uses are estimated to have a potential demand under ITE rates of 24 spaces, whereas the Project would provide 19 spaces for these uses on site (a potential shortfall of 5 spaces). In addition, the proposed Project would displace an existing 44-space parking lot on the Project site. The total shortage for public parking could be 49 spaces.

This deficit could potentially be met at adjacent parking lots and garages (85 spaces are currently available, as presented in Table 4.2-4), but it would substantially increase the overall occupancy in these parking facilities. There are parking facilities immediately outside the study area, but still within a reasonable walking distance of the proposed project, such as the parking garage in the Renaissance Center Garage. This garage is usually full during midday on weekends, but has spaces available during weekdays.

The Project will be required to comply with all of the provisions of City of Oakland Standard Conditions of Approval, including **SCA Traf-1: Parking and Transportation Demand Management**. Implementation of an effective TDM program could reduce Project-generated vehicle trips and reduce the number of Project vehicles which need parking spaces, thereby reducing overall parking demand.

To further implement SCA Traf-1, the Project applicant shall

- investigate the possibility of contracting with off-site locations to provide additional parking, and
- all good-faith efforts made by the applicant to identify potential off-site parking shall be submitted to the City for review and approval.

SITE ACCESS, CIRCULATION AND SIGHT DISTANCE

Sight Distance

A driveway sight distance analysis of the proposed Project driveways was performed on 7th Street and 6th Street using the Caltrans Highway Design Manual methodology. For the purpose of this analysis, a design speed of 25 mph was assumed.

The Caltrans Highway Design Manual recommends the provision of adequate corner sight distance for vehicles intersection approaches. Corner sight distance is the distance at which a substantial clear line of

sight should be maintained between the driver of a vehicle waiting at the crossroad and the driver of an approaching vehicle. According to Table 405.1A of the Caltrans Highway Design Manual, the required Corner Sight Distance for a design speed of 25 mph is 300 feet of driveway sight distance (**Figure 4.2-10**). Based on the sight distance, driveway tipping distance was calculated. Driveway tipping is sections of red curb to promote better maneuverability into and out of the driveway and to improve visibility from the driveway.

Table 4.2-17 presents the required sight distance and driveway tipping at the Project driveways. The proposed trees near the driveways would not obstruct the views of vehicles leaving the driveway, since they are located at the back of sidewalk. There are no roadway configurations, natural hills, or sharp horizontal curves in the roadway that would impede with vehicular sight distance. Although the proposed Project would not cause significant sight distance restriction impacts, on-street parking would have to be restricted between driveway locations in order to provide adequate sight distance.

TABLE 4.2-17: SIGHT DISTANCE ANALYSIS

Driveway Location	Direction	Sight Distance	Driveway Tipping
7th Street Driveway	To the East	155.0 feet	54.8 feet
	To the West	120.8 feet	19.7 feet
6th Street Loading Driveway	To the East	155.0 feet	58.6 feet
	To the West	155.0 feet	32.0 feet
6th Street Driveway (East)	To the East	61.5 feet	17.1 feet

Source: Caltrans Highway Design Manual, Table 405-1-A

Recommended Measures

Recommended Condition for Driveway Sight Distance. In order to promote better maneuverability into and out of Project driveways and to improve visibility from the driveway, a no-parking (or red curb section) should be implemented at the following locations:

- 7th Street Driveway: In order to provide adequate sight distance at the 7th Street driveway, driveway tipping of approximately 54.8 feet would be required on the west side of the driveway.
- 6th Street Driveway: In order to provide adequate sight distance at the 6th Street driveway, driveway tipping of approximately 32.0 feet would be required on the west side of the driveway and 17.1 feet on the east side of the driveway.
- 6th Street Loading Dock Driveway: In order to provide adequate sight distance at the 6th Street Loading Dock driveway, driveway tipping of approximately 19.7 feet would be required on the west side of the driveway and 68.6- feet on the east side of the driveway.

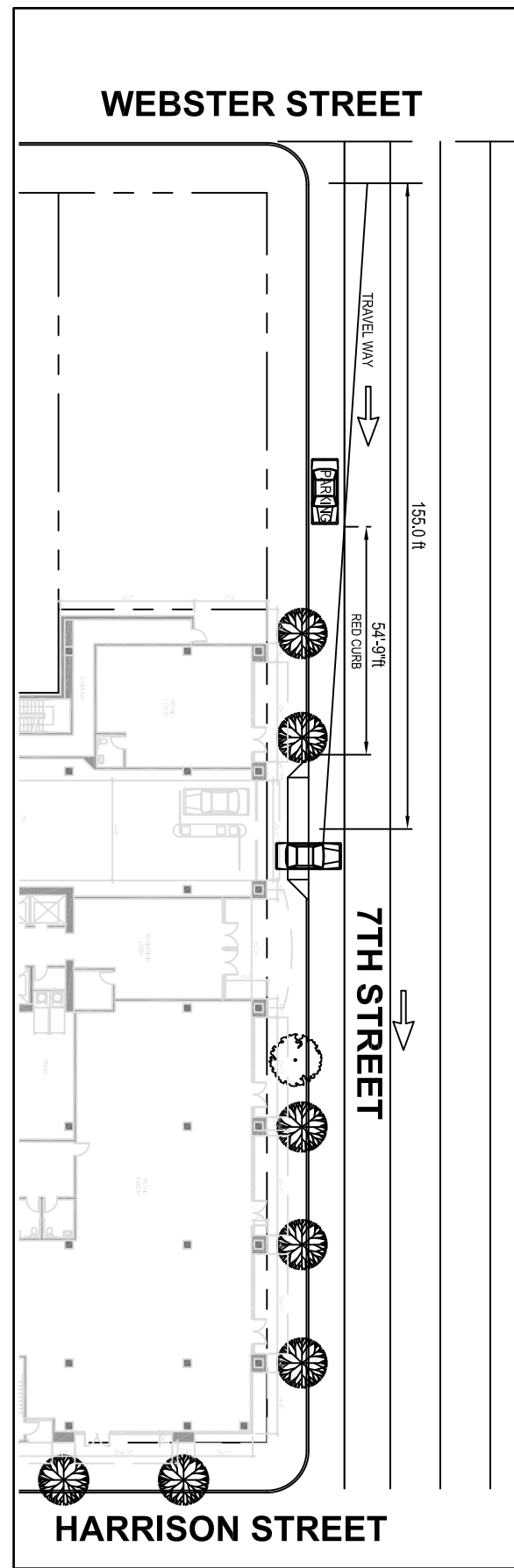
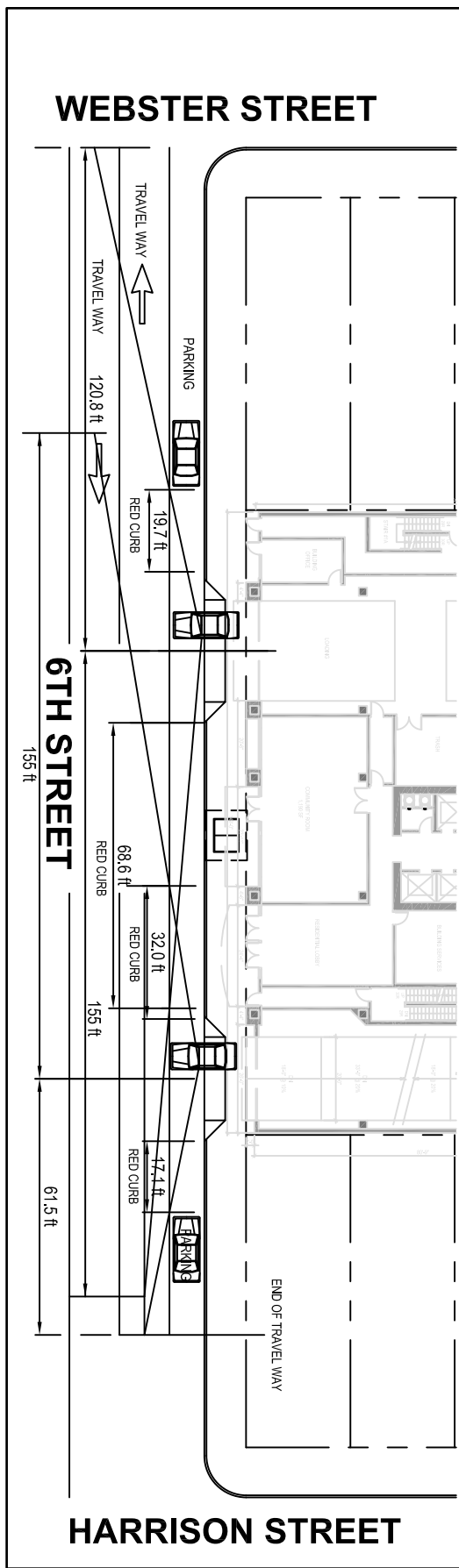


Figure 4.2-10
Corner Sight Distance



Source: CHS Consulting Group

95TH PERCENTILE QUEUES

95th percentile queues are evaluated where queues can be expected to exceed the given storage. In the existing condition, 5th Street at Oak Street, Jackson Street at 6th Street, Harrison Street at 7th Street, Webster Street at 8th, and Webster Street at 9th Street are generally fairly congested during the peak hours.

With the anticipated growth in the area, queues can be expected to exceed storage at a number of locations. The existing storage lengths for all applicable locations are provided in **Table 4.2-18**

TABLE 4.2-18 – EXISTING CONDITIONS – 95TH PERCENTILE QUEUE STORAGE LENGTHS

Intersection Approach	Storage	Length (feet)
5th Street/Oak Street	EB	305'
6th Street/Jackson Street	SB(Right)	250'
7th Street/Harrison Street	NB(Right)	250'
8th Street/Webster Street	SB	185'
9th Street/Webster Street	SB	200'

The 95th percentile queues for all scenarios are shown in **Table 4.2-19** through **Table 4.2-21**. The 95th Percentile queue length is an approximation of a worst-case scenario queue length calculated using the average queues over the course of a given peak hour. Thus, the values are not shown in precise increments. For the existing conditions and existing + Project conditions, none of the 95th percentile queue lengths exceed their respective lanes' storage lengths at the intersections of 5th Street at Oak Street, Harrison Street at 7th Street. At the intersections of Webster Street at 8th Street, and Webster Street at 9th Street, southbound movement queue exceeds its storage length during PM peak hour. At the intersection of Jackson Street at 6th Street, the southbound right-turn movement queue would exceed the existing storage during the AM and PM peak hours.

For the 2015 Baseline Conditions and 2015 + Project Conditions, all of the 95th percentile queue lengths exceed their respective storage lengths at the intersections of Jackson Street at 6th Street, Harrison Street at 7th Street, Webster Street at 8th Street, and Webster Street at 9th Street, except the 5th Street at Oak Street intersection's eastbound movement queues would exceed its storage length in the 2010 Baseline Condition and 2010 + Project Conditions during the AM and PM peak hours.

For the 2030 Baseline Conditions and 2030 Cumulative (with Project) Conditions, the 95th Percentile queue at the intersections of Jackson Street at 6th Street, Harrison Street at 7th Street, Webster Street at 8th Street, and Webster Street at 9th Street, would exceed their storage lengths during the AM and PM peak hours. At the intersections of 5th Street at Oak Street, none of the 95th percentile queue lengths exceed their respective lanes' storage lengths.

In general, the increase in queuing as a result of the addition of Project traffic is fairly small. Project traffic would not cause an increase in 95th percentile queue length of 25 feet or more at any of these intersections. Thus, no improvements would be required to mitigate the project's contribution to queuing.

TABLE 4.2-19 – EXISTING AND EXISTING + PROJECT CONDITIONS – 95TH PERCENTILE QUEUE LENGTHS

Intersection	Approach	Storage Length (feet)	Existing AM Peak Hour	Existing PM Peak Hour	+ Project AM Peak Hour	+ Project PM Peak Hour
5th Street/Oak Street	EB	305'	185'	191'	193'	200'
6th Street/Jackson Street	SB(Right)	250'	528'	485'	535'	493'
7th Street/Harrison Street	NB(Right)	250'	230'	180'	230'	190'
8th Street/Webster Street	SB	185'	29'	432'	29'	431'
9th Street/Webster Street	SB	200'	137'	346'	138'	355'

Bold = Queue length exceeds storage length

TABLE 4.2-20: 2015 BASELINE AND 2015 WITH PROJECT CONDITIONS – 95TH PERCENTILE QUEUE LENGTHS

Intersection	Approach	Storage Length (feet)	2015 AM Peak Hour	2015 PM Peak Hour	+ Project AM Peak Hour	+ Project PM Peak Hour
5th Street/Oak Street	EB	305'	211'	226'	218'	234'
6th Street/Jackson Street	SB(Right)	250'	667'	533'	673'	542'
7th Street/Harrison Street	NB(Right)	250'	282'	333'	288'	333'
8th Street/Webster Street	SB	185'	502'	440'	503'	439'
9th Street/Webster Street	SB	200'	219'	353'	221'	361'

Bold = Queue length exceeds storage length

TABLE 4.2 -21: – 2030 BASELINE AND 2030 WITH PROJECT CONDITIONS – 95TH PERCENTILE QUEUE LENGTHS

Intersection	Approach	Storage Length (feet)	2030 AM Peak Hour	2030 PM Peak Hour	+ Project AM Peak Hour	+ Project PM Peak Hour
5th Street/Oak Street	EB	305'	251'	247'	258'	256'
6th Street/Jackson Street	SB(Right)	250'	780'	602'	787'	609'
7th Street/Harrison Street	NB(Right)	250'	425'	427'	433'	430'
8th Street/Webster Street	SB	185'	680'	451'	680'	451'
9th Street/Webster Street	SB	200'	270'	398'	272'	406'

Bold = Queue length exceeds storage length

AIR QUALITY

The December 2007 Initial Study Checklist indicated that there would be no potentially significant Project-related environmental impacts associated with air quality (see **Appendix A**).

Following review of the Notice of Preparation and the Initial Study, the Bay Area Air Quality Management District (BAAQMD) indicated that without quantifying the level of Toxic Air Contaminant (TAC) concentrations in the Project area and the emission reductions achieved by the proposed ventilation system, it would not be possible to conclude that installation, operation and on-going maintenance of the proposed ventilation system will reduce potential adverse health impacts to residents from TAC exposure to a level of less than significant. BAAQMD also indicated that even if the proposed ventilation system would reduce indoor TAC concentrations to an acceptable level, it would not reduce TAC impacts to outdoor areas. BAAQMD recommended that the EIR identify existing sources of TAC emissions (i.e., major roadways, existing industrial operations, train operations) within a quarter mile of the Project site and quantify anticipated outdoor and indoor TAC concentrations at the Project site.

Furthermore, in June 2010 the Bay Area Air Quality Management District (BAAQMD) adopted new Thresholds of Significance (*Thresholds*) and issued an update to the *California Environmental Quality Act Air Quality Guidelines* (CEQA *Guidelines*).¹ These new *Thresholds of Significance* and CEQA *Guidelines* warrant a more detailed evaluation of Project-related air quality impacts.

This chapter describes existing air quality, identifies potential air quality impacts of the Project, discusses the effects of air quality on the Project and recommends mitigation measures to reduce or eliminate potentially significant air quality impacts, where possible and appropriate. This analysis has been prepared using methodologies and assumptions recommended in the 2010 BAAQMD CEQA *Guidelines*.

SETTING

The following discussion provides an overview of existing air quality conditions in the region and Oakland area. Ambient standards and the regulatory framework relating to air quality are summarized. Climate, air quality conditions, and typical air pollutant types and sources are described.

¹ Bay Area Air Quality Management District (BAAQMD), *Thresholds of Significance* and *California Environmental Quality Act Guidelines Update*, June 2, 2010. These Thresholds and Guidelines were preceded by the September 2009 *California Environmental Quality Act DRAFT Air Quality Guidelines*; the October 2009 *Revised DRAFT Options and Justification Report, California Environmental Quality Act Thresholds of Significance*; the November 2, 2009 *California Environmental Quality Act Guidelines Update – Proposed Thresholds of Significance*, the December 2009 *Draft BAAQMD CEQA Guidelines and Proposed Thresholds of Significance*, and the May 2010 *Proposed Thresholds of Significance Report*.

REGIONAL AIR QUALITY

The City of Oakland is located in the San Francisco Bay Area Air Basin (SFBAAB), a large, shallow air basin ringed by hills that taper into a number of sheltered valleys around the perimeter. Two primary atmospheric outlets exist. One is through the Golden Gate Strait, a direct outlet to the Pacific Ocean. The second outlet extends to the northeast, along the west delta region of the Sacramento and San Joaquin Rivers.

The City of Oakland is within the jurisdiction of the BAAQMD. Air quality conditions in the SFBAAB have improved significantly since BAAQMD was created in 1955. Ambient concentrations of air pollutants and the number of days during which the region exceeds air quality standards have fallen dramatically. Exceedance of air quality standards occurs primarily during meteorological conditions conducive to high pollution levels, such as cold, windless winter nights or hot, sunny summer afternoons.

Ozone levels, measured by peak concentrations and the number of days over the State 1-hour standard, have declined substantially as a result of aggressive programs by the BAAQMD and other regional, State and Federal agencies. The reduction of peak concentrations represents progress in improving public health; however, the Bay Area still exceeds the State standard for 1-hour ozone.

Levels of particulate matter (PM₁₀ and PM_{2.5}) in the Bay Area have exceeded State standards at least two times per year during the past three years. The Bay Area is considered a non-attainment area for PM₁₀ and PM_{2.5} relative to the State standard, and unclassified for the federal standards.

No exceedance of the State or federal carbon monoxide (CO) standards has been recorded at any of the region's monitoring stations since 1991. The Bay Area is currently considered a maintenance area for State and federal CO standards.

Toxic air contaminants (TACs) are not criteria pollutants, but are associated with health-related effects and have appreciable concentrations in the Bay Area. The US Environmental protection Agency (EPA) and the California Air Resources Board (ARB) have identified over 800 substances that are emitted into the air that may affect human health. Some of these substances are considered to be carcinogens, while others are known to have other adverse health effects. As part of ongoing efforts to identify and assess potential health risks to the public, BAAQMD has collected and compiled air toxic emissions data from industrial and commercial sources of air pollution throughout the Bay Area. Monitoring data and emissions inventory of toxic air contaminants helps the BAAQMD determine health risk to Bay Area residents. The 2003 emissions inventory shows that emissions of many TACs are decreasing in the Bay Area.

Ambient monitoring concentrations of TACs indicates that pollutants emitted primarily from motor vehicles (1,3-butadiene and benzene) account for slightly over one-half of the average calculated cancer risk from ambient air in the Bay Area.² According to the BAAQMD, ambient benzene levels declined dramatically in 1996 with the advent of Phase 2 reformulated gasoline. Due to this reduction, the calculated average cancer risk based on monitoring results has been reduced to 143 in one million. However, this risk does not include the risk resulting from exposure to diesel particulate matter or other compounds not monitored. Although not specifically monitored, recent studies indicate that exposure to diesel particulate matter may contribute significantly to cancer risk (approximately 500 – 700 in one million) that is greater than all other measured TACs combined.³

² BAAQMD, 2007, *Toxic Air Contaminant Control Program Annual Report 2003 Volume 1*, August.

³ Ibid.

The BAAQMD's 2009 Ozone Attainment Plan (OAP) contains district-wide control measures to reduce ozone precursor emissions (e.g., ROG and NO_x) and particulate matter. Ozone, in particular, results from the reaction of organic gases (ROG) and nitrogen oxide (NO_x) in the atmosphere. To reduce ozone, its precursors (ROG and NO_x) are regulated. The State standards for these pollutants are at least as stringent as the national standards.

TABLE 4.3-1: REGIONAL ATTAINMENT STATUS

Pollutant	Federal Status	State Status
Ozone (O ₃) – 1-Hour Standard	No Designation	Serious Nonattainment
Ozone (O ₃) – 8-Hour Standard	Marginal Nonattainment	Nonattainment
Respirable Particulate Matter (PM ₁₀)	Unclassified	Nonattainment
Fine Particulate Matter (PM _{2.5})	Unclassifiable/Attainment	Nonattainment
Carbon Monoxide (CO)	Attainment/Unclassified	Attainment
Nitrogen Dioxide (NO ₂)	Attainment/Unclassified	Attainment
Sulfur Dioxide (SO ₂)	Attainment	Attainment
Sulfates	No Designation	Attainment
Lead	No Designation	Attainment
Hydrogen Sulfide	No Designation	Unclassified
Visibility Reducing Particles	No Designation	Unclassified

Source: Bay Area Air Quality Management District.
California Air Resource Board

LOCAL CLIMATE AND AIR QUALITY

Air quality is a function of both local climate and local sources of air pollution. The amount of a given air pollutant in the atmosphere is determined by the amount of pollutant released and the atmosphere's ability to transport and/or dilute that pollutant. The major determinants of transport and dilution are wind, atmospheric stability, terrain, and for photochemical pollutants, sunshine.

The City of Oakland is located in the Northern Alameda and Western Contra Costa subregion of the SFBAAB. This climatological subregion stretches from Richmond to San Leandro. Its western boundary is defined by the Bay, and its eastern boundary by the Oakland-Berkeley Hills. The Oakland-Berkeley Hills have a ridge line height of approximately 1,500 feet, a significant barrier to air flow. The most densely populated area of the subregion lies in a strip of land between the Bay and the lower hills.

In this area, marine air traveling through the Golden Gate, as well as across San Francisco and through the San Bruno Gap, is a dominant weather factor. The Oakland-Berkeley Hills cause the westerly flow of air to split off to the north and south of Oakland, which causes diminished wind speeds. The prevailing winds for most of this subregion are from the west.

Temperatures in this subregion have a narrow range due to the proximity of the moderating marine air. Maximum temperatures in summer average in the mid-70's, with minimums in the mid-50's. Winter highs are in the mid- to high-50's, with lows in the low- to mid-40's.

The air pollution potential is lowest for the parts of the subregion that are closest to the Bay, due largely to good ventilation and less influx of pollutants from upwind sources. The occurrence of light winds in the evenings and early mornings occasionally causes elevated pollutant levels.

The air pollution potential at the northern (Richmond) and southern (Oakland, San Leandro) parts of this subregion is marginally higher than communities directly east of the Golden Gate, because of the lower frequency of strong winds.

This subregion contains a variety of industrial air pollution sources. Some industries are quite close to residential areas. The subregion is also traversed by frequently congested freeways. Traffic and congestion, and the motor vehicle emissions they generate, are increasing.

Pollutant monitoring results for the years 2007 (when monitoring began at the new station on November 1) to 2009 (as of September 30th) are shown in **Table 4.3-2**, at the closest monitoring station to the project site for which data was available (9925 International Boulevard, Oakland). Ambient air quality monitoring stations indicate that air quality in the project area has generally been good. As indicated in the monitoring results, no violations of the State PM₁₀ standard were recorded during the monitoring period. No violations of the Federal PM₁₀ standard were recorded during the monitoring period. During the monitoring period, one violation of the federal PM_{2.5} standard occurred at this monitoring station on February 3, 2009. The State 1-hour ozone standard and the federal 8-hour ozone standard have not been exceeded during the monitoring period at this monitoring station. Both State and federal NO₂ standards were not exceeded in this area during the monitoring period.

TABLE 4.3-2: AMBIENT AIR QUALITY MONITORING DATA 9925 INTERNATIONAL BOULEVARD, OAKLAND

Pollutant	Standard	Days Standard Exceeded		
		2007*	2008	2009**
Ozone	State 1-Hour	0	0	0
Ozone	Federal 8-Hour	0	0	0
Ozone	State 8-Hour	0	0	0
PM ₁₀	Federal 24-Hour	0	0	0
PM ₁₀	State 24-Hour	0	0	0
PM _{2.5}	Federal 24-Hour	0	0	3
Nitrogen Dioxide	State 1-Hour	0	0	0

Notes:

*Monitoring began at this station on November 1, 2007.

**Monitoring data through 9/30/09 only.

PM₁₀ and PM_{2.5} are measured every sixth day, so the number of days exceeding the standard is estimated.

Source: Telephone Conversation with Kent Chrysler, BAAQMD on 11/24/09, CARB Air Quality Data Statistics at

<http://www.arb.ca.gov/adam/index.html>.

AIR QUALITY ISSUES

Six key air quality issues – local CO hotspots, vehicle emissions, fugitive dust, odors, construction equipment exhaust and toxic air contaminants – are described below.

Vehicle Emissions

Long-term air emission impacts are those associated with changes in automobile travel within the City. Mobile source emissions would result from vehicle trips associated with increased vehicular travel. As is

true throughout much of the U.S., motor vehicle use is projected to increase substantially in the region. The BAAQMD, local jurisdictions, and other parties responsible for protecting public health and welfare will continue to seek ways of minimizing the air quality impacts of growth and development in order to avoid further exceedance of the standards.

Construction Equipment Exhaust

Construction activities cause combustion emissions from utility engines, heavy-duty construction vehicles, equipment hauling materials to and from construction sites, and motor vehicles transporting construction crews. Exhaust emissions from construction activities vary daily as construction activity levels change. The use of construction equipment results in localized exhaust emissions.

Local Carbon Monoxide Hotspots

Local air quality is most affected by CO emissions from motor vehicles. CO is typically the pollutant of greatest concern because it is created in abundance by motor vehicles and it does not readily disperse into the air. Because CO does not readily disperse, areas of vehicle congestion can create “pockets” of high CO concentrations called “hot spots.” These pockets have the potential to exceed the State 1-hour standard of 20.0 ppm and/or the 8-hour standards of 9.0 ppm.

While CO transport is limited, it disperses with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near congested roadways or intersections may reach unhealthful levels that adversely affect local sensitive receptors (e.g., residents, schoolchildren, the elderly, hospital patients, etc.). Typically, high CO concentrations are associated with roadways or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentrations, modeling is recommended to determine a project’s effect on local CO levels.

Fugitive Dust

Fugitive dust emissions are generally associated with demolition, land clearing, exposure of soils to the air, and cut and fill operations. Dust generated during construction varies substantially on a project-by-project basis, depending on the level of activity, the specific operations, and weather conditions.

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. While sources that generate objectionable odors must comply with air quality regulations, the public’s sensitivity to locally produced odors often exceeds regulatory thresholds.

Toxic Air Contaminants

In 1998, the ARB identified diesel engine particulate matter as a toxic air contaminant (TAC). Facilities that may have substantial diesel exhaust emissions include truck stops; warehouse/distribution centers; large commercial or industrial facilities; high volume transit centers; schools with high volume of bus traffic; high volume highways or high volume arterial/roadways with high levels of diesel traffic.

Determining how hazardous a substance is depends on many factors, including the amount of the substance in the air, how it enters the body, how long the exposure lasts, and what organs in the body are affected. One major way these substances enter the body is through inhalation of either gases or

particulates. While many gases are harmful, very small particles penetrate deep into the lungs, contributing to a range of health problems. Exhaust from diesel engines is a major source of these airborne particles. California's Office of Environmental Health Hazard Assessment (OEHHA) has determined that long-term exposure to diesel exhaust particulates poses the highest cancer risk of any TAC it has evaluated. Fortunately, improvements to diesel fuel and diesel engines have already reduced emissions of some of the contaminants, which, when fully implemented, will result in a 75 percent reduction in particle emissions from diesel-powered trucks and other equipment by 2010 (compared to 2000 levels) and an 85 percent reduction by 2020. Similarly, improvements have been made to significantly reduce TAC emissions from gasoline-powered vehicles. These improvements are anticipated to continue into the foreseeable future.

The BAAQMD's Community Air Risk Evaluation (CARE) Program examined TAC emissions from stationary sources, area sources, and on-road and off-road mobile sources. This program included developing a TAC emissions inventory and conducting computer modeling to identify areas in the San Francisco Bay Area Air Basin (SFBAAB) that are cumulatively impacted from sources of TACs. Demographic data was then used to identify communities of individuals that are disproportionately impacted from high concentrations of TACs. According to the findings of Phase 1 of the CARE Program, diesel PM accounts for about 80 percent of the inhalation cancer risk from TACs in the SFBAAB. The highest diesel PM emissions occur in the urban core areas of Concord, eastern San Francisco, western Alameda County, Redwood City/East Palo Alto, Richmond/San Pablo, and San Jose (BAAQMD 2006).

Using Caltrans annual traffic data and the Air Resources Board HARP model, vehicle exhaust was modeled at volume sources located along the I-880 freeway. These extended approximately $\frac{3}{4}$ mile from the edge of the Project site in both directions. The modeling (see **Appendix F**) enabled the development of a map showing carcinogenic risk levels associated with long-term exposure to exhaust generated by vehicles traveling on I-880 (see **Figure 4.3-1**).

As indicated in this figure, contours representing carcinogenic risk level of between 1 to 20 in a million are present in the Project site vicinity, with the higher risk levels of 20 in a million localized on the I-880 freeway, risk levels of 10 in a million near the northerly edge of the freeway, and gradually dispersing with increased distance from the freeway. The Project site is shown to be in a location that is exposed to a risk level of less than 10 in a million.

SENSITIVE RECEPTORS

For purposes of air quality and public health and safety, sensitive receptors are generally defined as land uses with population concentrations that would be particularly susceptible to disturbance from dust and air pollutant concentrations, or other disruptions associated with project construction and/or operation. The reasons for greater than average sensitivity include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals and convalescent homes are considered to be relatively sensitive to poor air quality because children, the elderly and the infirm are more susceptible to respiratory disease and other air quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because people usually stay home for extended periods of time, with associated greater exposure to ambient air quality. Recreational uses are also considered sensitive due to the greater exposure to ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system.

In the immediate vicinity of the Project site there are numerous sensitive receptors including surrounding single family and multi-family housing, the adjacent Harrison Square (Chinese Garden) Park, and Madison Park and Lincoln Park (both within about a 4-block radius).



LSA



0 105 210
FEET

MAP SOURCE: Windows Local Live

I:\RY0801\G\Health Risk.cdr (6/13/08)

LEGEND

- Carcinogenic Risk Level - 1 in 1 Million
- Carcinogenic Risk Level - 2 in 1 Million
- Carcinogenic Risk Level - 5 in 1 Million
- Carcinogenic Risk Level - 10 in 1 Million
- Carcinogenic Risk Level - 20 in 1 Million

- Modeling Receptors
- Emission Locations
- Project Site

FIGURE 1

325 Seventh Street

Residential Health Risk Analysis Results

Figure 4.3-1
Residential Health Risk - Carcinogenic
Risk Levels



Source: LSA Associates

REGULATORY SETTING

The Federal Clean Air Act (FCAA) governs air quality in the United States. In addition to being subject to federal requirements, air quality in California is also governed by more stringent regulation under the California Clean Air Act (CCAA). At the federal level, the United States Environmental Protection Agency (EPA) administers the FCAA. The CCAA is administered by the California Air Resources Board (CARB) at the State level, and by the Air Quality Management Districts at the regional and local levels. The BAAQMD regulates air quality at the regional level.

Air quality standards, the regulatory framework, and State and Federal attainment status are discussed below.

AIR QUALITY STANDARDS

Both State and federal governments have established health-based Ambient Air Quality Standards (AAQS) for six air pollutants: carbon monoxide (CO); ozone (O₃), nitrogen dioxide (NO₂), sulfur dioxide (SO₂), lead (Pb) and suspended particulate matter (PM). In addition, the State has set standards for sulfates, hydrogen sulfide, vinyl chloride and visibility-reducing particles. These standards are designed to protect public health and welfare with a reasonable margin of safety.

In addition to primary and secondary AAQS, the State of California has established a set of episode criteria for O₃, CO, NO₂, SO₂ and PM. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that actually threaten public health. Health effects are progressively more severe as pollutant levels increase.

California AAQS and National AAQS for the criteria pollutants are listed in **Table 4.3-3**. Health effects of these criteria pollutants are described in **Table 4.3-4**.

TABLE 4.3-3: FEDERAL AND STATE AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standard	National Standard
Ozone	1 Hour	0.09 ppm	---
	8 Hour	0.070 ppm	0.075 ppm
Carbon Monoxide	1 Hour	20 ppm	35 ppm
	8 Hour	9.0 ppm	9 ppm
Nitrogen Dioxide	1 Hour	0.18 ppm	---
	Annual	0.03 ppm	0.053 ppm
Sulfur Dioxide	24 Hour	0.04 ppm	0.14 ppm
	Annual	---	0.030 ppm
Particulates	24 Hour	50 ug/m3	150 ug/m3
< 10 microns	Annual	20 ug/m3	---
Particulates	24 Hour	---	35 ug/m3
< 2.5 microns	Annual	12 ug/m3	15 ug/m3

Concentrations: ppm = parts per million ug/m3 = micrograms per cubic meter
Source: Bay Area Air Quality Management District, Bay Area Pollution Summary – 2008.

TABLE 4.3-4: HEALTH EFFECTS OF AIR POLLUTANTS

Pollutant	Health Effects	Examples of Sources
Suspended Particulate Matter (PM 2.5 and PM 10)	<ul style="list-style-type: none"> • Reduced lung function • Aggravation of the effects of gaseous pollutants • Aggravation of respiratory and cardio respiratory diseases • Increased cough and chest discomfort • Soiling • Reduced visibility 	<ul style="list-style-type: none"> • Stationary combustion of solid fuels • Construction activities • Industrial processes • Atmospheric chemical reactions
Ozone (O ₃)	<ul style="list-style-type: none"> • Breathing difficulties • Lung damage 	Formed by chemical reactions of air pollutants in the presence of sunlight; common sources are motor vehicles, industries, and consumer products
Carbon Monoxide (CO)	<ul style="list-style-type: none"> • Chest pain in heart patients • Headaches, nausea • Reduced mental alertness • Death at very high levels 	Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Lead (Pb)	<ul style="list-style-type: none"> • Organ damage • Neurological and reproductive disorders 	<ul style="list-style-type: none"> • Metals processing • Fuel combustion
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> • High blood pressure • Lung damage 	<ul style="list-style-type: none"> • Waste disposal • See carbon monoxide sources
Toxic Air Contaminants	<ul style="list-style-type: none"> • Cancer • Chronic eye, lung, or skin irritation • Neurological and reproductive disorders 	<ul style="list-style-type: none"> • Cars and trucks, especially diesels • Industrial sources such as chrome platers • Neighborhood businesses such as dry cleaners and service stations • Building materials and products

Source: ARB and EPA, 2005

FEDERAL REGULATORY SETTING

Federal Clean Air Act

The 1970 FCAA authorized the establishment of national health-based air quality standards and also set deadlines for their attainment. The FCAA Amendments of 1990 (FCAAA) changed deadlines for attaining national standards, as well as remedial actions required of areas of the nation that exceed the standards. Under the FCAAA, State and local agencies in areas that exceed the national standards are required to develop State Implementation Plans (SIPs) to demonstrate how they will achieve the national standards for O₃ by specified dates. The FCAAA requires that projects receiving federal funds demonstrate conformity to the approved SIP and local air quality attainment plan for the region. Conformity with the SIP requirements also satisfies the FCAAA requirements.

United States Environmental Protection Agency

At the Federal level, EPA has been charged with implementing national air quality programs. EPA's air quality mandates are drawn primarily from the FCAA, as amended in 1970, 1977 and 1990.

The FCAA required EPA to establish primary and secondary national AAQS. The FCAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The FCAAA added requirements for states with non-attainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA has responsibility to review all state SIPs to determine conformation to the mandates of the FCAAA and determine if implementation will achieve air quality goals. If the EPA determines a SIP to be inadequate, a Federal Implementation Plan (FIP) may be prepared for the non-attainment area that imposes additional control measures. Failure to submit an appropriate SIP or to implement the plan within the mandated timeframe may result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

STATE REGULATORY SETTING

California Clean Air Act

In 1988, the CCAA required that all air districts in the State endeavor to achieve and maintain California AAQS for CO, O₃, SO₂ and NO₂ by the earliest practical date. The CCAA provides districts with new authority to regulate indirect sources and mandates that air quality districts focus particular attention on reducing emissions from transportation and area-wide emission sources. Each district plan is to achieve a 5 percent annual reduction, averaged over consecutive three-year periods, in district-wide emissions of each non-attainment pollutant or its precursors. Additional physical or economic development within the region would tend to impede the emissions reduction goals of the CCAA. Generally, the State standards for these pollutants are more stringent than the national standards.

California Air Resources Board

The Air Resources Board (ARB) is the agency responsible for coordination and oversight of State and local air pollution control programs in California, and for implementing the CCAA. The CCAA requires that all air districts in California endeavor to achieve and maintain California AAQS by the earliest practical date. The act specifies that districts should focus particular attention on reducing the emissions from transportation and area-wide emission sources, and provides districts with the authority to regulate indirect sources.

ARB is primarily responsible for developing and implementing air pollution control plans to achieve and maintain the National AAQS. The ARB has primary responsibility for statewide pollution sources and produces a major part of the SIP. Local air districts are still relied upon to provide additional strategies for sources under their jurisdiction. The ARB combines this data and submits the completed SIP to EPA.

Other ARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control and air quality management districts), establishing California AAQS (which in many cases are more stringent than the national AAQS), determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, and off-road vehicles.

Air Quality and Land Use Handbook

The ARB has developed an Air Quality and Land Use Handbook, which is intended to serve as a general reference guide for evaluating and reducing air pollution impacts associated with new projects that go through the land use decision-making process.⁴ The ARB handbook recommends that planning agencies strongly consider proximity to these sources when finding new locations for “sensitive” land uses such as homes, medical facilities, daycare centers, schools and playgrounds.

Air pollution sources of concern include freeways, rail yards, ports, refineries, distribution centers, chrome plating facilities, dry cleaners and large gasoline service stations. Key recommendations in the Handbook include taking steps to avoid siting new, sensitive land uses (including residences, day care centers, playgrounds or medical facilities):

- Within 500 feet of a freeway, urban roads with 100,000 vehicles/day or rural roads with 50,000 vehicles/day.
- Within 1,000 feet of a major service and maintenance rail yard.
- Immediately downwind of ports (in the most heavily impacted zones) and petroleum refineries.
- Within 300 feet of any dry cleaning operation (for operations with two or more machines, provide 500 feet).
- Within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater).

The Handbook specifically states that its recommendations are advisory, and acknowledges land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.

Bay Area Air Quality Management District

BAAQMD is the primary agency responsible for assuring that the National and California Ambient Air Quality Standards (NAAQS and CAAQS, respectively) are attained and maintained in the Bay Area. BAAQMD’s jurisdiction includes all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo and Santa Clara counties, and the southern portions of Solano and Sonoma counties. The Air District’s responsibilities in improving air quality in the region include: preparing plans for attaining and maintaining air quality standards; adopting and enforcing rules and regulations; issuing permits for stationary sources of air pollutants; inspecting stationary sources and responding to citizen complaints; monitoring air quality and meteorological conditions; awarding grants to reduce mobile emissions; implementing public outreach campaigns; and assisting local governments in addressing climate change.

The BAAQMD attains and maintains air quality conditions in the San Francisco Bay Area Air Basin (SFBAAB) through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of the BAAQMD includes the preparation of plans for the attainment of AAQS, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The

⁴ California Air Resources Board, 2005, *Air Quality and Land Use Handbook: A Community Health Perspective*, April.

BAAQMD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the FCAA, FCAAA, and the CCAA.

Ozone Attainment Plan

The BAAQMD prepared the 2009 *Ozone Attainment Plan* to address non-attainment of the National 1-hour ozone standard in the SFBAAB. The purpose of the 2009 OAP is to:

- Update the Bay Area 2005 Ozone Strategy in accordance with the requirements of the CCAA to implement “all feasible measures” to reduce ozone;
- Consider the impacts of ozone control measures on particulate matter (PM), air toxics, and greenhouse gases in a single, integrated plan;
- Review progress on improving air quality in recent years;
- Establish emission control measures to be adopted or implemented in the 2009-2012 timeframe.
- Similarly, the BAAQMD prepared the 2009 Clean Air Plan to address non-attainment of the California AAQS.

CEQA Guidelines and Thresholds of Significance

On September 4, 2009, the Bay Area Air Quality Management District (BAAQMD) published a new set of proposed Draft CEQA Guidelines for consideration by lead agencies. In addition to proposing thresholds of significance for GHG emissions, these Draft Guidelines also proposed new mechanisms for evaluating risk and hazard thresholds for the siting of stationary sources and of sensitive receptors. Also, the Draft Guidelines lowered the threshold of significance for annual emissions of Reactive Organic Gases (ROG), Nitrogen Oxides (NO_x) and particulate matter exhaust (PM₁₀) and set a standard for smaller particulates (PM_{2.5}) and fugitive dust.

- In October 2009 the BAAQMD followed-up with preparation of a *Revised Draft CEQA Thresholds Options and Justification Report* which included additional analysis to support new threshold development and an assessment of various threshold options.
- In November of 2009, the BAAQMD published their *Proposed Thresholds of Significance* and their *Final Draft CEQA Guidelines*.
- In December of 2009 the BAAQMD published their *Draft BAAQMD CEQA Guidelines and Proposed Thresholds of Significance*. The Air District held a public hearing on January 6, 2010 to consider adoption of the *December Draft CEQA Thresholds of Significance*. At the hearing, the Board of Directors decided to continue the hearing until spring of 2010 to provide more time for staff to meet with local governments, further develop analysis tools, and conduct trainings on applying the CEQA Guidelines.
- On May 3, 2010 the BAAQMD issued a *Proposed Thresholds of Significance Report* for final review and comment.

- On June 2, 2010 the BAAQMD Board of Directors adopted *Thresholds of Significance For Use In Determining the Significance of Projects' Environmental Effects Under the California Environmental Quality Act (Thresholds of Significance)*.

It is now the policy of the Bay Area Air Quality Management District that projects that do not comply with the June 2010 CEQA *Thresholds of Significance* will normally be determined to have a significant effect on the environment for purposes of CEQA, and projects that comply with the CEQA *Thresholds of Significance* normally will be determined to have a less-than-significant effect on the environment for purposes of CEQA.

The 2010 *CEQA Guidelines* are intended to be viewed as minimum considerations for analyzing air quality impacts. Lead agencies are encouraged to tailor air quality impact analyses to meet the needs of the local community and may conduct refined analyses that utilize more sophisticated models, more precise input data, innovative mitigation measures, and/or other features. The Guidelines contain:

- screening criteria to determine projects may have potentially significant impacts requiring detailed analysis, and
- assessment methods and mitigation measures for operational-related, local community risk and hazards, local carbon monoxide (CO), odors, construction-related, and plan-level impacts.

CITY OF OAKLAND

Relevant policies and conditions from the City's General Plan and Standard Conditions of Approval are described below:

General Plan

Open Space Conservation and Recreation Element. The Open Space Conservation and Recreation (OSCAR) Element of the City of Oakland's General Plan includes the following policies related to air quality:

Policy CO-12.1: Promote land use patterns and densities which help improve regional air quality conditions. The City supports efforts of the responsible public agencies to reduce air pollution.

Policy CO-12.4: Require that development projects be designed in a manner which reduces potential adverse air quality impacts.

Policy CO-12.6: Control of Dust Emissions. Require construction, demolition, and grading practices which minimize dust emissions. These practices are currently required by the City and include the following:

- Avoiding earth moving and other major dust generating activities on windy days.
- Sprinkling unpaved construction areas with water during excavation, using reclaimed water where feasible. (Watering can reduce construction-related dust by 50 percent.)
- Covering stockpiled sand, soil, and other particulates with a tarp to avoid blowing dust.

- Covering trucks hauling dirt and debris to reduce spills. If spills do occur, they should be swept up promptly before materials become airborne.
- Preparing a comprehensive dust control program for major construction in populated areas or adjacent to sensitive uses like hospitals and schools.
- Operating construction and earth-moving equipment, including trucks, to minimize exhaust emissions.

City of Oakland's Standard Conditions of Approval

The City's Standard Conditions of Approval relevant to air quality are listed below for reference. These Conditions of Approval were cited in the December 2007 Initial Study, and will be adopted as requirements of the proposed Project if the Project is approved by the City to help reduce and/or avoid potentially significant impacts on air quality occur. As a result, they are not listed as mitigation measures.

SCA Air-1: Construction-Related Air Pollution Controls (Dust and Equipment Emissions). *Ongoing throughout demolition, grading, and/or construction.* During construction, the project applicant shall require the construction contractor to implement all of the following applicable measures recommended by the Bay Area Air Quality Management District (BAAQMD):

- a. Water all exposed surfaces of active construction areas at least twice daily (using reclaimed water if possible). Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible.
- b. Cover all trucks hauling soil, sand, and other loose materials or require all trucks to maintain at least two feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer).
- c. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- d. Pave all roadways, driveways, sidewalks, etc. as soon as feasible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used.
- e. Enclose, cover, water twice daily or apply (non-toxic) soil stabilizers to exposed stockpiles (dirt, sand, etc.).
- f. Limit vehicle speeds on unpaved roads to 15 miles per hour.
- g. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to five minutes (as required by the California airborne toxics control measure Title 13, Section 2485, of the California Code of Regulations. Clear signage to this effect shall be provided for construction workers at all access points.
- h. All construction equipment shall be maintained and properly tuned in accordance with the manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- i. Post a publicly visible sign that includes the contractor's name and telephone number to contact regarding dust complaints. When contacted, the contractor shall respond and take corrective

- action within 48 hours. The telephone numbers of contacts at the City and BAAQMD shall also be visible. This information may be posted on other required on-site signage.
- j. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
 - k. All excavation, grading, and demolition activities shall be suspended when average wind speeds exceed 20 mph.
 - l. Install sandbags or other erosion control measures to prevent silt runoff to public roadways.
 - m. Hydroseed or apply (non-toxic) soil stabilizers to inactive construction areas (previously graded areas inactive for one month or more).
 - n. Designate a person or persons to monitor the dust control program and to order increased watering, as necessary, to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress.
 - o. Install appropriate wind breaks (e.g., trees, fences) on the windward side(s) of actively disturbed areas of the construction site to minimize wind blown dust. Wind breaks must have a maximum 50 percent air porosity.
 - p. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
 - q. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
 - r. All trucks and equipment, including tires, shall be washed off prior to leaving the site.
 - s. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6 to 12 inch compacted layer of wood chips, mulch, or gravel.
 - t. Minimize the idling time of diesel-powered construction equipment to two minutes.
 - u. The project applicant shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NO_x reduction and 45 percent particulate matter (PM) reduction compared to the most recent California Air Resources Board (CARB) fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as they become available.
 - v. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., BAAQMD Regulation 8, Rule 3: Architectural Coatings).
 - w. All construction equipment, diesel trucks, and generators shall be equipped with Best Available Control Technology for emission reductions of NO_x and PM.
 - x. Off-road heavy diesel engines shall meet the CARB's most recent certification standard.

SCA Air-2: Exposure to Air Pollution (Toxic Air Contaminants: Particulate Matter). *Prior to issuance of a demolition, grading, or building permit.*

Indoor Air Quality: In accordance with the recommendations of the California Air Resources Board (CARB) and the Bay Area Air Quality Management District, appropriate measures shall be incorporated into the project design in order to reduce the potential health risk due to exposure to diesel particulate matter to achieve an acceptable interior air quality level for sensitive receptors. The appropriate measures shall include **one** of the following methods:

- a. The project applicant shall retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with the CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to air pollutants prior to issuance of a demolition, grading, or building permit. The HRA shall be submitted to the Planning and Zoning Division for review and approval. The applicant shall implement the approved HRA recommendations, if any. If the HRA concludes that the air quality risks from nearby sources are at or below acceptable levels, then additional measures are not required.
- b. The applicant shall implement all of the following features that have been found to reduce the air quality risk to sensitive receptors and shall be included in the project construction plans. These features shall be submitted to the Planning and Zoning Division and the Building Services Division for review and approval prior to the issuance of a demolition, grading, or building permit and shall be maintained on an ongoing basis during operation of the project.
 - i. Redesign the site layout to locate sensitive receptors as far as possible from any freeways, major roadways, or other sources of air pollution (e.g., loading docks, parking lots).
 - ii. Do not locate sensitive receptors near distribution center's entry and exit points.
 - iii. Incorporate tiered plantings of trees (redwood, deodar cedar, live oak, and/or oleander) to the maximum extent feasible between the sources of pollution and the sensitive receptors.
 - iv. Install, operate and maintain in good working order a central heating and ventilation (HV) system or other air take system in the building, or in each individual residential unit, that meets or exceeds an efficiency standard of MERV 13. The HV system shall include the following features: Installation of a high efficiency filter and/or carbon filter to filter particulates and other chemical matter from entering the building. Either HEPA filters or ASHRAE 85% supply filters shall be used.
 - v. Retain a qualified HV consultant or HERS rater during the design phase of the project to locate the HV system based on exposure modeling from the pollutant sources.
 - vi. Install indoor air quality monitoring units in buildings.
- c. Project applicant shall maintain, repair and/or replace HV system on an ongoing and as needed basis or shall prepare an operation and maintenance manual for the HV system and the filter. The manual shall include the operating instructions and the maintenance and replacement schedule. This manual shall be included in the CC&Rs for residential projects and distributed to the building maintenance staff. In addition, the applicant shall prepare a separate homeowners manual. The manual shall contain the operating instructions and the maintenance and replacement schedule for the HV system and the filters.

Exterior Air Quality: To the maximum extent practicable, individual and common exterior open space, including playgrounds, patios, and decks, shall either be shielded from the source of air pollution by buildings or otherwise buffered to further reduce air pollution for project occupants.

SCA Air-3: Exposure to Air Pollution (Toxic Air Contaminants: Gaseous Emissions). *Prior to issuance of a demolition, grading, or building permit.*

Indoor Air Quality: In accordance with the recommendations of the California Air Resources Board (CARB) and the Bay Area Air Quality Management District, appropriate measures shall be incorporated into the project design in order to reduce the potential risk due to exposure to toxic air contaminants to achieve an acceptable interior air quality level for sensitive receptors. The project applicant shall retain a qualified air quality consultant to prepare a health risk assessment (HRA) in accordance with the CARB and the Office of Environmental Health and Hazard Assessment requirements to determine the exposure of project residents/occupants/users to air pollutants prior to issuance of a demolition, grading, or building permit. The HRA shall be submitted to the Planning and Zoning Division for review and approval. The applicant shall implement the approved HRA recommendations, if any. If the HRA concludes that the air quality risks from nearby sources are at or below acceptable levels, then additional measures are not required.

Exterior Air Quality: To the maximum extent practicable, individual and common exterior open space, including playgrounds, patios, and decks, shall either be shielded from the source of air pollution by buildings or otherwise buffered to further reduce air pollution for project occupants.

SCA Air-4: Asbestos Removal in Structures. *Prior to issuance of a demolition permit.* If asbestos-containing materials (ACM) are found to be present in building materials to be removed, demolition and disposal, the project applicant shall submit specifications signed by a certified asbestos consultant for the removal, encapsulation, or enclosure of the identified ACM in accordance with all applicable laws and regulations, including but not necessarily limited to: California Code of Regulations, Title 8; Business and Professions Code; Division 3; California Health & Safety Code 25915-25919.7; and Bay Area Air Quality Management District, Regulation 11, Rule 2, as may be amended.

IMPACTS AND MITIGATION MEASURES

This section discusses potential impacts to air quality that could result from implementation of the Project. The section begins with the significance criteria that establish the thresholds used to determine whether an impact is significant. The latter part of this section presents the impacts associated with the Project and identifies mitigation measures, as appropriate.

CRITERIA OF SIGNIFICANCE

The December 2007 Initial Study concluded that the Project would have no significant environmental impacts with respect to: a) conflicts with or obstruct of implementation of the applicable air quality plan; b) frequently creating substantial objectionable odors affecting a substantial number of people; c) resulting in a substantial increase in diesel emissions; and d) conflicts with the local General Plan when the General Plan is consistent with the Regional Air Quality Plan. These conclusions remain valid and are not further studied in this EIR.

In June 2010 the BAAQMD adopted *CEQA Thresholds of Significance* for determining the significance of air quality impacts. Because these new thresholds were only recently adopted, well after the December 2007 Initial Study, this EIR includes a comparative review against both the prior 1999 thresholds and the newly adopted *Thresholds*. These thresholds are identified below:

Implementation of the project would have a significant impact on air quality of it would:

Project-Level Impacts

1. During project construction result in average daily emissions of 54 pounds per day of ROG, NO_x, or PM_{2.5} or 82 pounds per day of PM₁₀;
2. During project operation result in average daily emissions of 54 pounds per day of ROG, NO_x, or PM_{2.5} or 82 pounds per day of PM₁₀; or result in maximum annual emissions of 10 tons per year of ROG, NO_x, or PM_{2.5} or 15 tons per year of PM₁₀;
3. Contribute to carbon monoxide (CO) concentrations exceeding the California Ambient Air Quality Standards (CAAQS) of nine parts per million (ppm) averaged over eight hours and 20 ppm for one hour;⁵
4. During either project operation or project construction expose persons by siting a new source or a new receptor to substantial levels of Toxic Air Contaminants (TACs) resulting in (a) a cancer risk level greater than 10 in one million, (b) a non-cancer risk (chronic or acute) hazard index greater than 1.0, or (c) an increase of greater than 0.3 micrograms per cubic meter of annual average PM_{2.5}⁶ or;
5. Frequently and for a substantial duration, create or expose sensitive receptors to substantial objectionable odors affecting a substantial number of people.⁷

Cumulative Impacts

A cumulative impact would occur if conditions would:

6. Result in any individually significant impact.
7. During either project operation or project construction expose persons by siting a new source or a new receptor to substantial levels of TACs resulting in (a) a cancer risk level greater than 100 in a million, (b) a non-cancer risk (chronic or acute) hazard index greater than 10.0, or (c) an increase of greater than 0.8 micrograms per cubic meter of annual average PM_{2.5}.

⁵ Pursuant to BAAQMD Guidelines, localized CO concentrations should be estimated for projects in which (1) project-generated traffic would conflict with an applicable congestion management program established by the county congestion management agency or (2) project-generated traffic would increase traffic volumes at affected intersections to more than 44,000 vehicles per hour (or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited, such as tunnels, parking garages, bridge underpasses, natural or urban street canyons, and below-grade roadways).

⁶ Pursuant to BAAQMD Guidelines, when siting new TAC sources consider receptors located within 1,000 feet, and when siting new receptors consider TAC sources located within 1,000 feet including, but not limited to, stationary sources, freeways, major roadways (10,000 or greater vehicles per day), truck distribution centers, ports, and rail lines. The cumulative analysis should consider the combined risk from all existing and reasonably foreseeable future sources. For this threshold receptors include residential uses, schools, parks, daycare centers, nursing homes, and medical centers.

⁷ For this threshold sensitive receptors include residential uses, schools, daycare centers, nursing homes, and medical centers.

LESS-THAN-SIGNIFICANT IMPACTS

A discussion of less-than-significant impacts of the proposed project is presented below.

Construction Period Fugitive Dust Emissions

Impact Air-1: During construction, the proposed Project would generate fugitive dust from demolition, grading, hauling and construction activities. The fugitive dust emissions associated with these construction activities would be effectively reduced to a level of less than significant based on implementation of required City of Oakland Standard Conditions of Approval. (**LTS, with Standard Conditions of Approval**)

Project-related construction activities including demolition, site preparation, earthmoving and general construction activities would generate short-term emissions of fugitive dust. Construction-related fugitive dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the weather. In the absence of mitigation, construction activities may result in significant quantities of dust, and as a result, local visibility and PM_{10} and $PM_{2.5}$ concentrations may be adversely affected on a temporary and intermittent basis during the construction period. In addition, the fugitive dust generated by construction would include larger particles that would fall out of the atmosphere within several hundred feet of the site and could result in nuisance-type impacts.

Initial Study Conclusions

The December 2007 Initial Study relied on the then applicable 1999 BAAQMD CEQA Guidelines, which indicated that BAAQMD's approach to analyses of fugitive dust emissions from construction was to emphasize implementation of effective and comprehensive dust control measures rather than detailed quantification of emissions. The District considered any project's construction-related impacts to be less than significant if the required dust control measures were implemented. Without these measures, the impact is generally considered to be significant, particularly if sensitive land uses are located in the project vicinity. In the case of the Project, residential land uses are located adjacent to the Project site.

The Initial Study identified that the proposed Project would be subject to the BAAQMD-recommended Best Management Practices (BMPs) through implementation of the City's Standard Conditions of Approval **SCA Air-1**, and concluded that these Standard Conditions of Approval would reduce the impact of construction-period fugitive dust to a less than significant level.

June 2010 Thresholds of Significance Comparison

The June 2010 BAAQMD *CEQA Thresholds of Significance* continue to consider implementation of effective and comprehensive dust control measures (Best Management Practices) as the threshold of significance for fugitive dust emissions (both PM_{10} and $PM_{2.5}$). Therefore, in order to be protective of the health of nearby residences, as well as to reduce dust emissions that could affect regional air quality the Project is required to implement BAAQMD recommended construction period dust control measures and to implement the City's Standard Conditions of Approval as well as the requirements found under the City Municipal Code Section 15.36.100; Dust Control Measures. These measures include both "Basic" and "Enhanced" measures for the Project since the Project meets several of the criteria for Enhanced measures. The City's Standard Conditions of Approval **SCA Air-1** is consistent with both the "Basic" and "Enhanced" measures. Furthermore, to reduce the potential for asbestos-laden dust emissions, the Project is required to implement **SCA Air-4** which requires certified asbestos removal, encapsulation, or enclosure of any identified asbestos containing materials in accordance with all applicable laws and

regulations, including but not necessarily limited to those of the California Code of Regulations, the California Health & Safety Code and the Bay Area Air Quality Management District's regulations and rules. Implementation of these measures would reduce the impact of construction-period fugitive dust to a less than significant level.

Construction Period Criteria Air Pollutants and Precursor Emissions

Impact Air-2: During construction, the proposed Project would generate regional ozone precursor emissions and regional particulate matter emissions from construction equipment exhaust. However, Project-related construction emissions are not expected to generate emissions of criteria air pollutants that would exceed the June 2010 BAAQMD *CEQA Thresholds of Significance*. (LTS)

Project-related construction activities including demolition, site preparation, earthmoving and general construction activities would generate short-term emissions of criteria pollutants, including suspended and inhalable particulate matter and equipment exhaust emissions. Emissions generated from these activities include dust particles that are 10 microns or less in diameter (PM₁₀) and particles that are less than 2.5 microns in diameter (PM_{2.5}), combustion emissions of criteria pollutants from operation of construction equipment and from worker vehicles (ROG, NO_x, CO, SO_x and PM₁₀), and evaporative emissions (ROG) from asphalt paving and architectural coating applications.

Initial Study Conclusions

The December 2007 Initial Study relied on the then applicable 1999 BAAQMD CEQA Guidelines which indicated that the assessment of construction-related criteria pollutants was qualitative in nature (i.e., emissions quantification was not required). These Guidelines recognized that construction equipment emits criteria pollutants and ozone precursors, but indicated that such emissions (other than fugitive PM₁₀) were included in the emission inventory that was the basis for the regional Air Quality Plan. Therefore, construction emissions of ROG and NO_x were not expected to impede attainment or maintenance of ozone standards in the Bay Area. The impact of construction-period equipment exhaust emissions was, therefore, considered to be less than significant based on the rationale that they were already included in regional inventories used as the basis of the AQP.

The Initial Study identified that the proposed Project would be subject to the City's Standard Conditions of Approval SCA Air-1 and Traf-2, and concluded that these Standard Conditions of Approval would further reduce the impact of construction-period criteria pollutant emissions.

June 2010 Thresholds of Significance Comparison

The June 2010 BAAQMD *CEQA Thresholds of Significance* now consider construction emissions, even though temporary, to result in a significant cumulative impact if daily maximum emissions of construction-related criteria air pollutants or precursors would exceed 54 pounds per day of ROG, NO_x and PM_{2.5}, or 82 pounds per day of PM₁₀ (with the PM values including both dust and construction exhaust emissions for this analysis).

The 2010 *Guidelines* also include preliminary screening criteria which provide lead agencies with a conservative indication of whether a proposed project would result in the generation of construction-related criteria air pollutants and/or precursors that exceed these new thresholds. The Project exceeds these screening criteria under the following:

- The Project, at 380 residential units, exceeds the applicable screening level size (which is 252 units for high rise condominium and townhouse unit projects).
- The Project's construction-related activities would include demolition and potentially the simultaneous occurrence of more than two construction phases (e.g., paving, architectural coating and building construction).

Given that these screening criteria cannot be met, quantification of construction-period emissions has been conducted. The Urban Land Use Emissions Model (URBEMIS) has been used to quantify construction-related criteria air pollutants and precursors. Input and assumptions used in the URBEMIS model run for the Project's construction period effects include the following:

- *Construction Schedule:* Site demolition is expected to last approximately 1 month. Excavation and site grading is expected to last approximately 5 months (excavation and rough grading - 4 months, and fine grading - 1 month). Building construction is assumed to be completed over the following 3 year period, with construction of the podium in months 6 through 12. Construction of Building 1 (the 27-story north tower) would take approximately 18 months, occurring in months 12 through 30, and construction of Building 2 (the 20-story south tower) would take approximately 12 months, occurring in months 30 through 42.⁸
- *Demolition Volume:* 442,450 cubic feet assumed to be demolished and removed at a rate of approximately 20,125 cubic feet per day.
- *Debris Hauling:* URBEMIS defaults were used assuming a truck hauling capacity of 20 cubic yards, a round trip hauling distance of 30 miles, and 9 haul trips per day, resulting in a total of approximately 280 vehicle miles per day for debris hauling.
- *Excavation:* Excavation volume is estimated at 781,000 cubic feet or 28,925 cubic yards
- *Construction/Coating/Paving:* URBEMIS defaults were automatically extrapolated from the above input. No further adjustments were made.

The URBEMIS output sheets are included in **Appendix G**.

Based on this input data, the daily increase in criteria pollutant emissions associated with project-related construction activity is identified in **Table 4.3-5** for reactive organic gases (ROG) and nitrogen oxides (NO_x) (two precursors of ozone) and particulate matter (PM₁₀ and PM_{2.5}). Project-related emissions shown in Table 4.3-9 would not exceed the 2010 *Thresholds of Significance* for ROG, NO_x, PM₁₀ or PM_{2.5}.

⁸ URBEMIS indicates the earliest start date yields the most conservative results. Therefore, this analysis has assumed a start date of May 2011 and final construction to end 3 ½ years later in October 2014.

TABLE 4.3-5: PROJECT CONSTRUCTION EMISSION ESTIMATES, PEAK DAY (IN POUNDS PER DAY)

	Reactive Organic Gases	Nitrogen Oxides	PM ₁₀	PM _{2.5}
2011 Daily Regional Emissions (Winter)	3.4	31.8	5.7	2.3
2012 Daily Regional Emissions (Winter)	16.9	12.2	0.7	0.5
2013 Daily Regional Emissions (Winter)	16.8	11.0	0.7	0.5
2014 Daily Regional Emissions (Winter)	18.2	19.6	1.4	1.2
BAAQMD 2010 Threshold	54.0	54.0	82.0	54.0
Exceed?	No	No	No	No
Source: Lamphier-Gregory, 2010				

Standard Conditions of Approval

For all proposed projects, BAAQMD recommends implementation of all Basic Construction Mitigation Measures, whether or not construction-related emissions exceed applicable thresholds of significance. The proposed Project would be subject to these Basic Construction Mitigation Measures through implementation of the City's Standard Conditions of Approval **SCA Air-1**. Implementation of these Standard Conditions of Approval and SCA Traf-2 would even further reduce the less than significant impact of construction-related regional air quality emissions.

Operational Related Criteria Air Pollutants

Impact Air-3: Once complete and occupied, the proposed Project would generate emissions of criteria pollutants (ROG, NO_x and PM₁₀) primarily as a result of increased motor vehicle traffic as well as area source emissions. However, Project-related traffic emissions, combined with anticipated area source emissions is not expected to generate emissions of criteria air pollutants that would exceed the June 2010 BAAQMD *CEQA Thresholds of Significance*. (**LTS**)

Initial Study Conclusions

The CEQA Guideline thresholds applicable at the time of the December 2007 Initial Study recommended that a proposed project estimated to generate operational criteria air pollutant or ozone precursor emissions in excess of a daily threshold of 80 pounds per day, or an annual threshold of 15 tons per year of ROG, NO_x or PM₁₀ would be considered to have a significant air quality impact. These thresholds of significance generally corresponded to a "screening threshold" for an unmitigated project size approximately equivalent to a 510 unit apartment project.

Based on the number of residential units proposed under the Project (380) and the minimal area of non-residential space, these screening thresholds suggested that the proposed Project would be unlikely to generate operational emissions of criteria pollutants that would exceed significance thresholds. However, because the Project was estimated to generate more than 2,000 vehicle trips per day, a manual modeling procedure was conducted to assess the emissions associated with Project-related traffic. That manual modeling procedure concluded that the Project would generate emissions of criteria pollutants well below the then applicable daily threshold of 80 pounds per day or the annual threshold of 15 tons per year of ROG, NO_x or PM₁₀. The Initial Study concluded that the proposed Project would thus have a less than significant impact resulting from the emission of criteria pollutants.

June 2010 Thresholds of Significance Comparison

The June 2010 BAAQMD *CEQA Thresholds of Significance* now consider operational emission to result in a significant impact if daily maximum operational emissions of criteria air pollutants would exceed 54 pounds per day or 10 tons per year of ROG, NO_x and PM_{2.5}, and 82 pounds per day or 15 tons per year of PM₁₀.

The 2010 *CEQA Guidelines* also include preliminary screening criteria which provide lead agencies with a conservative indication of whether a proposed project would result in the generation of operational-related criteria air pollutants and/or precursors that exceed these new thresholds. The screening criteria developed for criteria pollutants and precursors were derived using the default assumptions used by the Urban Land Use Emissions Model (URBEMIS). If the project meets the screening criteria, it would be unlikely to result in the generation of operational-related criteria air pollutants and/or precursors that exceed the thresholds. For high-rise condominium and townhouse projects, the screening level criterion is a project size of 511 dwelling units. The Project, at 380 units is below the screening level criterion and therefore would be expected to result in a less-than-significant cumulative impact to air quality from criteria air pollutant and precursor emissions.

To further verify this conclusion, the URBEMIS 2007 Version 9.2.4 computer program was used to calculate long-term regional emissions associated with operation of the proposed project. URBEMIS input assumptions and output sheets are included as **Appendix G**. The daily and annual increases in emissions associated with Project operations is identified in **Table 4.3-6** for reactive organic gases (ROG) and nitrogen oxides (NO_x) (two precursors of ozone) and particulate matter (PM₁₀ and PM_{2.5}).

TABLE 4.3-6: PROJECT OPERATIONAL EMISSION ESTIMATES

	Reactive Organic Gases	Nitrogen Oxides	PM ₁₀	PM _{2.5}
Winter Emissions (lbs/day)				
Operations (Vehicle Emissions)	9.9	2.9	0.1	0.1
Area Source Emissions	15.6	14.3	22.7	4.3
Total Regional Emissions	25.6	17.2	22.7	4.3
BAAQMD 2010 Threshold	54.0	54.0	82.0	54.0
Exceed?	No	No	No	No
Annual Emissions (tons/yr)				
Operations (Vehicle Emissions)	2.0	2.0	4.1	0.8
Area Source Emissions	2.9	0.6	0	0
Total Regional Emissions	4.9	2.6	4.1	0.8
BAAQMD 2010 Threshold	10.0	10.0	15.0	10.0
Exceed?	No	No	No	No

Source: Lamphier-Gregory, 2010

Project-related emissions shown in Table 4.3-6 would not exceed the thresholds of significance as included in the June 2010 BAAQMD *CEQA Thresholds of Significance* for ROG, NO_x, PM₁₀ or PM_{2.5}.

Therefore, criteria pollutant emissions during Project operations would have a less than significant effect on regional air quality.

In addition, the Project will be subject to City of Oakland Standard Conditions of Approval, including the requirement for preparation and implementation of a Transportation Demand Management (TDM) Plan pursuant to SCA Traf-1. Effective implementation of the TDM Plan will further reduce vehicle use, thereby even further lowering associated vehicle emissions. Furthermore, Assembly Bill (AB) 1493 resulted in the adoption by CARB (in September 2004) of new “CO₂-equivalent fleet average emission” standards. The standards, which are being phased in from 2009 to 2016, will not only serve to reduce GHG emissions but will also have a positive effect on reducing criteria pollutants from vehicle emission as well.

Carbon Monoxide Concentrations

Impact Air-4: New vehicle trips associated with the proposed Project would add to carbon monoxide concentrations near streets that provide access to the Project site. The carbon monoxide emission levels associated with the Project’s vehicle trips would not exceed June 2010 BAAQMD CEQA Thresholds of Significance. (LTS)

Vehicular traffic associated with the project would emit carbon monoxide (CO) into the air along roadway segments and near intersections. Since CO does not readily disperse, areas of vehicle congestion can create pockets of high CO concentrations called “hot spots.” Typically, high CO concentrations are associated with roadways and intersections operating at deficient levels of service (LOS) or with extremely high traffic volumes.

Emissions and ambient concentrations of carbon monoxide have decreased greatly in recent years. These improvements are due largely to the introduction of cleaner burning motor vehicles and motor vehicle fuels. No exceedance of the State or national CO standard has been recorded at any of the Bay Area’s monitoring stations since 1991. The Bay Area has attained the state and national CO standard.⁹ However, despite this progress, localized CO concentrations still warrant concern in the Bay Area and should be addressed, particularly where localized high concentrations of CO may not be recorded at monitoring sites. Because elevated CO concentrations are generally fairly localized, heavy traffic volumes and congestion can lead to high levels of CO, or “hot spots,” while concentrations at the closest air quality monitoring station may be below state and national standards.

Initial Study Conclusions

The 1999 BAAQMD CEQA Guidelines and thresholds applicable at the time of preparation of the December 2007 Initial Study recommended that CO emissions should be estimated for projects in which:

- vehicle emissions of CO would exceed 550 lb/day;
- project traffic would impact intersections or roadway links operating at Level of Service (LOS) D, E or F or would cause LOS to decline to D, E or F; or

⁹ California Air Resources Board, *2006 Area Designations for State Ambient Air Quality Standards – Carbon Monoxide*, Figure 4 (http://www.arb.ca.gov/desig/adm/2006/state_co.pdf) and *February 2009 Area Designations for National Ambient Air Quality Standards – Carbon Monoxide* (http://www.arb.ca.gov/desig/adm/2008/fed08_co.pdf).

- project traffic would increase traffic volumes on nearby roadways by 10 percent or more.

These Guidelines also stated that a project contributing to CO concentrations exceeding the California Ambient Air Quality Standard (CAAQS) of 9 parts per million (ppm) averaged over 8 hours and 20 ppm for 1 hour would be considered to have a significant impact.

The December 2007 Initial Study concluded that the Project would be expected to generate emissions of approximately 254 pounds per day of CO, well below the screening criterion of 550 pounds per day. However, Project traffic would impact intersections where the level of service would decline to LOS E or F under future conditions. Therefore, manual calculations were conducted using CALINE4 modeling methodology at the nearest significantly congested intersection at Sixth Street/Jackson Street. Those calculations indicated that for year 2010 conditions with the Project at this intersection, CO concentrations during the AM peak hour were calculated at 2.46 ppm for the one-hour averaging time and at 2.36 ppm for the eight-hour averaging time. These calculations indicate that the Project would not result in exceeding the ambient air quality threshold for carbon monoxide of 20 ppm for the one-hour averaging time, or the 9 ppm threshold for the eight-hour averaging time.

The Initial Study concluded that development of the Project as proposed would not result in an increase in carbon monoxide concentrations at congested intersections in the vicinity of the Project site, and the impact would be less than significant.

June 2010 Thresholds of Significance Comparison

The June 2010 BAAQMD *CEQA Thresholds of Significance* maintain the previous threshold whereby a project contributing to CO concentrations exceeding the California Ambient Air Quality Standard (CAAQS) of 9 parts per million (ppm) averaged over 8 hours and 20 ppm for 1 hour would be considered to have a significant impact.

The 2010 *Guidelines* also include preliminary screening criteria which provide lead agencies with a conservative indication of whether a proposed project would result in CO emissions likely to exceed these thresholds. If all of the following screening criteria are met, the proposed Project would result in a less-than-significant impact to localized CO concentrations:

- Is the project consistent with an applicable Congestion Management Program established by the County Congestion Management Agency for designated roads or highways, regional transportation plan, and local congestion management agency plans?

The Project is a mixed use development that does not involve any roadway modifications. It is consistent with the applicable Congestion Management Program established by the County Congestion Management Agency for designated roads or highways, regional transportation plan, and local Congestion Management Agency plans.

- Would the project result in an affected intersection experiencing more than 44,000 vehicles per hour, or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway)?

The Project would not result in an affected intersection experiencing more than 44,000 vehicles per hour, or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited. Although the Posey Tube is a tunnel where dispersion of CO is somewhat constrained, peak hour traffic volumes are well below the 24,000 vehicle-per-hour criteria established in the *Draft Guidelines*, and are projected to remain below that level in 2015 and 2030.

Since the Project would not exceed these screening level criteria, the Project would be expected to result in a less-than-significant impact to air quality from CO concentrations.

To further verify this conclusion, The CALINE-4 Air Pollutant Dispersion Model was used to evaluate CO concentrations at the two most congested intersections in the vicinity of the Project site (8th Street/Webster Street and 7th Street/Harrison Street). **Table 4.3-7** lists the 1-hour and 8-hour CO concentrations for the Existing and Existing plus Project conditions at these two congested intersections. **Table 4.3-8** lists the CO concentrations at the same intersections for the Cumulative Year 2015 Baseline plus Project conditions, and **Table 4.3-9** lists the CO concentrations at the same intersections for the Cumulative Year 2030 Baseline plus Project conditions.

TABLE 4.3-7: CO CONCENTRATIONS FOR EXISTING AND EXISTING PLUS PROJECT CONDITIONS

Intersection	Existing/(Existing Plus Project) 1- hour CO Concentrations (ppm)	Existing/(Existing Plus Project) 8-Hour Co Concentration (ppm)
8 th /Webster AM Peak	3.58/3.60	2.56/2.57
8 th / Webster PM Peak	3.60/3.63	2.57/2.59
7 th /Harrison AM Peak	3.99/4.00	2.80/2.81
7 th /Harrison PM Peak	3.95/3.98	2.78/2.80
BAAQMD 2010 Significance Threshold	20.00	8.00
Exceed?	No	No
Source: Lamphier-Gregory, 2009		

TABLE 4.3-8: CO CONCENTRATIONS FOR CUMULATIVE YEAR 2015 BASELINE PLUS PROJECT

Intersection	Baseline Plus Project 1- hour CO Concentrations (ppm)	Baseline Plus Project 8-Hour Co Concentration (ppm)
8 th /Webster AM Peak	3.72	2.64
8 th / Webster PM Peak	3.65	2.60
7 th /Harrison AM Peak	3.89	2.74
7 th /Harrison PM Peak	4.03	2.82
BAAQMD 2010 Significance Threshold	20.00	8.00
Exceed?	No	No
Source: Lamphier-Gregory, 2009		

TABLE 4.3-9: CO CONCENTRATIONS FOR CUMULATIVE YEAR 2030 BASELINE PLUS PROJECT

Intersection	Baseline Plus Project 1- hour CO Concentrations (ppm)	Baseline Plus project 8-Hour Co Concentration (ppm)
8 th /Webster AM Peak	4.00	2.80
8 th / Webster PM Peak	3.72	2.64
7 th /Harrison AM Peak	4.02	2.81
7 th /Harrison PM Peak	4.13	2.88
BAAQMD 2010 Significance Threshold	20.00	8.00
Exceed?	No	No
Source: Lamphier-Gregory, 2009		

As shown in the tables above, all 1-hour and 8-hour CO concentrations at the studied intersections would be below the federal and State CO standards under all scenarios. Although the Project would be expected to result in slight increases in CO concentrations above what would be expected in the absence of the Project (see Table 4.3-6, which indicates Project-related CO concentration increases of between 0.01 and 0.03 ppm at the intersections evaluated), it would not result in the creation of any CO hot spots. Even though traffic volumes will increase over time, future year CO concentrations are projected to decline due to improvements in vehicle engines and the retirement of older vehicles. The impact would be less than significant.

Exposure of Project Residents to Toxic Air Contaminants

Impact Air-5: The exposure risk to future residents of the Project to substantial pollutant concentrations and toxic air contaminants would not exceed the thresholds of significance under BAAQMD criterion for cancer or acute health risks. It is unlikely that future residents of the Project site would be exposed to a health risk which would be substantially greater than the average in California. This would be a less than significant impact. **(LTS)**

The California Air resources Board (CARB) has developed guidelines to be considered in the siting of new sensitive land uses (including residential uses) to protect vulnerable populations from the adverse health impacts of traffic-related emissions. The guidelines are not regulatory, nor are they binding on local agencies. Specifically, the CARB's advisory recommendation for sensitive land uses proposed near freeways and high-traffic roads is to "[a]void siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles per day." Sensitive uses include residences, day care centers, playgrounds and medical facilities. The proposed Project would place residential uses within approximately 60 feet of the nearest edge of the I-880 freeway. However, the CARB Air Quality Land Use Handbook recognizes that there is no "one size fits all" solution to land use planning, and that in addressing housing and transportation needs, the benefits of urban infill, community economic development priorities and other quality of life issues are also important, and these must be considered and weighed by local decision-makers when siting projects. The Handbook also acknowledges that the relative risk from site to site can vary greatly, and that to determine actual risk near a particular facility, a site-specific analysis (e.g., health risk assessment) is necessary.

Health Risk Assessment Conclusions

According to California Air Resources Board (ARB), when conducting an HRA, the surrogate for whole diesel exhaust is diesel particulate matter, and is used as the basis for the potential risk calculations. When conducting an HRA, the potential cancer risk from inhalation exposure to diesel particulate matter PM will outweigh the potential non-cancer health impacts. Therefore, inhalation cancer risk is required for every HRA. When comparing whole diesel exhaust to speciated diesel exhaust (e.g., polynuclear aromatic hydrocarbons, metals), potential cancer risk from inhalation exposure to whole diesel exhaust will outweigh the multi-pathway cancer risk from the speciated components. For this reason, there will be few situations where an analysis of multi-pathway risk is necessary.

To estimate the potential cancer risk associated with diesel engine exhaust, a dispersion model is used to translate an emission rate from a source location to a concentration at a receptor location of interest. Dispersion modeling varies from the simpler, more conservative screening-level analysis to the more complex and refined detailed analysis. This assessment was conducted using the ARB health risk model, HARP, which includes the EPA dispersion model ISCST3. In addition to examining the risks from diesel exhaust particulate, this assessment includes the exhaust from gasoline-fueled vehicles. This model provides a detailed estimate of concentrations considering site and source geometry, source strength, distance to receptor, building wake effects on plume distribution, and site specific meteorological data.

The Health Risk Assessment (HRA) prepared to evaluate the possible risks of exposure to toxic air contaminants (TACs) at the proposed Project site (see **Appendix F**) found that future residents living at the Project site would be exposed to the following health risk levels:

Carcinogenic Impacts

The results of the HRA indicated that the maximum exposed individual (MEI) inhalation cancer risk associated with living at the proposed Project for 70 years would be an inhalation cancer risk of 7.9 in 1,000,000, which is less than the threshold of 10 in 1,000,000. The inhalation cancer risk for 30 year exposure would be 3.0 in 1,000,000 and child risk levels (a 9-year exposure duration) would be 1.5 in 1,000,000. Therefore, the potential for carcinogenic exposure would be less than significant.

Acute Emission Impacts

The maximum Acute Hazard index would be 0.00004, which is below the threshold of 1.0 for the maximum exposed individual (MEI). Therefore, the potential for short-term acute exposure would be less than significant.

Chronic Impacts

The maximum chronic hazard index would be 0.0049, which is below the threshold of 1.0. Health risks for 30 year exposure would be a chronic inhalation risk of 0.0049. Child risk levels (a 9-year exposure duration) would be a chronic inhalation index of 0.0049. Therefore, the potential for chronic exposure would be less than significant.

While 9- and 30-year exposure durations can be used to represent potential impacts to adults over a range of residency periods, all HRAs must present the results based on 70-year exposure. The 9- and 30-year durations correspond to the central tendency and high-end estimates for residency time. The parameters used for the 9-year exposure scenario are for the first 9-years of life and are thus protective of children. Children, for physiological as well as behavioral reasons, have higher intake rates on a per kilogram body weight basis and thus receive a higher dose from contaminated air than adults. Therefore, the daily point

estimate (e.g. inhalation rate) for the 9-year exposure duration is higher than for the 30-year and 70-year (adult) exposure durations.

The modeling assumptions include individual inhalation of 100 percent outdoor air at that location for 70 years while residing outside the residence 350 days every year for 24-hours each day. The exposure risks shown in Appendix G only include exposure to emissions from freeway traffic near the Project site. Additional sources of toxic emissions located within ½ mile of the Project site were surveyed using the CARB's Community Health Air Pollution Information System (CHAPIS) database, and no additional significant sources of emissions were found to be located in the immediate vicinity of the Project site. The HRA results indicate an exposure risk that would not exceed the BAAQMD criterion for cancer or acute health risks and, therefore, it is unlikely that future residents of the Project site would be exposed to a health risk which would be substantially greater than the average in California.

The HRA was conducted without the consideration of the proposed central ventilation/filtration system. This system, which is included as part of the Project, would have a minimum efficiency reporting value (MERV) of 13, an efficiency consistent with the ASHRAE 52.2 standards.

Because individuals spend most of their time indoors, the addition of such an upgraded HVAC system (as required under **SCA Air-2 and Air-3**) would significantly improve indoor air quality in the dwelling units on the Project site and further reduce the potential for any increased health risk.

Parking Garage Ventilation

Impact Air-6: The proposed Project would not result in increased emissions of criteria pollutants due to poor ventilation in the parking garage. **(LTS)**

The parking garage areas associated with the Project are located at ground level, Level 2 and Level 3. Section 406.4.2 of the California Building code requires that enclosed parking garages have proper ventilation and air circulation. The project would be subject to these regulations, which would ensure that the Project does not result in a significant impact related to ventilation of the parking garage and prevent accumulation of pollutants.

SIGNIFICANT AIR QUALITY IMPACTS

Construction Period Health Risks to Adjacent Sensitive Receptors

Impact Air-7: The exposure risk to nearby sensitive receptors to toxic air contaminants during the construction period would exceed the thresholds of significance under BAAQMD criterion for cancer and PM_{2.5} exposure. This would be a potentially significant impact. **(PS)**

Construction activity that uses traditional diesel-powered equipment such as bulldozers, generators and cranes all contribute to both cancer and non-cancer health risks. Long-term exposure to diesel particulate matter (DPM) poses the highest cancer risk, but even short term exposure (such as during a construction period) at high concentrations can pose a risk for cancer or non-cancer health concerns. Due to the variable nature of construction activity, the generation of TAC emissions would be temporary, especially considering the short amount of time such equipment is typically within an influential distance that would result in the exposure of sensitive receptors to substantial concentrations.

Screening tables published by BAAQMD for evaluation of air toxic risks from construction activities indicate that for a less than 1-acre residential land use construction site (such as the proposed Project), a distance of at least 311 feet (95 meters) from sensitive receptors would be reasonably assured to result in less than significant levels of risk (BAAQMD, May 2010). Sensitive receptors near the Project site include three residences along Harrison Street and four residences along 7th Street east of Harrison Street that are within 311 feet (95 meters) of the Project site. The Chinese Community United Methodist Church (which is also within 311 feet of the site) has a sign indicating that it operates a nursery school at the Annex Building (also a sensitive receptor), but communication with Church personnel indicate that this nursery school is no longer in operation. The City also considers parks to be sensitive receptors. Approximately one-half of the Chinese Garden Park (which is located immediately across Harrison Street from the Project site) is within 311 feet of the construction site. Although the park does include children's play facilities and is frequented by regular morning exercise/tai-chi classes, these users are typically not at the park for a full day. Each of these sensitive receptors is closer than 311 feet (or 95 meters) from the Project site. Therefore, the BAAQMD's screening tables cannot be used to "screen out" the potential that construction-period health risks would not be significant.

Methodology

BAAQMD recommends that the same community risk and hazard thresholds of significance for project operations be applied to construction.¹⁰ However, BAAQMD suggests associated impacts should be addressed on a case-by-case basis, taking into consideration the specific construction related characteristics of each project and proximity to off-site receptors, as applicable.

The methods used in the following analysis of health risks associated with DPM from Project-related construction activities are consistent with CEQA Guidelines and BAAQMD health risk guidance, which includes by reference *Air Toxics Hot Spots Program Risk Assessment Guidelines* published by the Office of Environmental Health Hazard Assessment (OEHHA 2003). The health risk assessment includes three primary calculations, each of which are based on conservative (i.e., worst case) assumptions; 1) an estimate of construction-period DPM emission; 2) a calculation of DPM concentrations at the maximum exposed individual; and 3) an estimate of excess cancer risk and chronic health risks.

DPM Emissions

Consistent with BAAQMD recommended methodology, PM₁₀ from exhaust has been used as a surrogate for DPM. The total DPM emissions resulting from Project construction activity has been calculated using the Urban Land Use Emissions Model (URBEMIS). Input and assumptions used in the URBEMIS model for the Project's construction period effects have been calculated based on the following construction-period assumptions:

- The assumed construction schedule is as proposed by the Project applicant (i.e., site demolition to last approximately 1 month, site excavation and grading to last for approximately the following 5 months, construction of the building podium to last for the following 6 months, construction of the first tower to last the following 18 months, and construction of the second tower to last the following 12 months. Architectural coatings would occur simultaneously with construction, and final paving would occur within the final month of construction. This results in a total construction period of 3.5 years.
- Assumptions regarding the types of diesel equipment to be used during the construction period are based on URBEMIS defaults, with the exception that only 1 dozer is assumed during site grading due

¹⁰ The risk and hazards thresholds for new receptors are not officially effective until January 1, 2011

to the relatively small (less than 1 acre) site, and no tractor/backhoe is assumed to be used during construction of the towers (crane and forklifts only),

- Emission rates from all off-road diesel engines are assumed to comply with City of Oakland Standard Conditions of Approval which require that the off-road equipment (more than 50 horsepower) achieve a project wide fleet-average 20% NO_x reduction and a 45% particulate matter (PM) reduction compared to the most recent California Air Resources Board (CARB) fleet average.

The estimated average annual emissions generated by this equipment (assuming daily operating load factors and construction periods) are approximately 0.06 metric tons of DPM per year, averaged across the construction period.

Airborne DPM Concentrations

The SCREEN3 air dispersion model was used to calculate the anticipated maximum 1-hour concentration of DPM at off-site sensitive receptor locations. This model conservatively assumes the worst case meteorology for assessing emission concentrations over time, and provides estimated concentrations at varying distances. The result of the SCREEN3 model for a 1-hour concentration was then scaled to derive an annual average ground-level concentration for the maximum exposed individual (MEI) calculated to occur at a distance of 64 meters (209 feet) from the site. This concentration was calculated to be 0.377 ug/m³ of DPM.

Airborne Fine Particulate Matter

BAAQMD also recommends characterizing potential health effects from exposure to fine particulate matter, represented by PM_{2.5} emissions. A large body of scientific evidence indicates that both long-term and short-term exposure to PM_{2.5} can cause a wide range of health effects such as aggravating asthma and bronchitis, causing visits to the hospital for respiratory and cardio-vascular symptoms, and contributing to heart attacks and deaths.

The SCREEN3 air dispersion model was again used to calculate the anticipated maximum 1-hour concentration of PM_{2.5} at off-site sensitive receptor locations, as described for DPM above. The result of the SCREEN3 model was then scaled to derive an annual average ground-level concentration for the maximum exposed individual, also calculated to occur at 64 meters (209 feet) from the construction site. This concentration was calculated to be 0.323 ug/m³ annual average PM_{2.5} concentration during the construction period.

Health Risk to Adjacent Residences

Consistent with BAAQMD's recommended methodology, OHHEA's inhalation cancer risk and inhalation chronic hazard equations were used to calculate the potential risks to sensitive receptors due to these construction-period concentrations of toxic air contaminants (DPM). The Health Risk Assessment (HRA) found that the maximum exposed individual could be exposed to the following health risk levels:

- Carcinogenic Impacts: The results of the HRA indicated that the maximum exposed adult inhalation cancer risk over a 70 year averaging time would be an inhalation cancer risk of 8.25 in 1 million (0.0008%), which is less than the threshold of 10 in 1 million. However, current models and methodologies for conducting health risk assessment considers long-term exposure periods, which do not necessarily correlate well with the temporary and highly variable nature of construction activities, nor do they account for the increased susceptibility of infants and children to carcinogens, as compared to adults. OEHHa age sensitivity factors (ASF) are used to add age-specific weighting

factors in calculating cancer risks from exposures of infants, children and adolescents to reflect their special sensitivity to carcinogens. OEHHA recommends weighting cancer risk by a factor of 10 for exposures that occur from the third trimester of pregnancy to two years of age, by a factor of 3 for exposures that occur from two years through fifteen years of age, and by a factor of 1 for exposures that occur from fifteen through the full 70-year exposure.¹¹ Applying these age sensitivity factors results in an averaged age sensitive inhalation cancer risk of 13.97 in 1 million (0.0014%). This risk level exceeds the threshold of 10 in a million and therefore the potential for increased cancer risk would be significant.

- Chronic Impacts: The results of the HRA indicate that the maximum chronic hazard index would be a chronic non-cancer inhalation index of 0.075, which is less than the threshold of an index of 1. Therefore, the potential for chronic exposure would be less than significant.
- Fine Particulate Matter Exposure: The results of the HRA indicate that the maximum exposed individual could be exposed to annual average PM_{2.5} concentrations of up approximately 0.323 ug/m³ during the construction period, which is greater than the threshold of 0.3 ug/m³. Although this would be a temporary impact, it would be significant.

Health Risk to Nearby Park Users

It is reasonable to assume that a sensitive receptor in a park (i.e., a park user) would have a substantially reduced exposure frequency than those residential receptors living immediately adjacent to the Project site. This would likely be true for both the number of days of exposure per year (given seasonal use of the park), as well as the number of hours of exposure in a given day (given that the duration of park use is relatively short-term and would be substantially less than the duration of time one spends in a residence). Although the park does include children's play facilities and is frequented by regular morning exercise/tai-chi classes, these users are typically not at the park for a full day. Therefore, construction-related DPM exposure hazard risks and PM_{2.5} concentration risks for users of the nearby Chinese Garden Park are considered to be substantially lower than the risks for residential receptors. Given that the exposure risk for sensitive receptors (assuming 250 days of exposure a year for 8 hours a day) only marginally exceeds the thresholds for increased cancer risk and PM_{2.5} exposure, the substantially reduced exposure to park users can be expected to be substantially lower, i.e., less than significant.

Mitigation Measures

The analysis above assumes that the Project would be subject to the City's Standard Condition of Approval AIR-1. This condition of approval requires that during the construction period, the following measures will be applied to reduce DPM emissions, including PM_{2.5}:

- idling time of diesel-powered construction equipment will be limited to two minutes,
- off-road equipment of more than 50 horsepower used in the construction project will achieve a fleet-average 20% NO_x reduction and 45% particulate matter (PM) reduction as compared to the most recent California Air Resources Board (CARB) fleet average,
- all construction equipment, diesel trucks, and generators will be equipped with Best Available Control Technology for emission reductions of NO_x and PM, and

¹¹ BAAQMD, Recommended Methods for Screening and Modeling Local Risks and Hazards, May 2010, pg. 60

- off-road heavy diesel engines will meet the CARB's most recent certification standard.

These requirements are calculated to reduce DPM emissions (PM_{10} exhaust and $PM_{2.5}$ exhaust) associated with the Project by approximately 25% to 30% as compared to construction-period emissions without these measures. Although these measures are required of the Project, they are not sufficient to reduce increased cancer risk and $PM_{2.5}$ exposure to levels of less than significant. Therefore, the following additional mitigation measure is recommended:

Mitigation Measure Air-7: The Project applicant shall develop a Diesel Emission Reduction Plan including, but not limited to alternatively fueled equipment, engine retrofit technology, after-treatment products and add-on devices such as particulate filters, and/or other options as they become available, capable of achieving a project wide fleet-average of 85 percent particulate matter (PM) reduction compared to the most recent California Air Resources Board (CARB) fleet average. This fleet-wide average reduction is consistent with the 1st Tier (highest possible) reduction measures specified in the URBEMIS model's output calculations. This Plan shall be submitted for review and approval by the City, and the Project applicant shall implement the approved Plan.

Resulting Level of Significance

Input and assumptions used in the URBEMIS model for the Project's construction period were adjusted to account for implementation of Tier 1 mitigation strategies (i.e., an 85% reduction in diesel particulate matter emissions) and re-run through the SCREEN3 and HRA methodologies. The results are as follows:

- **Carcinogenic Impacts:** The maximum exposed adult inhalation cancer risk over a 70 year averaging time would be reduced from an inhalation cancer risk of 8.25 in 1 million to 5.5 in 1 million (0.0005%), lower than the threshold of 10 in 1 million. The averaged age sensitive inhalation cancer risk would be reduced from 13.97 in 1 million to 9.31 in 1 million (0.0009%) – lower than the threshold of 10 in a million, and therefore reduced to a level of less than significant.
- **Chronic Impacts:** The maximum chronic hazard index would be reduced from an inhalation index of 0.075 to 0.05, which is less than the threshold of an index of 1 and therefore less than significant.
- **Fine Particulate Matter Exposure:** The maximum exposed individual would be exposed to annual average $PM_{2.5}$ concentrations reduced from 0.322 ug/m^3 down to 0.197 ug/m^3 , which is less than the threshold of 0.3 ug/m^3 and therefore less than significant.

There is nothing particular or unusual about the proposed Project that would cause it to generate uncharacteristically high DPM and $PM_{2.5}$ emissions during construction. Virtually any large project with a multi-year construction schedule, located within an urban infill site proximate to nearby sensitive receptors, would likely result in similar conclusions. These results serve to underscore the potential community health risks associated with exposure to toxic air contaminants, even during relatively short duration construction projects.

CUMULATIVE IMPACTS

Cumulative Air Quality Impacts

Impact Air-8: The Project's individual emissions would contribute to existing cumulatively significant adverse air quality impacts. In developing thresholds of significance for air pollutants,

BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. For the Project, the inhalation cancer risk to nearby sensitive receptors due to construction-period concentrations of toxic air contaminants (DPM) and concentrations of PM_{2.5} has been found to be significant, and would thus contribute to a cumulatively significant adverse air quality impact. **(PS)**

For purposes of this cumulative analysis, the geographic context considered for cumulative air quality impacts is the regional air basin, which contributes to regional emissions of criteria pollutants, and basin-wide projections. Further, the context includes projects in the ACCMA travel demand model as described in Chapter 4.2: Traffic and Circulation. In addition, the cumulative scenario is comprised of all past, present, existing, pending and reasonably foreseeable future development in the area surrounding the project site as contained in the City's cumulative growth scenario and land use database¹².

Criteria Pollutants

The June 2010 BAAQMD *CEQA Guidelines* indicates the following regarding cumulative air pollution effects:

"The SFBAAB is currently designated as a non-attainment area for state and national ozone standards and national particulate matter ambient air quality standards. SFBAAB's non-attainment status is attributed to the region's development history. Past, present and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, result in non-attainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's contribution to the cumulative impact is considerable, then the project's impact on air quality would be considered significant.

In developing thresholds of significance for air pollutants, BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. If a project exceeds the identified significance thresholds, its emissions would be cumulatively considerable, resulting in significant adverse air quality impacts to the region's existing air quality conditions. Therefore, additional analysis to assess cumulative impacts is unnecessary. The analysis to assess project-level air quality impacts should be as comprehensive and rigorous as possible."

According to these Guidelines and City of Oakland significance criteria, any proposed project that would individually have a significant air quality impact would also be considered to have a significant cumulative air quality impact. Since the Project would not result in significant carbon monoxide impacts, and the potential air quality impacts of the Project would be reduced to levels of less than significant through implementation of City Standard Conditions of Approval SCA Air-1 for criteria pollutants, SCA Air-2 and -3 for exposure of new residents to toxic air contaminants and SCA Traf-1 for reductions in

12 City of Oakland, Cumulative Development Project file as of April 2009

single-occupancy vehicle trips with implementation of a TDM plan, the Project's contribution of, or exposure to these types of emissions would not be cumulatively considerable.

Toxic Air Contaminants

CARB and BAAQMD have conducted a health risk assessment (HRA) to understand the emissions pattern and the potential public health risk from exposures to DPM from sources related to Port of Oakland operations, the Union Pacific (UP) rail yard and other significant land-based sources of DPM.¹³ That HRA found that much of downtown Oakland, including the Project site, is exposed to elevated DPM levels from these sources such that the estimated additional cancer risk for residents is about 500 per million.

The proposed Project would contribute additional DPM and PM_{2.5} emissions during its construction period such that existing sensitive receptors could be exposed to an increased cancer risk exceeding 10 in a million, and an increase of greater than 0.3 ug/m³ of annual average exposure to PM_{2.5}. These individual construction-period Project emission levels would be cumulatively considerable, but mitigated to a level of less than cumulatively considerable (i.e., below threshold levels) through effective implementation of Mitigation Measure Air-7.

¹³ CARB, *Diesel Particulate Matter Health Risk Assessment for the West Oakland Community*, December, 2008

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GREENHOUSE GAS EMISSIONS

The December 2007 Initial Study included an assessment of potential air quality impacts of the Project based on scientific information and regulatory requirements current at that time (see also Chapter 4.3 of this EIR). However, in December of 2007 neither the state nor the BAAQMD had established significance thresholds for greenhouse gas (GHG) emissions, and thus GHG was not addressed in that analysis.

Following review of the Notice of Preparation and the Initial Study, the BAAQMD indicated that although the District had not, at that time, established significance thresholds for greenhouse gas (GHG) emissions, analytical methodologies and tools did exist to quantify GHG emissions associated with the Project. BAAQMD recommended that the EIR quantify emissions from the Project, and that the Project sponsors minimize the Project's contribution to climate change by implementing all feasible mitigation measures to reduce GHG emissions. BAAQMD further recommended that the City refer to the California Air Pollution Control Officers Association's resource guide to addressing GHG emissions subject to CEQA, *CEQA and Climate Change*.

Since then, there has been a significant advancement in scientific understanding of the relationship between certain air emissions and trend-line changes in climatic conditions that have national and even global ramifications. New information about greenhouse gas (GHG) emissions and their potential effects on global climate change, as well as new public environmental policy has emerged and become more formalized. Guidance has been issued by the state regarding requirements for environmental review under CEQA for proposed projects related to GHG emissions and global climate change, and the Bay Area Air Quality Management District (BAAQMD) has recently adopted *CEQA Thresholds of Significance* and issued new *CEQA Guidelines* which include thresholds of significance for levels of GHG emissions attributable to projects and plans.¹

In light of the more recent legislative action on this topic, the BAAQMD's recently adopted *Thresholds of Significance*. In recognition that climate change as an environmental issue now warranting review under CEQA, this EIR provides a thorough assessment of this Project's contribution to greenhouse gas and its effects on climate change. The analysis contained in this EIR relies upon the recommendations and suggested methodologies for lead agencies as contained in the BAAQMD 2010 CEQA Guidelines and the adopted June 2010 BAAQMD *Thresholds of Significance*.

SETTING

PHYSICAL SETTING FOR GHG EMISSIONS AND CLIMATE CHANGE

There is a general scientific consensus that global climate change is occurring, caused in whole or in part, by increased emissions of greenhouse gases (GHGs) that keep the Earth's surface warm by trapping heat in the Earth's atmosphere,² in much the same way as glass traps heat in a greenhouse. While many studies

¹ BAAQMD, *California Environmental Quality Act Guidelines Update and Thresholds of Significance*, June 2, 2010

² U.S. Environmental Protection Agency (US EPA), *Global Warming – Climate: Uncertainties* (web page), January

show evidence of warming over the last century and predict future global warming, the precise causes of such warming and its potential effects are far less certain.³ While the greenhouse effect is responsible for maintaining a habitable climate on Earth, human activity has caused increased concentrations of these gases in the atmosphere, contributing to an increase in global temperatures and alteration of climatic conditions.

The U.S. EPA has recently concluded that scientists have a good understanding of the following relationships and data supporting them:

- “Human activities are changing the composition of Earth’s atmosphere. Increasing levels of greenhouse gases like carbon dioxide (CO₂) in the atmosphere since pre-industrial times are well-documented and understood.
- The atmospheric buildup of CO₂ and other greenhouse gases is largely the result of human activities such as the burning of fossil fuels.
- A warming trend of approximately 0.7° to 1.5° F occurred during the 20th century. Warming occurred in both the northern and southern hemispheres, and over the oceans.
- The major greenhouse gases emitted by human activities remain in the atmosphere for periods ranging from decades to centuries. It is therefore virtually certain that atmospheric concentrations of greenhouse gases will continue to rise over the next few decades. Increasing greenhouse gas concentrations tend to warm the planet.”⁴

At the same time, there is much uncertainty concerning the magnitude and rate of the warming. Specifically, the US EPA notes that “important scientific questions remain about how much warming will occur; how fast it will occur; and how the warming will affect the rest of the climate system, including precipitation patterns and storms. Answering these questions will require advances in scientific knowledge in a number of areas:

- Improving understanding of natural climatic variations, changes in the sun’s energy, land-use changes, the warming or cooling effects of pollutant aerosols, and the impacts of changing humidity and cloud cover.
- Determining the relative contribution to climate change of human activities and natural causes.
- Projecting future greenhouse emissions and how the climate system will respond within a narrow range.
- Improving understanding of the potential for rapid or abrupt climate change.”⁵

Greenhouse Gases (GHGs)

Carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O) are the principal GHGs, and when concentrations of these gases exceed the natural concentrations in the atmosphere, the greenhouse effect may be enhanced. CO₂, CH₄, and N₂O occur naturally, but are also generated through human activity.

2000, <http://yosemite.epa.gov/oar/globalwarming.nsf/content/ClimateUncertainties.html#likely>, accessed July 24, 2007.

³ “Global climate change” is a broad term used to describe any worldwide, long-term change in the earth’s climate. “Global warming” is more specific and refers to a general increase in temperatures across the earth, although it can cause other climatic changes, such as a shift in the frequency and intensity of weather events and even cooler temperatures in certain areas, even though the world, on average, is warmer.

⁴ US EPA, 2000, op. cit.

⁵ Ibid.

Emissions of CO₂ are largely by-products of fossil fuel combustion, whereas CH₄ results from off-gassing associated with agricultural practices and landfills. Other human-generated GHGs, which have much higher heat-absorption potential than CO₂, include fluorinated gases, such as hydrofluorocarbons (HFCs), perfluorocarbons (PFC), and sulfur hexafluoride (SF₆), which are byproducts of certain industrial processes.⁶

Potential Effects of Human Activity on GHG Emissions

Fossil fuel combustion, especially for the generation of electricity and powering of motor vehicles, has led to substantial increases in CO₂ emissions (and thus substantial increases in atmospheric concentrations). In 1994, atmospheric CO₂ concentrations were found to have increased by nearly 30 percent above pre-industrial (c.1860) concentrations.

The effect each GHG has on climate change is measured as a combination of the volume of its emissions, and its global warming potential (GWP),⁷ and is expressed as a function of how much warming would be caused by the same mass of CO₂. Thus, GHG emissions are typically measured in terms of pounds or tons of CO₂ equivalents (CO₂e).

Global Emissions

Worldwide emissions of GHGs in 2004 were 30 billion tons of CO₂e per year⁸ (including both ongoing emissions from industrial and agricultural sources, but excluding emissions from land-use changes).

U.S. Emissions

In 2004, the United States emitted about 8 billion tons of CO₂e or about 25 tons/year/person. Of the four major sectors nationwide - residential, commercial, industrial and transportation - transportation accounts for the highest fraction of GHG emissions (approximately 35 to 40 percent); these emissions are entirely generated from direct fossil fuel combustion.⁹

State of California Emissions

In 2004, California emitted approximately 550 million tons of CO₂e, or about 6 percent of the U.S. emissions. This large number is due primarily to the sheer size of California compared to other states. By contrast, California has one of the fourth lowest per capita GHG emission rates in the country, due to the success of its energy-efficiency and renewable energy programs and commitments that have lowered the State's GHG emissions rate of growth by more than half of what it would have been otherwise.¹⁰ Another factor that has reduced California's fuel use and GHG emissions is its mild climate compared to that of many other states.

⁶ CalEPA, 2006b. *Final 2006 Climate Action Team Report to the Governor and Legislature*. Sacramento, CA. April 3.

⁷ The potential of a gas or aerosol to trap heat in the atmosphere.

⁸ United Nations Framework Convention on Climate Change (UNFCCC), *Sum of Annex I and Non-Annex I Countries Without Counting Land-Use, Land-Use Change and Forestry (LULUCF)*. *Predefined Queries: GHG total without LULUCF* (Annex I Parties). Bonn, Germany, http://unfccc.int/ghg_emissions_data/predefined_queries/items/3814.php, accessed May 2, 2007.

⁹ US EPA, 2000, op. cit.

¹⁰ California Energy Commission (CEC), *Inventory of California Greenhouse Gas Emissions and Sinks: 1990 to 2004 - Final Staff Report*, publication # CEC-600-2006-013-SF, Sacramento, CA, December 22, 2006; and January 23, 2007 update to that report.

The California EPA Climate Action Team stated in its March 2006 report that the composition of gross climate change pollutant emissions in California in 2002 (expressed in terms of CO₂ equivalence) were as follows:

- Carbon dioxide (CO₂) accounted for 83.3 percent;
- Methane (CH₄) accounted for 6.4 percent;
- Nitrous oxide (N₂O) accounted for 6.8 percent; and
- Fluorinated gases (HFCs, PFC, and SF₆) accounted for 3.5 percent.¹¹

The California Energy Commission found that transportation is the source of approximately 41 percent of the State's GHG emissions, followed by electricity generation (both in-state and out-of-state) at 23 percent, and industrial sources at 20 percent. Agriculture and forestry is the source of approximately 8.3 percent, as is the source categorized as "other," which includes residential and commercial activities.¹²

Bay Area Emissions

In the Bay Area, fossil fuel consumption in the transportation sector (on-road motor vehicles, off-highway mobile sources, and aircraft) is the single largest source of the Bay Area's GHG emissions, accounting for just over half of the Bay Area's 85 million tons of GHG emissions in 2002. Industrial and commercial sources were the second largest contributors of GHG emissions with about 25 percent of total emissions. Domestic sources (e.g., home water heaters, furnaces, etc.) account for about 11 percent of the Bay Area's GHG emissions, followed by power plants at 7 percent. Oil refining currently accounts for approximately 6 percent of the total Bay Area GHG emissions.¹³

Oakland Emissions

The City of Oakland, in partnership with the Local Governments for Sustainability (ICLEI), has developed a greenhouse gas emissions inventory estimating citywide GHG emissions for the year 2005 at approximately 3 million metric tons of CO₂e.¹⁴ This citywide GHG emissions inventory reflects all the energy used and waste produced within the Oakland city limits. When emissions from highway transportation are considered in this total, approximately 58% of Oakland's GHG emissions are associated with the transportation sector. Natural gas consumption represents approximately 22% of Oakland's GHG emissions, while electricity use and decomposition represent 16% and 4% of Oakland's GHG emissions, respectively.

¹¹ Cal EPA, 2006b, op. cit.

¹² California Energy Commission (CEC), 2007, op. cit.

¹³ BAAQMD, 2006. *Source Inventory of Bay Area Greenhouse Gas Emissions*, November

¹⁴ City of Oakland Resolution Approving Preliminary Planning Targets for Development of the Draft Oakland Energy and Climate Action Plan. June 23, 2009

TABLE 4.5-1: OAKLAND ESTIMATED COMMUNITY-WIDE GHG EMISSIONS, 2005

GHG Emission Source	Metric Tons of Carbon Dioxide Equivalent (CO ₂ e)	Percent of Total
Non-Highway Transportation	759,883	22%
Highway Transportation	1,006,911	29%
Mobile Sources (Port of Oakland)	211,910	6%
Commercial/Industrial Electricity	320,212	9%
Commercial/Industrial Natural Gas	285,365	8%
Residential Electricity	150,105	4%
Residential Natural Gas	346,339	10%
Other Stationary Sources	226,900	7%
Landfill Methane from Solid Waste	126,361	4%
Total	3,433,986	100%

Source: City of Oakland, Garrett Fitzgerald, Sustainability Coordinator.
Note: Individual percentages do not sum to total due to rounding.

Construction and Development Emissions

The construction and operation of developments, such as the proposed Project, cause GHG emissions. Operational phase GHG emissions result from energy use associated with heating, lighting and powering buildings (typically through natural gas and electricity consumption in Oakland), pumping and processing water, as well as fuel used for transportation and decomposition of waste associated with building occupants. New development can also create GHG emissions in its construction and demolition phases including the use of fuels in construction equipment, creation and decomposition of building materials, vegetation clearing, natural gas usage, electrical usage (since electricity generation by conventional means is a major contributor GHG emissions, discussed below), and transportation.

However, it is important to acknowledge that new development does not necessarily create entirely new GHG emissions, since most of the persons who will visit or occupy new development will come from other locations where they were already causing such GHG emissions. Further, as discussed above, it has not been demonstrated that new GHG emissions caused by a local development project can affect global climate change, or that a project's net increase in GHG emissions, if any, when coupled with other activities in the region, would be cumulatively considerable.

Potential Effects of Human Activity on Global Climate Change

Globally, climate change has the potential to impact numerous environmental resources through anticipated, though uncertain, impacts related to future air temperatures and precipitation patterns. Scientific modeling predicts that continued GHG at or above current rates would induce more extreme climate changes during the 21st century than were observed during the 20th century. A warming of about 0.2°C (0.36°F) per decade is projected, and there are identifiable signs that global warming is taking place, including substantial loss of ice in the Arctic.¹⁵

However, the understanding of GHG emissions, particulate matter, and aerosols on global climate trends remains uncertain. In addition to uncertainties about the extent to which human activity rather than solar

¹⁵ International Panel on Climate Change (IPCC) Special Report on Emissions Scenarios, 2000, www.grida.no/climate/ipcc/emission/002.htm, accessed July 24, 2007.

or volcanic activity is responsible for increasing warming, there is also evidence that some human activity has cooling, rather than warming, effects, as discussed in detail in numerous publications by the International Panel on Climate Change (IPCC), namely “Climate Change 2001, The Scientific Basis”(2001).¹⁶

Acknowledging uncertainties regarding the rate at which anthropogenic greenhouse gas emissions would continue to increase (based upon various factors under human control, such as future population growth and the locations of that growth; the amount, type, and locations of economic development; the amount, type, and locations of technological advancement; adoption of alternative energy sources; legislative and public initiatives to curb emissions; and public awareness and acceptance of methods for reducing emissions), and the impact of such emissions on climate change, the IPCC devised a set of six “emission scenarios” which utilize various assumptions about the rates of economic development, population growth, and technological advancement over the course of the next century.¹⁷ These emission scenarios are paired with various climate sensitivity models to attempt to account for the range of uncertainties which affect climate change projections. The wide range of temperature, precipitation, and similar projections yielded by these scenarios and models reveal the magnitude of uncertainty presently limiting climate scientists’ ability to project long-range climate change (as previously discussed).

The projected effects of global warming on weather and climate are likely to vary regionally, but are expected to include the following direct effects, according to the IPCC¹⁸:

- Snow cover is projected to contract, with permafrost areas sustaining thawing;
- Sea ice is projected to shrink in both the Arctic and Antarctic;
- Hot extremes, heat waves, and heavy precipitation events are likely to increase in frequency;
- Future tropical cyclones (typhoons and hurricanes) will likely become more intense;
- Non-tropical storm tracks are projected to move poleward, with consequent changes in wind, precipitation, and temperature patterns. Increases in the amount of precipitation are very likely in high-latitudes, while decreases are likely in most subtropical regions; and
- Warming is expected to be greatest over land and at most high northern latitudes, and least over the Southern Ocean and parts of the North Atlantic Ocean.

Potential secondary effects from global warming include global rise in sea level, impacts to agriculture, changes in disease vectors, and changes in habitat and biodiversity.

Potential Effects of Climate Change on State of California

According to the California Air Resources Board (CARB), some of the potential impacts in California of global warming may include loss in snow pack, sea level rise, more extreme heat days per year, more high ozone days, more large forest fires, and more drought years.¹⁹ Several recent studies have attempted to explore the possible negative consequences that climate change, left unchecked, could have in California. These reports acknowledge that climate scientists’ understanding of the complex global

¹⁶ The IPCC was established in 1988 by the World Meteorological Organization and the United Nations Environment Programme to assess scientific, technical and socio-economic information relevant for the understanding of climate change, its potential impacts and options for adaptation and mitigation.

¹⁷ IPCC, 2000, op. cit.

¹⁸ Ibid.

¹⁹ California Air Resources Board (CARB), 2006c. Public Workshop to Discuss Establishing the 1990 Emissions Level and the California 2020 Limit and Developing Regulations to Require Reporting of Greenhouse Gas Emissions, Sacramento, CA. December 1.

climate system, and the interplay of the various internal and external factors that affect climate change, remains too limited to yield scientifically valid conclusions on such a localized scale. Substantial work has been done at the international and national level to evaluate climatic impacts, but far less information is available on regional and local impacts. In addition, projecting regional impacts of climate change and variability relies on large-scale scenarios of changing climate parameters, using information that is typically at too general a scale to make accurate regional assessments.²⁰

Below is a summary of some of the potential effects reported in an array of studies that could be experienced in California as a result of global warming and climate change:

- Air Quality – Higher temperatures, conducive to air pollution formation, could worsen air quality in California. Climate change may increase the concentration of ground-level ozone, but the magnitude of the effect, and therefore its indirect effects, are uncertain. For other pollutants, the effects of climate change and/or weather are less well studied, and even less well understood.²¹ If higher temperatures are accompanied by drier conditions, the potential for large wildfires could increase, which, in turn, would further worsen air quality. However, if higher temperatures are accompanied by wetter, rather than drier conditions, the rains would tend to temporarily clear the air of particulate pollution and reduce the incidence of large wildfires, thus ameliorating the pollution associated with wildfires. Additionally, severe heat accompanied by drier conditions and poor air quality could increase the number of heat-related deaths, illnesses, and asthma attacks throughout the State.²²
- Water Supply – Uncertainty remains with respect to the overall impact of global climate change on future water supplies in California. For example, models that predict drier conditions (i.e., parallel climate model (PCM)) suggest decreased reservoir inflows and storage and decreased river flows, relative to current conditions. By comparison, models that predict wetter conditions (i.e., HadCM2) project increased reservoir inflows and storage, and increased river flows.²³

A July 2006 technical report prepared by the California Department of Water Resources (DWR) addresses the State Water Project (SWP), the Central Valley Project, and the Sacramento-San Joaquin Delta. Although the report projects that “[c]limate change will likely have a significant effect on California’s future water resources . . . [and] future water demand,” it also reports that “much uncertainty about future water demand [remains], especially [for] those aspects of future demand that will be directly affected by climate change and warming. While climate change is expected to continue through at least the end of this century, the magnitude and, in some cases, the nature of future changes is uncertain. This uncertainty serves to complicate the analysis of future water demand, especially where the relationship between climate change and its potential effect on water demand is not well understood.”²⁴ DWR adds that “[i]t is unlikely that this level of uncertainty will diminish significantly in the foreseeable future.”²⁵ Still, changes in water supply are expected to occur, and many regional studies have shown that large changes in the reliability of water yields from reservoirs could result from only small changes in

²⁰ Kiparsky, M. and P.H. Gleick, 2003. *Climate Change and California Water Resources: A Survey and Summary of the Literature*. Oakland, CA: Pacific Institute for Studies in Development. July 2003

²¹ US EPA, 2007, op. cit.

²² California Climate Change Center (CCCC), 2006. *Our Changing Climate: Assessing the Risks to California*, CEC-500-2006-077, Sacramento, CA. July.

²³ Brekke, L.D., et al, 2004. “Climate Change Impacts Uncertainty for Water Resources in the San Joaquin River Basin, California.” *Journal of the American Water Resources Association*. 40(2): 149–164. Malden, MA, Blackwell Synergy for AWRA.

²⁴ California Department of Water Resources (DWR), 2006. *Progress on Incorporating Climate Change into Management of California Water Resources*, Sacramento, CA. July.

²⁵ Ibid.

inflows.²⁶ Water purveyors, such as the East Bay Municipal Utilities District (EBMUD), are required by state law to prepare Urban Water Management Plans (UWMPs) (discussed below, under Regulatory Context for Greenhouse Gas Emissions and Climate Change) that consider climatic variations and corresponding impacts on long-term water supplies.²⁷ DWR has published a 2005 SWP Delivery Reliability Report, which presents information from computer simulations of the SWP operations based on historical data over a 73-year period (1922–1994). The DWR notes that the results of those model studies “represent the best available assessment of the delivery capability of the SWP.” In addition, the DWR is continuing to update its studies and analysis of water supplies. EBMUD would incorporate this information from DWR in its update of its current UWMP 2005 (required every five years per the California Water Code), and information from the UWMP can be incorporated into Water Supply Assessments (WSAs) and Water Verifications prepared for certain development projects in accordance with Cal. Water Code Section 10910, et. seq. and Cal. Government Code Section 66473.7, et. seq.

- Hydrology – As discussed above, climate change could potentially affect the following: the amount of snowfall, rainfall and snow pack; the intensity and frequency of storms; flood hydrographs (flash floods, rain or snow events, coincidental high tide and high runoff events); sea level rise and coastal flooding; coastal erosion; and the potential for salt water intrusion. Sea level rise can be a product of global warming through two main processes -- expansion of sea water as the oceans warm and melting of ice over land. A rise in sea levels could result in coastal flooding and erosion and could also jeopardize California’s water supply. In particular, saltwater intrusion would threaten the quality and reliability of the state’s major fresh water supply that is pumped from the southern portion of the Sacramento/San Joaquin River Delta. Increased storm intensity and frequency could affect the ability of flood-control facilities, including levees, to handle storm events.
- Agriculture – California has a \$30 billion agricultural industry that produces half the country’s fruits and vegetables. The California Climate Change Center (CCCC) notes that higher CO₂ levels can stimulate plant production and increase plant water-use efficiency. However, if temperatures rise and drier conditions prevail, water demand could increase, crop-yield could be threatened by a less reliable water supply, and greater ozone pollution could render plants more susceptible to pest and disease outbreaks. In addition, temperature increases could change the time of year that certain crops, such as wine grapes, bloom or ripen, and thus affect their quality.²⁸
- Ecosystems and Wildlife – Increases in global temperatures and the potential resulting changes in weather patterns could have ecological effects on a global and local scale. In 2004, the Pew Center on Global Climate Change released a report examining the possible impacts of climate change on ecosystems and wildlife.²⁹ The report outlines four major ways in which it is thought that climate change could affect plants and animals: (1) timing of ecological events; (2) geographic range; (3) species’ composition within communities; and (4) ecosystem processes such as carbon cycling and storage.

REGULATORY CONTEXT FOR GHG EMISSIONS AND CLIMATE CHANGE

Global climate change is addressed through the efforts of various federal, state, regional and local government agencies as well as national and international scientific and governmental conventions and

²⁶ Kiparsky 2003, op. cit.; DWR, 2005, op. cit.; Cayan, D., et al, 2006. Scenarios of Climate Change in California: An Overview (White Paper, CEC-500-2005-203-SF), Sacramento, CA. February.

²⁷ California Water Code, Section 10631(c).

²⁸ California Climate Change Center (CCCC), 2006, op. cit.

²⁹ Parmesan, C. and H. Galbraith, *Observed Impacts of Global Climate Change in the U.S.*, Arlington, VA: Pew Center on Global Climate Change, November 2004.

programs. These agencies work jointly, as well as individually to understand and regulate the effects of greenhouse gas emissions and resulting climate change through legislation, regulations, planning, policy-making, education, and a variety of programs. The agencies, conventions and programs focused on global climate change are discussed below.

International and Federal

Kyoto Protocol

The United States participates in the United Nations Framework Convention on Climate Change (UNFCCC) (signed on March 21, 1994). The Kyoto Protocol is a treaty made under the UNFCCC and was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions could be reduced by an estimated 5 percent from 1990 levels during the first commitment period of 2008–2012. It should be noted that although the United States is a signatory to the Kyoto Protocol, Congress has not ratified the Protocol and the United States is not bound by the Protocol's commitments.

Copenhagen Summit

The 2009 United Nations Climate Change Conference (Copenhagen Summit) was held in Denmark in December 2009. The conference included the 15 Conference of the Parties to the United Nations Framework Convention on Climate Change, and the fifth meeting of the Parties to the Kyoto Protocol. A framework for climate change mitigation beyond 2012 was to be agreed there. The Copenhagen Accord was drafted by the US, China, India, Brazil, and South Africa on December 18, and judged to be a “meaningful agreement” by the United States government. It was “taken note of” but not “adopted” in a debate of all the participating countries the next day, and it was not passed unanimously. The document recognized that climate change is one of the greatest challenges of the present day and that actions should be taken to keep any temperature increases to below 2 degrees C. The document is not legally binding and does not contain any legally binding commitments for reducing CO₂ emissions.

Climate Change Technology Program

The United States has opted for a voluntary and incentive-based approach toward emissions reductions in lieu of the Kyoto Protocol's mandatory framework. The Climate Change Technology Program (CCTP) is a multi-agency research and development coordination effort (which is led by the Secretaries of Energy and Commerce) that is charged with carrying out the President's National Climate Change Technology Initiative.³⁰

U.S. Environmental Protection Agency (U.S. EPA)

To date, the U.S. EPA has not regulated GHGs under the Clean Air Act (discussed above) based on its assertion in *Massachusetts et. al. v. EPA et. al.*³¹ that the “Clean Air Act does not authorize it to issue mandatory regulations to address global climate change and that it would be unwise to regulate GHG emissions because a causal link between GHGs and the increase in global surface air temperatures has not been unequivocally established.” However, in the same case from 2007, (*Massachusetts v. EPA*) the U.S. Supreme Court held that the U.S. EPA can, and should, consider regulating motor-vehicle GHG emissions.

³⁰ Climate Change Technology Program (CCTP), About the U.S. Climate Change Technology Program (web page), Washington, D.C., last updated April 2006, <http://www.climatechange.gov/about/index.htm>, accessed July 24, 2007.

³¹ U.S. Supreme Court, *Massachusetts et. al. v. EPA et. al.* (No. 05-1120, 415F 3d 50), April 2, 2007.

In December of 2009 the EPA issued an "endangerment" finding about carbon dioxide and other greenhouse gases. The endangerment finding classified six greenhouse gases as pollutants that threaten health: carbon dioxide, methane, nitrous oxide, hydro-fluorocarbons, per-fluorocarbons and sulfur hexafluoride. These findings could potentially enable the EPA to make rules restricting greenhouse gas emissions under the Clean Air Act, but to date no such rules have been enacted. State of California

Assembly Bill (AB) 1493

On July 1, 2002, the California Assembly passed Assembly Bill (AB) 1493 (signed into law on July 22, 2002), requiring the CARB to "adopt regulations that achieve the maximum feasible and cost-effective reduction of GHG emissions from motor vehicles." The regulations were to be adopted by January 1, 2005, and apply to 2009 and later model-year vehicles. In September 2004, CARB responded by adopting "CO₂-equivalent fleet average emission" standards. The standards will be phased in from 2009 to 2016, reducing emissions by 22 percent in the "near term" (2009–2012) and 30 percent in the "mid term" (2013–2016), as compared to 2002 fleets.

Executive Order (EO) S-3-05

On June 1, 2005, Governor Arnold Schwarzenegger signed Executive Order (EO) S-3-05, establishing statewide GHG emission reduction targets. This EO provides that by 2010, emissions shall be reduced to 2000 levels; by 2020, emissions shall be reduced to 1990 levels; and by 2050, emissions shall be reduced to 80 percent below 1990 levels. The Secretary of the California Environmental Protection Agency (CalEPA) is charged with coordinating oversight of efforts to meet these targets and formed the Climate Action Team (CAT) to carry out the EO. Several of the programs developed by the CAT to meet the emission targets are relevant to residential construction and are outlined in a March 2006 report.³² These include prohibition of idling of certain classes of construction vehicles, provision of recycling facilities within residential buildings and communities, compliance with the Energy Commission's building and appliance energy efficiency standards, compliance with California's Green Buildings and Solar initiatives, and implementation of water-saving technologies and features.

California Assembly Bill 32 (AB 32)

On August 31, 2006, the California Assembly passed Bill 32 (AB 32) (signed into law on September 27, 2006), the California Global Warming Solutions Act of 2006. AB 32 commits California to reduce GHG emissions to 1990 levels by 2020 and establishes a multi-year regulatory process under the jurisdiction of the CARB to establish regulations to achieve these goals. The regulations shall require monitoring and annual reporting of GHG emissions from selected sectors or categories of emitters of GHGs. By January 1, 2008, CARB was required to adopt a statewide GHG emissions limit equivalent to the statewide GHG emissions levels in 1990, which must be achieved by 2020. By January 1, 2011, CARB is required to adopt rules and regulations, which shall become operative January 1, 2012, to achieve the maximum technologically feasible and cost-effective GHG emission reductions.

On April 20, 2007, CARB published *Proposed Early Actions to Mitigate Climate Change in California*.³³ There are no early action measures specific to residential development included in the list of 36 measures identified for CARB to pursue during calendar years 2007, 2008, and 2009. Also, this publication indicated that the issue of GHG emissions in CEQA and General Plans was being deferred for later

³² California Environmental Protection Agency (CalEPA), 2006a. Climate Action Team, Executive Summary. Climate Action Team Report to Governor Schwarzenegger and the California Legislature. Sacramento, CA, March.

³³ CalEPA, Air Resources Board (CARB), Proposed Early Actions to Mitigate Climate Change in California. Sacramento, CA, April 20, 2007.

action, so the publication did not discuss any early action measures generally related to CEQA or to land use decisions. As noted in that report, “AB 32 requires that all GHG reduction measures adopted and implemented by the Air Resources Board be technologically feasible and cost effective.”³⁴ The law permits the use of market-based compliance mechanisms to achieve those reductions and also requires that GHG measures have neither negative impacts on conventional pollutant controls nor any disproportionate socioeconomic effects (among other criteria).

On December 11, 2008, CARB adopted its *Climate Change Scoping Plan* (Scoping Plan), which functions as a roadmap of CARB’s plans to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. The Scoping Plan contains the main strategies California will implement to reduce CO₂e emissions by 174 million metric tons (MMT), or approximately 30 percent, from the state’s projected 2020 emissions level of 596 MMT of CO₂e under a business-as-usual scenario. The Scoping Plan also breaks down the amount of GHG emissions reductions CARB recommends for each emissions sector of the state’s GHG inventory. While CARB has identified a GHG reduction target of 15 percent for local governments themselves, it has not yet determined what amount of GHG emissions reductions it recommends from local government land use decisions. However, the Scoping Plan does state that successful implementation of the plan relies on local governments’ land use planning and urban growth decisions because local governments have primary authority to plan, zone, approve, and permit land development to accommodate population growth and the changing needs of their jurisdictions. CARB further acknowledges that decisions on how land is used will have large effects on the GHG emissions that will result from the transportation, housing, industry, forestry, water, agriculture, electricity, and natural gas emission sectors. The measures approved by CARB will be developed over the next two years and be in place by 2012.

The Scoping Plan also includes recommended measures that were developed to reduce greenhouse gas emissions from key sources and activities while improving public health, promoting a cleaner environment, preserving our natural resources, and ensuring that the impacts of the reductions are equitable and do not disproportionately impact low-income and minority communities. These measures, shown below in **Table 4.4-2** by sector, also put the state on a path to meet the long-term 2050 goal of reducing California’s greenhouse gas emissions to 80 percent below 1990 levels.

TABLE 4.4-2: LIST OF RECOMMENDED ACTIONS BY SECTOR

Measure No.	Measure Description	GHG Reductions (Annual Million Metric Tons CO ₂ e)
Transportation		
T-1	Pavley I and II – Light Duty Vehicle Greenhouse Gas Standards	31.7
T-2	Low Carbon Fuel Standard (Discrete Early Action)	15
T-3 ¹	Regional Transportation-Related Greenhouse Gas Targets	5
T-4	Vehicle Efficiency Measures	4.5
T-5	Ship Electrification at Ports (Discrete Early Action)	0.2

³⁴ Ibid.

T-6	Goods Movement Efficiency Measures. Ship Electrification at Ports System-Wide Efficiency Improvements	3.5
T-7	Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)	0.93
T-8	Medium- and Heavy-Duty Vehicle Hybridization	0.5
T-9	High Speed Rail	1
Electricity and Natural Gas		
E-1	Energy Efficiency (32,000 GWh of Reduced Demand) Increased Utility Energy Efficiency Programs More Stringent Building & Appliance Standards Additional Efficiency and Conservation Programs	15.2
E-2	Increase Combined Heat and Power Use by 30,000 GWh (Net reductions include avoided transmission line loss)	6.7
E-3	Renewables Portfolio Standard (33% by 2020)	21.3
E-4	Million Solar Roofs (including California Solar Initiative, New Solar Homes Partnership and solar programs of publicly owned utilities) Target of 3000 MW Total Installation by 2020	2.1
CR-1	Energy Efficiency (800 Million Therms Reduced Consumptions) Utility Energy Efficiency Programs Building and Appliance Standards Additional Efficiency and Conservation Programs	4.3
CR-2	Solar Water Heating (AB 1470 goal)	0.1
Green Buildings		
GB-1	Green Buildings	26
Water		
W-1	Water Use Efficiency	1.4†
W-2	Water Recycling	0.3†
W-3	Water System Energy Efficiency	2.0†
W-4	Reuse Urban Runoff	0.2†

W-5	Increase Renewable Energy Production	0.9†
W-6	Public Goods Charge (Water)	TBD†
Industry		
I-1	Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	TBD
I-2	Oil and Gas Extraction GHG Emission Reduction	0.2
I-3	GHG Leak Reduction from Oil and Gas Transmission	0.9
I-4	Refinery Flare Recovery Process Improvements	0.3
I-5	Removal of Methane Exemption from Existing Refinery Regulations	0.01
[†] This is not the SB 375 regional target. CARB will establish regional targets for each MPO region following the input of the regional targets advisory committee and a consultation process with MPO's and other stakeholders per SB 375 [‡] GHG emission reduction estimates are not included in calculating the total reductions needed to meet the 2020 target		

California Senate Bill 1368 (SB 1368)

On August 31, 2006, the California Senate passed SB 1368 (signed into law on September 29, 2006), which required the Public Utilities Commission (PUC) to develop and adopt a “greenhouse gases emission performance standard” by February 1, 2007, for the private electric utilities under its regulation. The PUC adopted an interim standard on January 25, 2007, but formally requested a delay until September 30, 2007, for the local publicly-owned electric utilities under its regulation. These standards apply to all long-term financial commitments entered into by electric utilities. The California Energy Commission (CEC) was required to adopt a consistent standard by June 30, 2007. However, this date was missed, and CEC will address the concerns of the Office of Administrative Law (OAL) and resubmit the rulemaking as soon as possible. The rulemaking then must be approved by the OAL before it can take effect.³⁵

California Senate Bill 97 (SB 97)

Governor Schwarzenegger signed SB 97 (Chapter 185, Statutes 2007) into law on August 24, 2007. The legislation provides partial guidance on how greenhouse gases should be addressed in certain CEQA documents.

SB 97 required the Governor's Office of Planning and Research (OPR) to prepare CEQA Guidelines for the mitigation of GHG emissions, including, but not limited to, effects associated with transportation or energy consumption. The Resources Agency was required to certify and adopt the guidelines by January 1, 2010. OPR and the Resources Agency are then required to periodically review the guidelines to incorporate new information or criteria adopted by CARB pursuant to the Global Warming Solutions Act, scheduled for 2012.

2008 OPR Technical Advisory: On June 19, 2008, OPR published a technical advisory on CEQA and climate change. The advisory provided OPR's perspective on the emerging role of CEQA in addressing

³⁵ Collard, Gary, California Energy Commission, email correspondence to Robert Vranka, Ph.D, ESA, July 12, 2007.

climate change and greenhouse gas emissions, while recognizing that approaches and methodologies for calculating greenhouse gas emissions and addressing environmental impacts through CEQA review are rapidly evolving. The advisory recognized that OPR will develop, and the Resources Agency will adopt, amendments to the CEQA Guidelines pursuant to SB 97. In the interim, the technical advisory “offers informal guidance regarding the steps lead agencies should take to address climate change in their CEQA documents.”

The technical advisory pointed out that neither CEQA nor the CEQA Guidelines prescribe thresholds of significance or particular methodologies for performing an impact analysis. The advisory stated, “This is left to lead agency judgment and discretion, based upon factual data and guidance from regulatory agencies and other sources where available and applicable.” OPR recommended that “the global nature of climate change warrants investigation of a statewide threshold of significance for GHG emissions.” Until such a standard is established, OPR advises that each lead agency should develop its own approach to performing an analysis for projects that generate greenhouse gas emissions.

OPR set out the following process for evaluating greenhouse gas emissions.

- First, agencies should determine whether greenhouse gas emissions may be generated by a proposed project, and if so, quantify or estimate the emissions by type or source. Calculation, modeling, or estimation of greenhouse gas emissions should include the emissions associated with vehicular traffic, energy consumption, water usage, and construction activities.
- Lead agencies should then assess whether the emissions are “cumulatively considerable” even though a project’s greenhouse gas emissions may be individually limited. OPR states, “Although climate change is ultimately a cumulative impact, not every individual project that emits GHGs must necessarily be found to contribute to a significant cumulative impact on the environment.” Individual lead agencies may undertake a project-by-project analysis, consistent with available guidance and current CEQA practice.
- Finally, if the lead agency determines emissions are a cumulatively considerable contribution to a significant cumulative impact, the lead agency must investigate and implement ways to mitigate the emissions. OPR states, “Mitigation measures will vary with the type of project being contemplated, but may include alternative project designs or locations that conserve energy and water, measures that reduce vehicle miles traveled (VMT) by fossil-fueled vehicles, measures that contribute to established regional or programmatic mitigation strategies, and measures that sequester carbon to offset the emissions from the project.” OPR concludes that, “A lead agency is not responsible for wholly eliminating all GHG emissions from a project; the CEQA standard is to mitigate to a level that is “less than significant.” The technical advisory includes a list of mitigation measures that can be applied on a project-by-project basis.

2008 California Air Pollution Control Officers Association (CAPCOA) “White Paper”: In January 2008, the California Air Pollution Control Officers Association (CAPCOA) issued a “white paper” on evaluating and addressing GHGs under CEQA. This resource guide was prepared to support local governments as they develop their programs and policies around climate change issues. The paper was not a guidance document. It was not intended to dictate or direct how any agency chooses to address GHG emissions. Rather, it was intended to provide a common platform of information about key elements of CEQA as they pertain to GHG, including an analysis of different approaches to setting significance thresholds.

The paper noted that for a variety of reasons local agencies may decide not to have a CEQA threshold. Local agencies may also decide to assess projects on a case-by-case basis when the projects come forward. The paper also discussed a range of GHG emission thresholds that could be used. The range of thresholds discussed includes a GHG threshold of zero and several non-zero thresholds. Non-zero thresholds include percentage reductions for new projects that would allow the state to meet its goals for

GHG emissions reductions by 2020 and perhaps 2050. These would be determined by a comparison of new emissions versus business as usual emissions and the reductions required would be approximately 30 percent to achieve 2020 goals and 90 percent (effectively immediately) to achieve the more aggressive 2050 goals. These goals could be varied to apply differently to new projects, by economic sector, or by region in the state.

Other non-zero thresholds discussed in the paper include:

- 900 metric tons/year CO₂e (a market capture approach);
- 10,000 metric tons/year CO₂e (potential CARB mandatory reporting level with Cap and Trade);
- 25,000 metric tons/year CO₂e (the CARB mandatory reporting level for the statewide emissions inventory);
- 40,000 to 50,000 metric tons/year CO₂e (regulated emissions inventory capture – using percentages equivalent to those used in air districts for criteria air pollutants),
- Projects of statewide importance (9,000 metric tons/year CO₂e for residential, 13,000 metric tons/year CO₂e for office project, and 41,000 metric tons/year CO₂e for retail projects); and
- Unit-based thresholds and efficiency-based thresholds that were not quantified in the report.

2009/2010 Amendments to the CEQA Guidelines: In January 2009, OPR released preliminary proposed amendments to the CEQA Guidelines regarding GHG emissions. No significance threshold was included in the draft and the guidelines afforded the customary deference provided to lead agencies in their analysis and methodologies. The introductory preface to the amendments recommended that CARB set state-wide thresholds of significance. OPR emphasized the necessity of having a consistent threshold available to analyze projects, and the analyses should be performed based on the best available information. The proposed revisions included a new section specifically addressing the significance of GHG emissions, building upon OPR's 2008 technical advisory. Like the advisory, the proposed Guidelines section calls for quantification of GHG emissions. The proposed section states that the significance of GHG impacts should include consideration of the extent to which the project would result in the following:

- help or hinder compliance with AB 32 goals;
- increase energy use, especially energy use generated by fossil fuel combustion;
- improve energy efficiency; and
- result in emissions that would exceed any applicable significance threshold.

In April 2009, OPR forwarded the draft revisions to the California Natural Resources Agency for review and proposed adoption. On July 3, 2009, the California Natural Resources Agency began the formal rulemaking process for adopting the CEQA Guidelines. As directed by SB97, the Natural Resources Agency adopted Amendments to the CEQA Guidelines for greenhouse gas emissions on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010. Among the changes included in these recent CEQA Guidelines amendments are guidance for determining the significance of impacts from greenhouse gas emissions (CEQA Guidelines §15064.4). These guidelines indicate that “The determination of the significance of greenhouse gas emissions calls for a careful judgment by the lead agency . . . A lead agency should make a good-faith effort, based to the extent possible on scientific and factual data, to describe, calculate or estimate the amount of greenhouse gas emissions resulting from a project.” A lead agency shall have discretion to determine, in the context of a particular project, whether to use a model or other methodology to quantify greenhouse gas emissions resulting from a project, and which model or methodology to use, or whether to rely on a qualitative analysis or performance based standard.

These Guidelines also indicate that a lead agency should consider the following factors, among others, when assessing the significance of impacts from greenhouse gas emissions on the environment:

- “The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting;
- Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.
- The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions.”

In determining thresholds of significance for greenhouse gas emissions, § 15064.7 indicates that “Each public agency is encouraged to develop and publish thresholds of significance that the agency uses in the determination of the significance of environmental effects. A threshold of significance is an identifiable quantitative, qualitative or performance level of a particular environmental effect, non-compliance with which means the effect will normally be determined to be significant by the agency and compliance with which means the effect normally will be determined to be less than significant. Thresholds of significance to be adopted for general use as part of the lead agency's environmental review process must be adopted by ordinance, resolution, rule, or regulation, and developed through a public review process and be supported by substantial evidence. When adopting thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.”

Finally, in considering mitigation measures related to greenhouse gas emissions, § 15126.4 indicates that “lead agencies shall consider feasible means, supported by substantial evidence and subject to monitoring or reporting, of mitigating the significant effects of greenhouse gas emissions. Measures to mitigate the significant effects of greenhouse gas emissions may include, among others:

- Measures in an existing plan or mitigation program for the reduction of emissions that are required as part of the lead agency's decision;
- Reductions in emissions resulting from a project through implementation of project features, project design, or other measures;
- Off-site measures, including offsets that are not otherwise required, to mitigate a project's emissions; and
- Measures that sequester greenhouse gases;
- In the case of the adoption of a plan, such as a general plan, long range development plan, or plans for the reduction of greenhouse gas emissions, mitigation may include the identification of specific measures that may be implemented on a project-by-project basis. Mitigation may also include the incorporation of specific measures or policies found in an adopted ordinance or regulation that reduces the cumulative effect of emissions.”

California Senate Bill 375 (SB 375)

Governor Schwarzenegger signed SB 375 into law in September 2008 (Chapter 728, Statutes of 2008). The legislation aligns regional transportation planning efforts, regional GHG reduction targets, and land use and housing allocation. SB 375 requires metropolitan planning organizations (MPOs) to adopt a Sustainable Communities Strategy (SCS) or Alternative Planning Strategy (APS) that will prescribe land use allocation in the MPO's regional transportation plan. CARB, in consultation with MPOs, will provide each affected region with reduction targets for GHGs emitted by passenger cars and light trucks in the region for the years 2020 and 2035. These reduction targets will be updated every eight years but can be updated every four years if advancements in emissions technologies affect the reduction strategies to

achieve the targets. CARB is also charged with reviewing each MPO's SCS or APS for consistency with its assigned targets. If MPOs do not meet the GHG reduction targets, transportation projects will not be eligible for funding programmed after January 1, 2012.

California Urban Water Management Act

The California Urban Water Management Planning Act requires various water purveyors throughout the State of California (such as EBMUD) to prepare UWMPs, which assess the purveyor's water supplies and demands over a 20-year horizon (California Water Code, Section 10631 *et seq.*). As required by that statute, UWMPs are updated by the purveyors every five years. As discussed above, this is relevant to global climate change which may affect future water supplies in California, as conditions may become drier or wetter, affecting reservoir inflows and storage and increased river flows.³⁶

Bay Area Air Quality Management District (BAAQMD)

The BAAQMD's prior CEQA Guidelines, which were last updated in 1999, contained no thresholds of significance for GHG emissions. However, in May of 2010 the BAAQMD issued its most recent draft update to its CEQA Guidelines, and on June 2, 2010 the BAAQMD Board of Directors adopted new *Thresholds of Significance (2010 Thresholds)*.³⁷

The adopted June 2010 *Thresholds of Significance* identify a project-specific threshold of 1,100 metric tons per year, and an efficiency-based threshold of 4.6 metric tons per year per service population (residents and employees) as resulting in a cumulatively considerable contribution of GHG emission and a cumulatively significant impact to global climate change.

City of Oakland

Oakland Energy and Climate Action Plan

In July 2009 the Oakland City Council directed staff to develop a draft Oakland Energy and Climate Action Plan using a preliminary planning GHG reduction target equivalent to 36% below 2005 GHG emissions by 2020, annual benchmarks for meeting the target. Based on Oakland's baseline 2005 GHG inventory, totaling approximately 3 million metric tons of CO₂e emissions and current forecasts of business-as-usual emissions growth, reducing GHG emissions by the equivalent of 36% below 2005 levels by 2020 will require taking actions that cumulatively add up to approximately 1.1 million metric tons of CO₂e reductions. A draft Oakland Energy and Climate Action Plan was released in early 2010.

City of Oakland General Plan

Land Use and Transportation Element (LUTE). The LUTE (which includes the Pedestrian Master Plan and Bicycle Master Plan) of the Oakland General Plan contains the following policies that address issues related to GHG emissions and climate change:

Policy T.2.1: Transit-oriented development should be encouraged at existing or proposed transit nodes, defined by the convergence of two or more modes of public transit such as BART, bus, shuttle service, light rail or electric trolley, ferry, and inter-city or commuter rail.

³⁶ Brekke, 2004, op. cit.

³⁷ BAAQMD, Thresholds Of Significance For Use In Determining The Significance Of Projects' Environmental Effects Under The California Environmental Quality Act (*Thresholds of Significance*), June 2, 2010

Policy T.2.2: Transit-oriented developments should be pedestrian-oriented, encourage night and day time use, provide the neighborhood with needed goods and services, contain a mix of land uses, and be designed to be compatible with the character of surrounding neighborhoods.

Policy T3.5: The City should include bikeways and pedestrian ways in the planning of new, reconstructed, or realigned streets, wherever possible.

Policy T3.6: The City should encourage and promote use of public transit in Oakland by expediting the movement of and access to transit vehicles on designated “transit streets” as shown on the Transportation Plan.

Policy T4.2: Through cooperation with other agencies, the City should create incentives to encourage travelers to use alternative transportation options.

Policy N3.2: In order to facilitate the construction of needed housing units, infill development that is consistent with the General Plan should take place throughout the City of Oakland.

Policy T4.5: The City should prepare, adopt, and implement a Bicycle and Pedestrian Master Plan as a part of the Transportation Element of [the] General Plan.

Open Space, Conservation and Recreation Element (OSCAR). The OSCAR Element includes policies that address GHG reduction and global climate change. Listed below are the following types of OSCAR policies: policies that encourage the provision of open space, which increases vegetation area (trees, grass, landscaping, etc.) to effect cooler climate, reduce excessive solar gain, and absorb CO₂; policies that encourage stormwater management, which relates to the maintenance of floodplains and infrastructure to accommodate potential increased storms and flooding; and policies that encourage energy efficiency and use of alternative energy sources, which directly address reducing GHG emissions.

Policy OS-1.1: Conserve existing City and Regional Parks characterized by steep slopes, large groundwater recharge areas, native plant and animal communities, extreme fire hazards, or similar conditions.

Policy OS-2.1: Manage Oakland’s urban parks to protect and enhance their open space character while accommodating a wide range of outdoor recreational activities.

Policy CO-5.3: Employ a broad range of strategies, compatible with the Alameda Countywide Clean Water Program. See Policy CO-12.1 under OSCAR policies that address general air quality.

Policy CO-12.3: Expand existing transportation systems management and transportation demand management strategies which reduce congestion, vehicle idling, and travel in single passenger autos. See Policy CO-12.4 under OSCAR policies that address general air quality.

Policy CO-12.5: Require new industry to use best available control technology to remove pollutants, including filtering, washing, or electrostatic treatment of emissions.

Policy CO-13.2: Support public information campaigns, energy audits, the use of energy-saving appliances and vehicles, and other efforts which help Oakland residents, businesses, and City operations become more energy efficient.

Policy CO-13.3: Encourage the use of energy-efficient construction and building materials. Encourage site plans for new development which maximize energy efficiency.

Policy CO-13.4: Accommodate the development and use of alternative energy resources, including solar energy and technologies which convert waste or industrial byproducts to energy, provided that such activities are compatible with surrounding land uses and regional air and water quality requirements.

Historic Preservation Element (HPE). A key HPE policy relevant to climate change encourages the reuse of existing building (and building materials) resources, which could reduce landfill material (a source of methane, a GHG), avoid the incineration of materials (which produces CO₂ as a by-product), avoid the need to transport materials to disposal sites (which produces GHG emissions), and eliminate the need for materials to be replaced by new product (which often requires the use of fossil fuels to obtain raw and manufacture new material).³⁸

Safety Element. Safety Element policies that address wildfire hazards related to climate change in that increased temperatures could increase fire risk in areas that become drier due to climate change.³⁹ Also, wildfire results in the loss of vegetation; carbon is stored in vegetation, and when the vegetation burns, the carbon returns to the atmosphere.⁴⁰ The occurrence of wildfire also emits particulate matters into the atmosphere. Safety Element policies also address storm-induced flooding hazards related to the potential to accommodate potential increase in storms and flooding as a result of climate change. Pertinent safety Element policies including the following:

Policy FI-3: Prioritize the reduction of the wildfire hazard, with an emphasis on prevention.

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

Policy FL-2: Continue or strengthen city programs that seek to minimize the storm-induced flooding hazard.

Other City of Oakland Programs and Policies

The City of Oakland has supported and adopted a number of programs and policies designed to reduce GHG emissions and continue Oakland's progress toward becoming a model sustainable city. Programs and policies of relevance to new residential development include:

- Sustainable Oakland Program – Oakland's sustainability efforts are coordinated through the Sustainable Oakland program, a product of the Oakland Sustainability Community Development Initiative created in 1998 (ordinance 74678 C.M.S.)
- Green Building – The City of Oakland has implemented Green Building principles in City buildings through the following programs: Civic Green Building Ordinance (Ordinance No. 12658 C.M.S., 2005), requiring, for certain large civic projects, techniques that minimize the environmental and health impacts of the built environment through energy, water and material efficiencies and improved indoor air quality, while also reducing the waste associated with construction, maintenance and remodeling over the life of the building; Green Building Guidelines (Resolution No. 79871, 2006) which provides guidelines to Alameda County residents and developers regarding construction and remodeling; and Green Building Education Incentives for private developers.
- Downtown Housing – The 10K Downtown Housing Initiative has a goal of attracting 10,000 new residents to downtown Oakland by encouraging the development of 6,000 market-rate housing units. This effort is consistent with Smart Growth principles.

³⁸ US EPA, 2006a. General Information on the Link Between Solid Waste and Greenhouse Gas Emissions (web page), October, <http://www.epa.gov/climatechange/wycd/waste/generalinfo.html>, accessed August 10, 2007.

³⁹ US EPA, Climate Change – Health and Environmental Effects: Health (web page), October 2006b, www.epa.gov/climatechange/effects/health.html, accessed July 24, 2007.

⁴⁰ National Aeronautics and Space Administration (NASA), El Nino-Related Fires Increase Greenhouse Gas Emissions, January 5, 2005, <http://www.nasa.gov/centers/goddard/news/topstory/2004/0102firenino.html>, accessed August 10, 2007.

- Waste Reduction and Recycling – The City of Oakland has implemented a residential recycling program increasing the collection of yard trimmings and food waste. This program has increased total yard trimming collections by 46 percent compared to 2004, and recycling tonnage by 37 percent. The City also adopted a *Construction and Demolition Recycling* program, for which the City passed a resolution in July 2000 (Ordinance 12253. OMC Chapter 15.34), requiring certain nonresidential or apartment house projects to recycle 100 percent of all asphalt & concrete (A/C) materials and 65 percent of all other materials.
- Polystyrene Foam Ban Ordinance - In June 2006 the Oakland City Council passed the Green Food Service Ware Ordinance (Ordinance 14727, effective as of January 1, 2007), which prohibits the use of polystyrene foam disposable food service ware and requires, when cost neutral, the use of biodegradable or compostable disposable food service ware by food vendors and City facilities.
- Zero Waste Resolution - In March 2006 the Oakland City Council adopted a Zero Waste Goal by 2020 Resolution (Resolution 79774 C.M.S.), and commissioned the creation of a Zero Waste Strategic Plan to achieve the goal.
- Stormwater Management - On February 19, 2003, the Regional Water Quality Control Board, San Francisco Bay Region, issued a municipal stormwater permit under the National Pollutant Discharge Elimination System (NPDES) permit program to the Alameda Countywide Clean Water Program (ACCWP). The purpose of the permit is to reduce the discharge of pollutants in stormwater to the maximum extent practicable and to effectively prohibit non-stormwater discharges into municipal storm drain systems and watercourses. The City of Oakland, as a member of the ACCWP, is a co-permittee under the ACCWP's permit and is, therefore, subject to the permit requirements. Provision C.3 of the NPDES permit is the section of the permit containing stormwater pollution management requirements for new development and redevelopment projects. Among other things, Provision C.3 requires that certain new development and redevelopment projects incorporate post-construction stormwater pollution management measures, including stormwater treatment measures, stormwater site design measures, and source control measures, to reduce stormwater pollution after the construction of the project. These requirements are in addition to standard stormwater-related best management practices (BMPs) required during construction.
- Community Gardens and Farmer's Markets - Community Garden locations include Arroyo Viejo, Bella Vista, Bushrod, Golden Gate, Lakeside Horticultural Center, Marston Campbell, Temescal, and Verdesse Carter. Weekly Farmer's Market locations include the Jack London Square, Old Oakland, Grand Lake, Mandela, and Temescal districts. Both efforts promote and facilitate the principal of growing and purchasing locally, which effects reductions in truck and vehicle use and GHG emissions.

IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES

CRITERIA OF SIGNIFICANCE

As identified in Section 15064(a) of the CEQA Guidelines, “determining whether a project may have a significant effect plays a critical role in the CEQA process.” In addition, as outlined in Sections 15064(h) and 15130 of the CEQA Guidelines, an environmental impact report (EIR) is required to evaluate cumulative impacts when they can be determined to be “cumulatively considerable.” The current CEQA Guidelines and the CEQA Initial Study Checklist now contain provisions that specifically set forth requirements for analysis of global climate change impacts in an EIR. As stated in Section 15064(b) of the State CEQA Guidelines, “The determination of whether a project may have a significant effect on the

environment calls for careful judgment on the part of the public agency involved, based to the extent possible on scientific and factual data.”

OAKLAND GHG/CLIMATE CHANGE THRESHOLDS OF SIGNIFICANCE

The project would have a significant impact on the environment if it would:

1. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment, specifically:

Project-Level Impacts⁴¹

- a. For a project involving a stationary source⁴², produce total emissions of more than 10,000 metric tons of CO₂e annually.
- b. For a project involving a land use development⁴³, produce total emissions of more than 1,100 metric tons of CO₂e annually **AND** more than 4.6 metric tons of CO₂e per service population⁴⁴ annually.⁴⁵

For projects that involve both a stationary source and a land use development, calculate each component separately and compare to the applicable threshold.

2. Conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing greenhouse gas emissions.

The 2010 *Thresholds of Significance* state that potential project-level impacts would be considered less than significant if the lead agency has adopted a Climate Action Plan that meets certain requirements (referred to as a “Qualified Climate Action Plan”) and the plan or project complies with the Qualified Climate Action Plan. To date, the City has not adopted a Qualified Climate Action Plan. If and when the City adopts a Qualified Climate Action Plan, the potential impacts of future projects would be considered less than significant if the projects comply with the Qualified Action Plan.

APPROACH AND CONCLUSION TO CEQA ANALYSIS OF GHG EMISSIONS AND CLIMATE CHANGE IMPACTS IN THIS EIR

This EIR does discuss, for consideration by decision makers, estimated GHG emissions of the proposed Project, Project-related activities that could contribute to the generation of increased GHG emissions, the Project design features that would avoid or minimize those emissions.

⁴¹ The project’s expected greenhouse gas emissions during construction should be annualized over a period of 40 years and added to the expected emissions during operation for comparison to the threshold. A 40-year period is used because 40 years is considered the average life expectancy of a building before it is remodeled with considerations for increased energy efficiency. The thresholds are based on the BAAQMD thresholds. The BAAQMD thresholds were originally developed for project operation impacts only. Therefore, combining both the construction emissions and operation emissions for comparison to the threshold represents a conservative analysis of potential greenhouse gas impacts.

⁴² Stationary sources are projects that require a BAAQMD permit to operate.

⁴³ Land use developments are projects that do not require a BAAQMD permit to operate.

⁴⁴ The service population includes both the residents and the employees of a proposed project.

⁴⁵ A project’s impact would be considered significant if the emissions exceed **BOTH** the 1,100 metric tons threshold and the 4.6 metric tons threshold. Accordingly, the impact would be considered less than significant if a project’s emissions are below **EITHER** of these thresholds.

The approach employed in this EIR is both quantitative and qualitative. The quantitative approach is used to address the numeric thresholds identified above (i.e., would the Project generate GHG emissions, either directly or indirectly, that exceed adopted numeric thresholds which would result in the Project having a significant impact on the environment). The quantifiable numeric thresholds discussed above are used to determine if this threshold is met.

The qualitative approach is used to address the second threshold (i.e., would the project conflict with any applicable plan, policy or regulation adopted for the purpose of reducing greenhouse gas emissions). Theoretically, if a project implements reduction strategies identified in AB 32, the Governor's Executive Order S-3-05, or other strategies to help toward reducing GHGs to the level proposed by the governor and targeted by the City of Oakland, it could reasonably follow that the project would not conflict with any applicable plan, policy or regulation of an appropriate regulatory agency adopted for the purpose of reducing greenhouse gas emissions. Alternatively, a project could reduce a potential cumulative contribution to GHG emissions through energy efficiency features, density and locale (e.g., compact development near transit and activity nodes of work or shopping) and by contributing to available mitigation programs such as reforestation, tree planting, or carbon trading.

However, the analysis in this EIR considers that because the quantifiable threshold established in the June 2010 BAAQMD Thresholds was formulated based on AB 32 reduction strategies, a project cannot exceed the numeric threshold without also conflicting with an applicable plan, policy or regulation adopted for the purpose of reducing the emission of GHG. Therefore, if the proposed project does not meet the first threshold and therefore results in a significant cumulative impact because it exceeds the numeric threshold, the project would also result in a significant cumulative impact under the second threshold, even though the project may incorporate measures and have features that would reduce its contribution to cumulative GHG emissions.

Further, the methodology applied here assumes that all emission sources with the Project would be new sources that would combine with existing conditions. For this assessment, it is not possible to predict whether emission sources (residents and businesses) associated with the Project would move from outside the air basin (and thus generate "new" emissions within the air basin), or whether they are sources that already exist and are merely relocated within the air basin. Because the effects of GHGs are global, if the Project merely shifts the location of the GHG-emitting activities (locations of residences and businesses and where people drive), there would not be a net new increase of emissions. It also can not be determined until buildout of the Project whether residents of the proposed development will, as a result of moving to the Project, have shorter commute distances, require fewer vehicle trips, walk, bike, or use public transit more often, instead of driving, or use overall less energy by virtue of the Project's characteristics. If these types of changes occur, overall vehicle miles traveled could be reduced and it could be argued that the Project would result in a potential net reduction in GHG emissions, locally and globally.

CUMULATIVE IMPACTS

Since the Project site is not located in an area that would be subject to coastal or other flooding resulting from climate change (i.e., is not in an area vulnerable to either a 15-inch or a 55-inch sea level rise),⁴⁶ the potential effects of climate change (e.g. effects of flooding on the Project site due to sea level rise) on the proposed Project are not discussed in this EIR.

⁴⁶ http://www.bcdc.ca.gov/planning/climate_change/maps/16_55/cbay_east.pdf

GHG Emissions

Impact GHG-1: Construction and operation of the proposed Project would not result in a cumulatively considerable increase in GHG emissions under the thresholds established in the 2010 BAAQMD *Thresholds of Significance*. (LTS)

The 2010 BAAQMD *Thresholds of Significance* provides project-specific GHG emissions thresholds of 1,100 metric tons per year, and more than 4.6 metric tons of CO₂e per service population annually. Application of these thresholds includes both direct emissions from a project's vehicle trip generation and on-site water and space heating and other stationary sources, as well as indirect emissions from off-site electrical generation and water conveyance and treatment.

Construction and operation of the proposed Project would generate GHG emissions, with the majority of energy consumption (and associated generation of GHG emissions) occurring during operation. Typically more than 80 percent of the total energy consumption takes place during the use of buildings and less than 20 percent is consumed during construction.⁴⁷

Overall, the following activities associated with a typical development could contribute to the generation of GHG emissions:

- Removal of Vegetation – The net removal of vegetation for construction results in a loss of the carbon sequestration in plants. However, planting of additional vegetation would result in additional carbon sequestration and lower the carbon footprint of the project.
- Construction Activities – Construction equipment typically uses fossil-based fuels to operate. The combustion of fossil-based fuels creates GHGs such as carbon dioxide, methane and nitrous oxide. Furthermore, methane is emitted during the fueling of heavy equipment.
- Gas, Electric and Water Use – Natural gas use results in the emissions of two GHGs: methane (the major component of natural gas) and carbon dioxide from the combustion of natural gas. Methane is released prior to initiation of combustion of the natural gas (as before a flame on a stove is sparked), and from the small amount of methane that is uncombusted in a natural gas flame. Electricity use can result in GHG production if the electricity is generated by combusting fossil fuel. California's water conveyance system is energy intensive. Preliminary estimates indicate that total energy used to pump and treat this water exceeds 15,000 GWh per year, or at least 6.5 percent of the total electricity used in the State per year.⁴⁸
- Motor Vehicle Use – Transportation associated with the proposed Project would result in GHG emissions from the combustion of fossil fuels in daily automobile and truck trips. However, these emissions would not be "new" since drivers are likely relocated from another area. Also, as discussed previously, the Project is designed to limit auto trips.

While the proposed Project and all developments of similar land uses would generate GHG emissions as described above, the City of Oakland's ongoing implementation of its Sustainability Community Development Initiative (which includes an array of programs and measures, discussed previously under *Regulatory Context for GHG Emissions and Climate Change*) will collectively reduce the levels of GHG emissions and contributions to global climate change attributable to activities throughout Oakland.

⁴⁷ United Nations Environment Programme (UNEP), 2007. Buildings and Climate Change: Status, Challenges and Opportunities, Paris, France.

⁴⁸ California Energy Commission (CEC), 2004. Water Energy Use in California (online information sheet) Sacramento, CA, August 24, <http://energy.ca.gov/pier/iaw/industry/water.html>, accessed July 24, 2007.

Total Emissions

Estimated Gross GHG Emission from the Proposed Project

Table 4.4-3 presents a gross estimate of the proposed project's CO₂e emissions resulting from increases in motor vehicle trips, as well as from natural gas combustion and emissions estimates from electricity usage (including electricity for conveyance and treatment of increased water usage (see **Appendix G** for URBEMIS model output).

**TABLE 4.4-3: ESTIMATED GROSS CO₂E EMISSIONS FROM THE PROPOSED PROJECT
(METRIC TONS/YEAR OF CO₂E)**

Operation (Vehicle) Emissions	1,951
Area Source	1
Electricity	556
Natural Gas (space and water heating)	459
Water and Wastewater	46
Solid Waste	323
Annualized Construction Emissions	31
Total Project CO₂e Emissions	3,367

Source: Lamphier-Gregory., 2010

GHG emissions from construction, vehicles and other area sources associated the proposed Project were calculated using CARB's URBEMIS2007 Version 9.2 model and trip generation data from the Project's traffic analysis. The results of the URBEMIS model were then imported into the BAAQMD's Greenhouse Gas model, BGM Version 1.1.9 (see **Appendix I** for BGM output data). Several adjustments were made by the BGM model to transportation emissions after they have been imported from URBEMIS:

- After importing from URBEMIS, CO₂ emissions are converted to metric tons and then adjusted to account for the "Pavley" regulation.
- Then, CO₂ is converted to CO₂e by multiplying by 100/95 to account for the contribution of other GHGs (CH₄, N₂O, and HFCs (from leaking air conditioners). CO₂ emissions represent more than 90 percent of the Project's contribution of GHG emissions.
- Finally, CO₂e is adjusted to account for the low carbon fuels rule.
- Additionally, pursuant to City of Oakland thresholds, the Projects total construction emissions (annual emissions projected over each of the 4-year construction period from 2010 through 2013) of 1,248 tons were then annualized over a period of 40 years and added to the expected emissions during operation for comparison to the threshold. A 40-year period is used because 40 years is considered the average life expectancy of a building before it is remodeled with considerations for increased energy efficiency.

Data in Table 4.4-3 indicate that GHG emissions resulting from the proposed Project would exceed the 1,100 metric tons per year threshold.

Adjusted GHG Emissions

The 2010 *CEQA Guidelines* indicates that, “when calculating project GHG emissions to compare to the thresholds, the lead agency should ensure that project design features, attributes, or local development requirements are taken into consideration as part of the project as proposed, and not viewed as mitigation measures. For example, projects that are mixed-use, infill, and/or proximate to transit service and local services would have substantially lower vehicle trip rates and associated GHG emissions than what would be reflected in standard, basin-wide average URBEMIS default trip rates and emission estimates.”

The following design features, existing plans and policies compliance, and applicable Standard Conditions of Approval are included in the Project, effectively reducing the amount of gross GHG emissions generated during construction and during operation.

- *Mixed Use Location* – The Project site is located in a dense urban location within a broad mix of surrounding land uses. Within ½ mile radius of the Project site there are approximately 5,330 existing housing units and an estimated 20,000 existing jobs. This mixed use location would reduce transportation-related GHG emissions from the same level of development that may occur elsewhere in the outer Bay Area based on a significantly high local jobs/housing ratio.
- *City of Oakland* – According to the Pedestrian Master Plan, the City of Oakland has the highest walking rates for all cities in the nine-county San Francisco Bay Region. It is noted that these high pedestrian trips are likely because Oakland’s neighborhoods are densely populated and well-served by transit, including Bay Area Rapid Transit (BART), AC Transit, Amtrak, and the Alameda Ferry. As such, the Project would reduce transportation-related GHG emissions compared to emissions that may occur from the same level of development elsewhere in the outer Bay Area. Specifically, the Project site is well served with transit facilities including nine (9) weekday bus routes within ¼ mile of the site and five (5) BART lines within ½ mile, accessed either via Lake Merritt or City Center BART stations.
- *Local Serving Retail* – The Project would include a total of 9,110 square feet of commercial space, including 6,795 square feet of local-serving retail space and 2,315 square feet of commercial office space. This mixed-use characteristic of the Project would serve to reduce transportation-related GHG emissions as compared to the same level of residential development where no such mix of uses are provided.
- *Energy Efficiency* – The proposed Project would be required to comply with all applicable local, state, and federal regulations associated with the generation of GHG emissions and energy conservation. In particular, construction of the proposed Project would also be required to meet California Energy Efficiency Standards for Residential and Nonresidential Buildings, and the requirements of pertinent City policies as identified in the City of Oakland General Plan, helping to reduce future energy demand as well as reduce the project’s contribution to regional GHG emissions.
- *Construction Waste* – The proposed Project would be required to comply with the Construction and Waste Reduction Ordinance and submit a Construction and Demolition Waste Reduction Plan for review and approval. As a result, construction-related truck traffic, which primarily have diesel fueled engines, would be reduced since demolition debris hauled off site would be reused on site. In addition, reuse of concrete, asphalt, and other debris will reduce the amount of material introduced to area landfills.

In addition, emissions would also be reduced since the Project is subject to all the regulatory requirements, mitigation measures, and Standard Conditions indicated in this EIR that would reduce GHG emissions of the project. These include, but are not limited to

- SCA Traf-1: Parking and Transportation Demand Management
- SCA Air-1: Construction-Related Air Pollution Controls

- SCA Util-1: Waste Reduction and Recycling
- SCA Bio-1 through -3: Tree Removal and Replanting

In light of these Project design features, site attributes and or local development requirements, the GHG emissions associated the proposed Project were re-calculated using CARB's URBEMIS2007 Version 9.2 model, but adjusted to reflect the reductions in emissions that would likely be achieved based on the unique features and attributes of the Project and its location, as shown in **Table 4.4-4**. When calculating the adjusted emission levels, no reductions associated with implementation of applicable regulations were accounted for unless such were above and beyond those already considered by BAAQMD in development of the 2010 *Draft CEQA Guidelines*.

**TABLE 4.4-4: ESTIMATED ADJUSTED CO₂E EMISSIONS FROM THE PROPOSED PROJECT
(METRIC TONS/YEAR OF CO₂E)**

Total Project Gross Emissions	3,367
Adjusted Project Emissions	
Operation (vehicle) Emissions	1,475
Area Source	1
Electricity	556
Natural Gas (space and water heating)	459
Water and Wastewater	46
Solid Waste	323
Annualized Construction Emissions	31
Total Adjusted Project CO ₂ e Emissions	2,891
Percent Reduction, Compared to Estimated Project Gross Emissions	- 14%
Source: Lamphier-Gregory., 2010	

As indicated in Table 4.4-4, even with a 14 percent reduction in GHG emissions due to the Project's characteristics and location, the Project would still exceed the 1,100 metric tons per year threshold.

Efficiency-Based Threshold

The 2010 BAAQMD *Thresholds of Significance* include an efficiency-based threshold of 4.6 metric tons of CO₂e emissions per year per service population. GHG efficiency metrics can be utilized as thresholds to assess the GHG efficiency of a project on a per capita basis (residential only projects) or on a "service population" basis (the sum of the number of jobs and the number of residents provided by a project). This method allows an assessment of whether projects that may have a high mass emissions based on their size, can still meet the overall reduction goals of AB 32 (i.e., 1990 GHG emissions levels by 2020) based on energy efficient design. Final methodology for calculating a project's GHG emissions under this efficiency-based threshold have not yet been fully developed in the 2010 *CEQA Guidelines*, but an approximation is provided below.

- The Project is estimated to result in a residential population of approximately 748 people (380 units at an average density of 1.97 people per unit, based on Census tract data), and an employment level of approximately 45 employees (assuming 9,910 square feet of commercial space at an average of 200 square feet per employee).

- This results in a service population of approximately 793 persons.
- Dividing the total adjusted GHG emissions for the Project of 2,891 metric tons of CO₂e per year (see Table 4.4-4 above) by the service population of 793 persons, results in a rate of 3.65 metric tons per year of CO₂e emissions per service population.

This efficiency-based emission level is well below the 2010 BAAQMD *Thresholds of Significance* of 4.6 metric tons per year of emissions per service population. Thus, as a high-density, urban infill, mixed-use development, the Project would not exceed the efficiency-based threshold of 4.6 metric tons of CO₂e emissions per year per service population, even though it would exceed the 1,100 metric tons per year threshold. The significance threshold used in this EIR is that climate change impacts are considered less than significant if the emissions are below either of these thresholds. Accordingly, the conclusion of this EIR is that, since CO₂e emissions would not exceed 4.6 metric tons per year per service population, the Project would not result in a cumulatively considerable contribution of GHG emissions or a cumulatively significant impact to global climate change.

Conflict with an Applicable Plan, Policy or Regulation Adopted for the Purpose of Reducing GHG Emissions

Impact GHG-2: The Project would comply with applicable plans, policies and regulations adopted for the purpose of reducing GHG emissions. (LTS)

BAAQMD's approach to developing their threshold of significance for GHG emissions as discussed above is to identify the emissions level for which a project would not be expected to substantially conflict with existing California legislation adopted to reduce statewide GHG emissions. Specifically, the efficiency-based threshold allows an assessment of whether highly efficient projects that may also have high mass emissions based on their size, can still meet the overall reduction goals of AB 32 (i.e., 1990 GHG emissions levels by 2020).

These thresholds were adopted by the BAAQMD based on the substantial evidence as documented in the 2010 *CEQA Guidelines* that "they represent quantitative and/or qualitative levels of GHG emissions, compliance with which means that the environmental impact of the GHG emissions will normally not be cumulatively considerable under CEQA. Compliance with such thresholds will be part of the solution to the cumulative GHG emissions problem, rather than hinder the state's ability to meet its goals of reduced statewide GHG emissions." The GHG significance thresholds are intended to serve as interim levels during the implementation of AB 32 and SB 375. Until AB 32 has been fully implemented in terms of adopted regulations, incentives, and programs, and until SB 375 required plans have been fully adopted or the California Air Resources Board (ARB) adopts a recommended threshold, the GHG thresholds discussed above represent substantial compliance with applicable plans, policies and regulations.

An Oakland Energy and Climate Action Plan (ECAP) is being developed to identify, evaluate and recommend prioritized actions to reduce energy consumption and GHG emissions in Oakland. The ECAP will identify energy and climate goals, clarify policy direction, and identify priority actions for reducing energy use and GHG emissions. On July 7, 2009, the Oakland City Council directed staff to develop the draft Oakland ECAP using a GHG reduction target equivalent to 36 percent below 2005 GHG emissions by 2020 (City of Oakland, Resolution No. 82129 C.M.S., 2009). The City issued a draft ECAP for public review in April 2010, but it has not yet been adopted. Therefore, it is unknown if the Project would conflict with policies and actions that may be included. However, the Project does not appear to conflict with the current City Sustainability Programs or General Plan policies regarding GHG reductions.

The Project's GHG emissions generated during construction and operation would be minimized by virtue of the building characteristics and site design features that the Project proposes. The proposed Project is well served with transit facilities (nine weekday bus routes within ¼ mile of the site and five BART lines

within ½ mile), is consistent with Smart Growth principles of developing high density mixed-use use project within the downtown, and would be required to meet California and Oakland energy efficiency standards and regulations to reduce future energy demand as well as to reduce the project's contribution to regional GHG emissions. In addition, the Project is subject to all the regulatory requirements including those City's Standard Conditions of Approval which would reduce GHG emissions of the Project. These include but are not limited to SCA Traf-1: Parking and Transportation Demand Management, SCA Air-1: Construction-Related Air Pollution Controls, SCA Util-1: Waste Reduction and Recycling, SCA Bio-1 through -3: Tree Removal and Replanting, and SCA Hydro-1: Minimizing post construction stormwater runoff that could affect the ability to accommodate potentially increased storms and flooding within existing floodplains and infrastructure systems.

Overall, the Project would entail implementing reduction strategies identified in AB 32, the Governor's Executive Order S-3-05, and other strategies to help reduce GHGs to the level proposed by the governor and targeted by the City of Oakland. Thus, the Project would comply with applicable local and state plans, policies and regulations adopted for the purpose of reducing GHG emissions.

PUBLIC HEALTH AND HAZARDS

In responses to comments from the Department of Toxic Substances Control (DTSC) in reviewing the Notice of Preparation and Initial Study, this section provides an overview of the potential presence of hazardous materials¹ and other hazards on and near the Project site and assess potential impacts to public health and safety that could result from the proposed development of the Project site.

This section also addresses issues of height of the building in relation to airspace restrictions established by the Federal Aviation Administration (FAA) for purposes of aircraft safety.

Issues related to toxic air contaminants are addressed in Chapter 4.3 of this Draft EIR.

SETTING

The following section describes potential hazards and hazardous materials issues at the Project site as well as the regulatory agency framework and local policies that address those hazards.

HAZARDOUS MATERIALS CONTAMINATION AT THE PROJECT SITE

No portion of the Project site is included on any list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

Phase I ESA

A Phase I Environmental Site Assessment and a Phase II Subsurface Investigation was prepared by Schutze & Associates, Inc. in May 23, 2006 (see **Appendix J**). As part of the Phase I Assessment, Schutze & Associates, Inc. reviewed historical records for the Project site. The earliest historical record was an 1889 Sanborn Fire Insurance Map. Based on this map and other historical records, the southern portion of 325 7th Street property used to be part of the Germania Hall and Gymnasium.

The northern portion of the Project site along 7th Street used to be an auto repair shop and a gasoline service station from approximately 1911 to 1967. In approximately 1967, Bay Alarm Co. became the owner and operator at 325 7th Street. Currently, the 325 7th Street property is occupied by the offices and warehouse of I & K Importers and U & P Wholesale, which are clothing merchants.

¹ The California Health and Safety Code defines a hazardous materials as “...any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety, or to the environment. Hazardous materials include, but are not limited to, hazardous substances, hazardous waste, radioactive materials, and any material which a handler or administering agency has a reasonable basis for believing would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.” (Health and Safety Code Section 25501)

Within the southern portion of the Project site, the 330/332 6th Street properties were a junkyard from approximately 1950 to 1964. From approximately 1964 to 1967, W. Ho operated a paper and plastic specialties warehouse and coin-operated machine repair shop at 316 to 332 6th Street. Bay Alarm occupied the space from approximately 1967 to 2004. Currently, and 332 6th Street is occupied by Erik's Auto Tech, and the 316 6th Street space is occupied by T & K Importers.

During the 1950s to 1980s, gasoline service stations operated on both the northwest and northeast corners of the intersection of 7th and Harrison Streets to the north of the Project site. The site on the northeast corner of 7th Street and Harrison Street (opposite the Project site) is a listed leaking underground storage tank (LUST) site.

Based on a review of a previous environmental report², one 3,000-gallon and one 10,000-gallon underground storage tank (UST) were removed from the subject site in October 1998. Soil contamination was discovered at both tanks. The affected soil was excavated and disposed of in accordance with applicable regulations. Groundwater was not tested. According to the report, a new 10,000-gallon UST was installed after the previous UST removal and environmental cleanup. Based on a permit issued by the Oakland Fire Department³, this new UST was removed in 2004. No environmental reports were available regarding the 2004 UST removal.

Phase II ESA

Based on the results of the Phase I ESA, Schutze & Associates, Inc. performed a Phase II Subsurface Investigation consisting of four geo-probe borings and the collection and analyses of soil and/or groundwater samples. The following boring locations were selected, as shown in **Figure 4.5-1**. Borings B1 and B2 were drilled adjacent to the 6th Street parcels to investigate if soil and/or groundwater contamination had been caused by the former junkyard and/or by the current tenant Eric's Auto Tech at 330 6th Street. In addition, the purpose of these two borings was to assess if groundwater contamination had migrated off the subject site onto 6th Street. Boring B3 was drilled on the northeast corner of the 325 7th Street property to investigate if contaminated groundwater had migrated to the subject site from the adjacent historical gasoline service stations located on the northeast and northwest corners of the intersection of 7th and Harrison Streets. Boring B4 was drilled on the 325 7th Street property adjacent and down-gradient from the former UST location. The purpose of this boring was to investigate if soil and/or groundwater contamination had been caused by the former on-site USTs.

Drilling permits were obtained from the County of Alameda, Department of Public Works. An underground services survey was performed to clear the boring locations for utilities. Drilling and sampling were performed on April 13, 2006.

Based on a laboratory report of the drilling samples, the following conclusions were reached:

- Gasoline and automotive-type volatile organic compounds (VOCs) were not detected in any of the borings.
- Non-automotive type volatile organic compounds of Dichloroethene (1,1-DCE) and Trichloroethene (1,1,1-TCA) were detected in the groundwater samples from Boring B1 at concentrations of up to 91 and 100 µg/L, respectively. These concentrations exceed the Target Groundwater Concentrations for

² Foss Environmental and Infrastructure, Report of UST Removal Activities, February 8, 1999

³ Oakland Fire Department, Certificate for UST Removal, 2004

these compounds of 25 and 62 g/L, respectively. The likely sources of this contamination are the former junkyard at this location and/or the current Erik's Auto Tech shop.

- No contamination was detected in Boring B2.
- Diesel and motor oil were detected directly adjacent to the intersection of Harrison and 7th Streets (Boring B3), at concentrations of up to 220 and 380 micrograms per liter (µg/L) respectively. These concentrations are below the action level of 640 µg/L for diesel and motor oil as used by the RWQCB.
- Diesel and motor oil were also detected adjacent to the former on-site USTs (Boring B4) at concentrations of up to 1,600 and 2,400 µg/L, respectively. These concentrations exceed the RWQCB action levels. It appears that contaminated groundwater from the off-site LUST has migrated to the Project site. The elevated diesel and motor oil concentrations near the former on-site UST location indicate that the historical UST on the Project site had impacted the groundwater beneath the site and commingled with the contamination originating from off-site sources. Based on the laboratory results for Borings B1 and B2, the diesel and motor oil contamination does not extend down-gradient, beyond the property boundary onto 6th Street (Boring B2).

Schutze & Associates, Inc. recommended reporting the results of the Phase II Subsurface contamination as required by city, county and state regulations. They also recommended a follow-up subsurface investigation to investigate the lateral and vertical extent of the two areas of contamination (the diesel and motor oil contamination at Boring 4 and the volatile organic compound contamination at Boring B1).

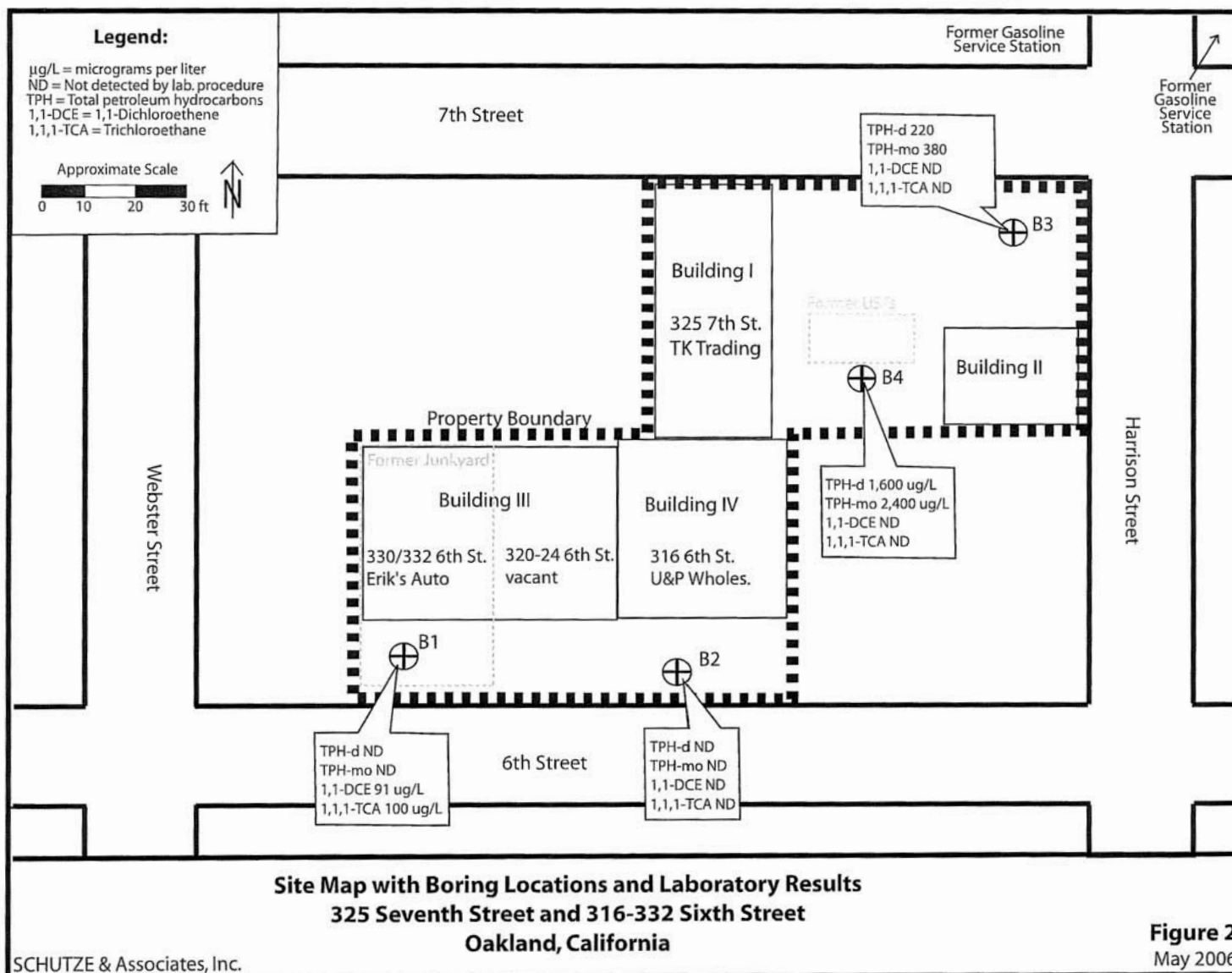


Figure 4.5-1
 Soil Boring Locations



Source: Schutze & Associates

In addition to the hazardous materials encountered during the Phase I Environmental Site Assessment and the Phase II Subsurface Investigation, given the age of structures currently located at the Project site, demolition to enable development as proposed could result in the release of hazardous materials including asbestos and lead based paint that may be present in those structures.

AIRSPACE

The Project site is located approximately 6 miles (5.28 nautical miles) north of the airport reference point⁴ of the Metropolitan Oakland International Airport, and approximately 14 miles (12.32 nautical miles) from airport reference point of San Francisco International Airport. This location places the Project site beneath airspace associated with Instrument Flight Rules (IFR) operations at the Metropolitan Oakland International Airport and the San Francisco International Airport. The Project site is located outside of those areas where Federal Aviation Regulation (FAR) Part 77 limits surface uses associated with both airports, but is subject to overall FAR Part 77 criteria related to structure heights (see further discussion below under Regulatory Setting).

A few private-use heliports are also located in the project vicinity. These heliports include the Oakland Convention Center heliport at 10th Street and Broadway, the Children's Hospital Heliport at 747 52nd Street, and a currently inactive heliport at the Alameda County Parking Garage located at 4400 MacArthur Boulevard.

EMERGENCY EVACUATION ROUTES

The portion of Harrison Street adjacent to the Project site is identified as an Emergency Evacuation Route by the City of Oakland, as it is the location where traffic coming from Alameda exits the Posey Tube.

REGULATORY SETTING

The following section provides the federal, State, and local regulatory framework for hazardous materials and waste, building materials (e.g., lead, asbestos), and worker health and safety.

The use, storage and disposal of hazardous materials, including management of contaminated soils and groundwater, is regulated by numerous local, State, and federal laws and regulations. The U.S. Environmental Protection Agency (U.S. EPA) is the federal agency that administers hazardous materials and hazardous waste regulations. State agencies include the California EPA (Cal/EPA), which include the California Department of Toxic Substances Control (DTSC), the State Water Resources Control Board (State Water Board), the California Air Resources Board (CARB) and other agencies. The San Francisco Bay Regional Water Quality Control Board (Water Board), the Bay Area Air Quality Management District (BAAQMD), Alameda County Department of Environmental Health (ACDEH) and Oakland Fire Services Agency (OFSA) have jurisdiction on a regional or local level.

A description of each agency jurisdiction and involvement in the management of hazardous materials and wastes is provided below.

⁴ The airport reference point is a geographical representation of the airport's horizontal location.

FEDERAL REGULATIONS

Occupational Safety and Health Administration (OSHA)

Worker health and safety is regulated at the federal level by the U.S. Department of Labor, Occupational Safety and Health Administration (OSHA). The Federal Occupational Safety and Health Act of 1970 authorizes states (including California) to establish their own safety and health programs with OSHA approval; implementation of worker health and safety in California is regulated by the California Department of Industrial Relations (DIR). The DIR includes the Division of Occupational Safety and Health (DOSH), which acts to protect workers from safety hazards through its California OSHA (Cal/OSHA) program and provides consultative assistance to employers. California standards for workers dealing with hazardous materials are contained in CCR Title 8 and include practices for all industries (General Industrial Safety Orders), specific practices for construction, and other industries.

Environmental Protection Agency (EPA)

The U.S. EPA is the federal agency responsible for enforcement and implementation of federal laws and regulations pertaining to hazardous materials and hazardous waste. The federal regulations are primarily codified in Title 40 of the Code of Federal Regulations (40 CFR). The legislation includes the Resource Conservation and Recovery Act of 1976 (RCRA), the Superfund Amendments and Reauthorization Acts of 1986 (SARA), and the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA). The U.S. EPA provides oversight for site investigation and remediation projects, and has developed land disposal restrictions and treatment standards for the disposal of certain hazardous wastes.

Federal Aviation Administration (FAA)

Airspace in the United States is regulated by the FAA for the purpose of ensuring the safety of air navigation and the efficient use of navigable airspace by aircraft. The FAA's authority to promote the safe and efficient use of navigable airspace, whether concerning existing or proposed structures, is predominately derived from Title 14 United States Code, Section 44718. However, it should be noted that Section 44718 does not provide specific authority for the FAA to regulate or control how land (real property) may be used.

14 CFR Part 77, entitled "Objects Affecting Navigable Airspace" was adopted to establish standards for proposed construction or alteration that would protect aircraft from encountering unexpected structures. The FAA uses the standards established in FAR Part 77 and other federal regulations, including the United States Standard for Terminal Instrument Procedures (commonly referred to as TERPS), to assess the aeronautical affect of a proposed structure upon the use of navigable airspace. The standards established by FAR Part 77 are for assessing the impact of structures to aircraft operating under Visual Flight Rule (VFR) conditions. Conversely, TERPS is used to assess the impacts of structures to aircraft operating under Instrument Flight Rules (IFR) conditions.

The FAA evaluates proposed structures, such as the proposed Project, upon the receipt of an FAA Form 7460, "Notice of Proposed Construction or Alteration." Form 7460 provides the information necessary for the FAA to conduct an obstruction evaluation study. Under FAR Part 77.13 (a)(1) requirements, a notice is required for any proposed construction or alteration that would be more than 200 feet in height above ground level.

STATE

Three State agencies, described below, regulate hazardous materials and waste applicable to the proposed Project.

Department of Toxic Substances Control

In California, DTSC is authorized by U.S. EPA to enforce and implement federal hazardous materials laws and regulations. California regulations pertaining to hazardous materials are equal to or exceed the federal regulation requirements. Most State hazardous materials regulations are contained in Title 22 of the California Code of Regulations (CCR). DTSC generally acts as the lead agency for soil and groundwater cleanup projects that affect public health, and establishes cleanup levels for subsurface contamination that are equal to, or more restrictive than, federal levels. DTSC has also developed land disposal restrictions and treatment standards for hazardous waste disposal in California.

State Water Resources Control Board

The State Water Board enforces regulations on how to implement underground storage tank (UST) programs. It also allocates monies to eligible parties who request reimbursement of funds to clean up soil and groundwater pollution from UST leaks. The State Water Board also enforces the Porter-Cologne Water Quality Act through its nine regional boards, including the San Francisco Bay Regional Water Quality Control Board, described below.

California Air Resources Board

This agency is responsible for coordinating and oversight of State and local air pollution control programs in California, including implementation of the California Clean Air Act of 1988. CARB has developed State air quality standards, and is responsible for monitoring air quality in conjunction with the local air districts.

California Department of Transportation, Division of Aeronautics

In addition to the FAA review, the California Department of Transportation, Division of Aeronautics reviews proposals for structures near airports in the State of California in accordance with Public Utilities Code Sections 21655 through 21660. These sections specify that structures which extend more than 500 feet above the ground require a permit from the Department unless the FAA has determined that the structure would not constitute a hazard to air navigation or would not create an unsafe condition for air navigation. The Public Utilities Code uses the FAA's rules and regulations, including FAR Part 77, to assess whether a structure is an obstruction or hazard to air navigation.

REGIONAL AGENCIES

The following regional and local agencies have regulatory authority over the proposed Project's management of hazardous materials and waste on the site.

San Francisco Bay Regional Water Quality Control Board

The Project site is located within the jurisdiction of the San Francisco Bay Regional Water Quality Control Board. The Water Board provides for protection of State waters in accordance with the Porter-Cologne Water Quality Act of 1969. The Water Board can act as lead agency to provide oversight for

sites where the quality of groundwater or surface waters is threatened, and has authority to require investigations and remedial actions.

Bay Area Air Quality Management District

The BAAQMD has primary responsibility for control of air pollution from sources other than motor vehicles and consumer products (which is the responsibility of U.S. EPA and CARB). BAAQMD is responsible for preparing attainment plans for non-attainment criteria pollutants, control of stationary sources, and the issuing of permits for activities including asbestos demolition/renovation activities (District Regulation 11, Rule 2).

Alameda County Department of Environmental Health and Oakland Fire Services Agency

ACDEH and OFSA are the primary agencies responsible for local enforcement of State and federal laws pertaining to hazardous materials management and oversight of hazardous materials investigations and remediation in Alameda County.

In Oakland, OFSA has been granted responsibility for implementation and enforcement of many hazardous materials regulations under the Certified Unified Program Agency (CUPA) Program (California Health and Safety Code Chapter 6.11). The CUPA programs include coordination of the local hazardous waste generator programs, underground and aboveground storage tank management, and investigations of leaking underground storage tank sites. OFSA also implements the City of Oakland Hazardous Materials Assessment and Reporting Program, pursuant to City Ordinance No. 12323, which requires notification of hazardous materials storage, use and handling, and an assessment as to whether this storage, use and handling would cause a public health hazard to nearby sensitive receptors including schools, hospitals or other sensitive receptors.

The Oakland Office of Emergency Services (part of OFSA) provides emergency response to fire emergencies and hazardous materials incidents within the City of Oakland, and conducts vegetation management inspections for wildfire reduction. Oakland has entered into agreements with adjoining jurisdictions for cooperative response to fires.⁵

Urban Land Redevelopment (ULR) Program

The ULR Program is a collaborative effort by the City of Oakland and the principal agencies charged with enforcing environmental regulations (DTSC, Water Board and ACDEH) to facilitate the cleanup and redevelopment of contaminated properties in Oakland. The program is coordinated by the City and is specific to Oakland sites. The ULR Program clarifies environmental investigation requirements and established Oakland-specific, risk-based corrective action (RBCA) standards for qualifying sites. RBCA standards are criteria that, when met, adequately address risk posed by contamination to human health. The RBCA standards were first submitted in 1999.

CITY OF OAKLAND

Relevant policies and conditions from the City's General Plan, Municipal Code and Standard Conditions of Approval are described below:

⁵ City of Oakland, General Plan Safety Element, Fire Hazards (Chapter 4), November 2004.

City of Oakland General Plan

Safety Element. The November 2004 Safety Element of the Oakland General Plan contains the following policies regarding hazards and hazardous materials and emergency response that may apply to the Project. Relevant policies from other General Plan elements are also described.

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

Policy HM-3: Seek to prevent industrial and transportation accidents involving hazardous materials and enhance the city's capabilities to respond to such incidents.

Policy PS-1: Maintain and enhance the city's capacity to prepare for, mitigate, respond to, and recover from disasters and emergencies.

OSCAR Element. The following policy statements from the Open Space, Conservation and Recreation (OSCAR) Element of the General Plan regarding hazards and hazardous materials may apply to the proposed Project:

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

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

City of Oakland Municipal Code

The City of Oakland Municipal code includes regulations for the handling of hazardous materials in the City. Title 8, Chapter 8.12 of the Oakland Municipal Code adopts the California Health and Safety Code laws (Health and Safety Code Section 25500 et seq.) related to hazardous materials. City Ordinance No. 12323 regarding hazardous materials storage, use and handling reporting requires notification of hazardous materials storage, use and handling, and an assessment as to whether this storage, use and handling would cause a public health hazard to nearby sensitive receptors including schools, hospitals or other sensitive receptors.

City of Oakland Standard Conditions of Approval

The City's Standard Conditions of Approval relevant to potential hazardous materials impacts are listed below for reference. These Standard Conditions of Approval were cited in the December 2007 Initial Study, and will be adopted as requirements of the proposed Project if the Project is approved by the City to help ensure that no significant impacts (for the applicable topic) occur. As a result, they are not listed as mitigation measures.

SCA Haz-1: Phase I and/or Phase II Reports. *Prior to issuance of a demolition, grading, or building permit.* Prior to issuance of demolition, grading, or building permits the project applicant shall submit to the Fire Prevention Bureau, Hazardous Materials Unit, a Phase I environmental site assessment report, and a Phase II report if warranted by the Phase I report for the project site. The

reports shall make recommendations for remedial action, if appropriate, and should be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer.

To further implement SCA Haz-1, the Project applicant shall submit follow-up subsurface investigations as recommended by the Phase II Subsurface Investigation report for the Project site, including the types of analyses as recommended by DTSC. These investigations shall be documented in a report which shall make recommendations for remedial action if appropriate and necessary, and shall be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer. The follow-up subsurface investigation shall include an analysis of soil and groundwater samples to determine:

- i. the lateral and vertical extent of the two areas of groundwater contamination,
- ii. the presence or absence of metals, and
- iii. the presence or absence of other chemicals that may have been released during junkyard operations.

SCA Haz-2: Site Review by the Fire Services Division. *Prior to the issuance of demolition, grading or building permit.* The project applicant shall submit plans for site review and approval to the Fire Prevention Bureau Hazardous Materials Unit. Property owner may be required to obtain or perform a Phase II hazard assessment.

SCA Haz-3: Lead-Based Paint/Coatings, Asbestos, or PCB Occurrence Assessment. *Prior to issuance of any demolition, grading or building permit.* The project applicant shall submit a comprehensive assessment report to the Fire Prevention Bureau, Hazardous Materials Unit, signed by a qualified environmental professional, documenting the presence or lack thereof of asbestos-containing materials (ACM), lead-based paint, and any other building materials or stored materials classified as hazardous waste by State or federal law.

SCA Haz-4: Other Materials Classified as Hazardous Waste. *Prior to issuance of any demolition, grading or building permit.* If other materials classified as hazardous waste by State or federal law are present, the project applicant shall submit written confirmation to Fire Prevention Bureau, Hazardous Materials Unit that all State and federal laws and regulations shall be followed when profiling, handling, treating, transporting and/or disposing of such materials.

SCA Haz-5: Environmental Site Assessment Reports / Remediation. *Prior to issuance of a demolition, grading, or building permit.* If the environmental site assessment reports recommend remedial action, the project applicant shall:

- i. Consult with the appropriate local, State, and federal environmental regulatory agencies to ensure sufficient minimization of risk to human health and environmental resources, both during and after construction, posed by soil contamination, groundwater contamination, or other surface hazards including, but not limited to, underground storage tanks, fuel distribution lines, waste pits and sumps.
- ii. Obtain and submit written evidence of approval for any remedial action if required by a local, State, or federal environmental regulatory agency.
- iii. Submit a copy of all applicable documentation required by local, State, and federal environmental regulatory agencies, including but not limited to: permit applications, Phase I and II environmental site assessments, human health and ecological risk assessments,

remedial action plans, risk management plans, soil management plans, and groundwater management plans.

SCA Haz-6: Hazards Best Management Practices. *Prior to commencement of demolition, grading, or construction.* The project applicant and construction contractor shall ensure that Best Management Practices (BMPs) are implemented as part of construction to minimize the potential negative effects to groundwater and soils. These shall include the following:

- i. Follow manufacture's recommendations on use, storage, and disposal of chemical products used in construction;
- ii. Avoid overtopping construction equipment fuel gas tanks;
- iii. During routine maintenance of construction equipment, properly contain and remove grease and oils;
- iv. Properly dispose of discarded containers of fuels and other chemicals.
- v. Ensure that construction would not have a significant impact on the environment or pose a substantial health risk to construction workers and the occupants of the proposed development. Soil sampling and chemical analyses of samples shall be performed to determine the extent of potential contamination beneath all UST's, elevator shafts, clarifiers, and subsurface hydraulic lifts when on-site demolition, or construction activities would potentially affect a particular development or building.
- vi. If soil, groundwater or other environmental medium with suspected contamination is encountered unexpectedly during construction activities (e.g., identified by odor or visual staining, or if any underground storage tanks, abandoned drums or other hazardous materials or wastes are encountered), the applicant shall cease work in the vicinity of the suspect material, the area shall be secured as necessary, and the applicant shall take all appropriate measures to protect human health and the environment. Appropriate measures shall include notification of regulatory agency(ies) and implementation of the actions described in the City's Standard Conditions of Approval, as necessary, to identify the nature and extent of contamination. Work shall not resume in the area(s) affected until the measures have been implemented under the oversight of the City or regulatory agency, as appropriate.

SCA Haz-7: Lead-Based Paint Remediation. *Prior to issuance of any demolition, grading or building permit.* If lead-based paint is present, the project applicant shall submit specifications to the Fire Prevention Bureau, Hazardous Materials Unit signed by a certified Lead Supervisor, Project Monitor, or Project Designer for the stabilization and/or removal of the identified lead paint in accordance with all applicable laws and regulations, including but not necessarily limited to: Cal/OSHA's Construction Lead Standard, 8 CCR1532.1 and DHS regulation 17 CCR Sections 35001 through 36100, as may be amended.

SCA Haz-8: Health and Safety Plan per Assessment. *Prior to issuance of any demolition, grading or building permit.* If the required lead-based paint/coatings, asbestos, or PCB assessment finds presence of such materials, the project applicant shall create and implement a health and safety plan to protect workers from risks associated with hazardous materials during demolition, renovation of affected structures, and transport and disposal.

SCA Haz-9: Best Management Practices for Soil and Groundwater Hazards. *Ongoing throughout demolition, grading, and construction activities.* The project applicant shall implement all of the following Best Management Practices (BMPs) regarding potential soil and groundwater hazards.

- i. Soil generated by construction activities shall be stockpiled onsite in a secure and safe manner. All contaminated soils determined to be hazardous or non-hazardous waste must be adequately profiled (sampled) prior to acceptable reuse or disposal at an appropriate off-site facility. Specific sampling and handling and transport procedures for reuse or disposal shall be in accordance with applicable local, state and federal agencies laws, in particular, the Regional Water Quality Control Board (RWQCB) and/or the Alameda County Department of Environmental Health (ACDEH) and policies of the City of Oakland.
- ii. Groundwater pumped from the subsurface shall be contained onsite in a secure and safe manner, prior to treatment and disposal, to ensure environmental and health issues are resolved pursuant to applicable laws and policies of the City of Oakland, the RWQCB and/or the ACDEH. Engineering controls shall be utilized, which include impermeable barriers to prohibit groundwater and vapor intrusion into the building (pursuant to the Standard Condition of Approval regarding Radon or Vapor Intrusion from Soil and Groundwater Sources
- iii. Prior to issuance of any demolition, grading, or building permit, the applicant shall submit for review and approval by the City of Oakland, written verification that the appropriate federal, state or county oversight authorities, including but not limited to the RWQCB and/or the ACDEH, have granted all required clearances and confirmed that the all applicable standards, regulations and conditions for all previous contamination at the site. The applicant also shall provide evidence from the City's Fire Department, Office of Emergency Services, indicating compliance with the Standard Condition of Approval requiring a Site Review by the Fire Services Division pursuant to City Ordinance No. 12323, and compliance with the Standard Condition of Approval requiring a Phase I and/or Phase II Reports.

SCA Haz-10: Radon or Vapor Intrusion from Soil or Groundwater Sources. *Ongoing.* The project applicant shall submit documentation to determine whether radon or vapor intrusion from the groundwater and soil is located on-site as part of the Phase I documents. The Phase I analysis shall be submitted to the Fire Prevention Bureau, Hazardous Materials Unit, for review and approval, along with a Phase II report if warranted by the Phase I report for the project site. The reports shall make recommendations for remedial action, if appropriate, and should be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer. Applicant shall implement the approved recommendations.

IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES

The December 2007 Initial Study prepared for this Project (see **Appendix A**) determined that the Project would have no impact with respect to hazardous materials near schools, the Cortese list, public airport hazards, private airstrip safety hazards and wildland fires. The Initial Study also concluded a less than significant impact with implementation of Standard Conditions of Approval with respect to routine use, transport and disposal of hazardous materials and accident conditions involving hazardous materials.

In reviewing the Phase I Environmental Site Assessment and the Phase II Subsurface Investigation during the review period for the Notice of Preparation, the California Department of Toxic Substances Control (DTSC) found that there are information gaps in the subsurface investigation because: (1) no soil samples

were analyzed (lack of visual evidence does not necessarily mean an absence of contamination); (2) metals were not included in the analyses (metals are potential contaminants from auto repair and storage operations); and (3) other chemical contaminants may have been released due to junkyard operations. DTSC recommended that a follow-up investigation be conducted to include sampling and analyses to address these information gaps. DTSC also indicated that if follow-up testing shows that hazardous substances have been released, they will need to be addressed as part of this Project. For example, if remediation activities are needed at the Project site and such activities include the need for soil excavation, the CEQA compliance document should include:

- An assessment of air impacts and health impacts associated with the excavation activities;
- Identification of any applicable local standards which may be exceeded by the excavation activities, including dust levels and noise;
- Transportation impacts from the removal or remedial activities; and
- Risk of public upset should there be an accident at the Project site.

The purpose of the analysis presented in the following section of this EIR is to address issues raised by DTSC in response to the Notice of Preparation regarding hazardous materials, and to determine the impacts (if any) associated with emergency evacuation.

CRITERIA OF SIGNIFICANCE

A significant hazardous material or public health and safety impact pursuant to the issues raised by DTSC, and/or with regard to emergency evacuation would occur if the Project would:

1. Create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials;
2. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
3. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment;
4. Be located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, and would result in a safety hazard for people residing or working in the Project area;
5. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

LESS-THAN-SIGNIFICANT PUBLIC HEALTH AND SAFETY IMPACTS

Hazardous Materials

Impact Haz-1: Risks associated with possible exposure to contaminated groundwater, metals that may be found in the soil or other chemicals that may have been released during prior junkyard operations at the Project site will be reduced to a level of less than significant based on implementation of required Standard Conditions of Approval. (**LTS, with Standard Conditions of Approval**)

No portion of the Project site is included on any list of hazardous materials sites compiled pursuant to Government Code Section 65962.5

The Phase I Environmental Site Assessment and the Phase II Subsurface Investigation prepared by Schutze & Associates, Inc. (May 23, 2006) indicates that groundwater contaminated with diesel and motor oil from off-site leaking underground storage tanks has migrated to the site. Additionally, concentrations of volatile organic compounds (1.1-DCE and 1.1.1-TCA) were detected at levels that exceed the Groundwater Screening Levels for these compounds at a portion of the site. Likely sources of this contamination are the former junkyard and/or the current Erik's Auto Tech Shop at 332 6th Street.

The Phase II report recommended a follow-up subsurface investigation to investigate the lateral and vertical extent of the two areas of groundwater contamination, with reporting of the results of the subsurface investigation as required by city, county and State regulations. This follow-up subsurface investigation has not yet occurred, as much of that investigation could only be completed once the site has been cleared of existing structures. Until the recommended follow-up subsurface investigation to determine the lateral and vertical extent of groundwater contamination at the Project site has been completed, it is uncertain whether or not remediation will be necessary.

The potential presence of these contaminants poses an environmental risk and potential health risk during construction activities. Construction activities for the Project include removal of existing subsurface foundations, utilities trenching and excavation for new building foundations, substructures and underground parking. Soil disturbance and groundwater encountered during these construction activities could disperse contaminants into the environment and expose construction workers and the public to contaminants.

Standard Conditions of Approval

To further implement **SCA Haz-1 through SCA Haz-4**, the Project applicant shall submit follow-up subsurface investigations as recommended by the Phase II Subsurface Investigation Report for the Project site. The nature of this report will require that it include the types of analyses recommended by DTSC. These investigations shall be documented in a report which shall make recommendations for remedial action if appropriate and necessary, and shall be signed by a Registered Environmental Assessor, Professional Geologist, or Professional Engineer. The follow-up subsurface investigation shall include an analysis of soil and groundwater samples to determine:

- the lateral and vertical extent of the two areas of groundwater contamination,
- the presence or absence of metals, and
- the presence or absence of other chemicals that may have been released during junkyard operations.

After completion of the follow-up investigation recommended in the Phase II Subsurface Investigation prepared by Schutze & Associates, Inc., it is possible that further remedial action will be required to address groundwater contamination at the Project site or to address the potential presence of other chemicals that may have been released during previous junkyard operations. Such further remedial action would also be required pursuant to the City's Standard Condition of Approval Haz-5.

Under a conservative assumption that further remedial action may be required to address potential soil and/or groundwater contamination at the site, the excavation and removal of such soil and/or groundwater could result in further potential environmental impacts. Excavation activities could potentially result in the release of dust and hazardous materials into the air or surface water, excavation activities could generate substantial additional sources of temporary noise, the removal of excavated material could have additional transportation effects, and these activities could result in additional risks of upset and accidents involving hazardous materials.

Compliance with SCA Haz-6 through -10 above and SCA Air-4 regarding asbestos removal in structures, including implementation of all Best Management Practices and regulatory requirements of DTSC, BAAQMD, RWQCB, ACDEH, Cal/OSHA and the City Fire Department would reduce risks associated with possible exposure during the remediation efforts to address contaminated groundwater, metals that may be found in the soil, or other chemicals that may have been released during junkyard operations at the Project site, to a level of less than significant.

The requirements pursuant to these regulatory requirements include, but are not limited to preparation, approval from applicable federal, state, regional and local agencies, and compliance with the following:

- A Remedial Action Plan, Soil Management Plan and Groundwater Management Plan are required to address issues such as dust suppression, protection of surface waters and storm drainage outfalls, noise attenuation, etc. The BAAQMD may also impose specific requirements to protect ambient air quality from dust, lead, hydrocarbon vapors or other airborne contaminants during site remediation activities.
- A Risk Management Plan and a Site Health and Safety Plan in conformance with federal and California Occupational Safety and Health Administration (Cal/OSHA) regulations will also be required. These plans would include identification of chemicals of concern, potential hazards, personal protection clothing and devices, and emergency response procedures as well as required fencing, dust control or other site control measures needed during excavation to protect health and safety of workers and the public. OSHA requirements also mandate an initial training course and subsequent annual training. Site-specific training may also be required for some workers.
- With regards to transportation impacts, the remediation contractor would be required to follow state and federal regulations for manifesting the wastes, using licensed waste haulers, and disposing of the materials at a permitted disposal or recycling facility.

These requirements would ensure compliance with federal, State, regional and local requirements to address the potential health impacts associated with the excavation activities, including potential transportation impacts from the removal or remedial activities; and the risk of public upset should there be an accident at the Project site.

Airspace

Impact Haz-2: The proposed Project is not located within an airport land use plan or within two miles of a public airport or public use airport, and would not result in a safety hazard for people residing or working in the Project area. (LTS)

The proposed structures would not penetrate the TERPS surface associated with any existing IFR departure procedure for the Metropolitan Oakland International Airport or San Francisco International Airport.

The Project site is located approximately 6 miles (5.28 nautical miles) north of the airport reference point of the Metropolitan Oakland International Airport, and approximately 14 miles (12.32 nautical miles) from airport reference point of San Francisco International Airport. The Project is located far enough away from these airports that it would not restrict the clear view of runways, helipads, taxiways, or traffic patterns from the control towers of these airports.

The two proposed towers at the Project site would be 332 feet and 251 feet tall, respectively. At this height, the Project would not interfere with Visual Flight Rules operations, nor would it penetrate the US Standard for Terminal Instrument Procedures (TERPS) surface associated with any existing Instrument Flight Rules (IFR) departure procedure for the Metropolitan Oakland International Airport or San Francisco International Airport. As shown in Port of Oakland base mapping of TERPS composite points in the area, the TERPS surface elevation is approximately 618 feet in the Project vicinity (air surface associated with an existing IFR departure procedure for Runway 33 at Metropolitan Oakland International Airport). The tallest portion of the proposed towers (at approximately 332) would be approximately 285 feet below this TERPS surface elevation, and would not penetrate this surface.

Since the height of the proposed towers would be less than 500 feet, the project would not be subject to review or permitting by the California Department of Transportation, Division of Aeronautics in accordance with Public Utilities Code Sections 21655 through 21660.

The Project would also not interfere with operation of private-use heliports in Oakland because those facilities are located a substantial distance from the Project site.

Emergency Evacuation Routes

Impact Haz-3: The limited access from the Project site to the adjacent portion of Harrison Street precludes substantive Project-related interference with use of this street as an emergency evacuation route. The Project would have a less than significant effect on emergency evacuation routes. (LTS)

The portion of Harrison Street adjacent to the Project site is identified as an Emergency Evacuation Route by the City of Oakland. This is the location where traffic coming from Alameda exits the Posey Tube. No vehicular access or loading areas are proposed along the Harrison Street frontage of the Project site. Since Harrison Street is one-way northbound exiting the Posey Tube, it is not possible for traffic exiting the Project site to turn directly onto the adjacent segment of Harrison Street. Although Project-related traffic would contribute incrementally to total traffic volumes along Harrison Street, the limited access from the Project site to the adjacent portion of Harrison Street precludes substantive Project-related interference with its use as an emergency evacuation route.

SIGNIFICANT PUBLIC HEALTH AND SAFETY IMPACTS

The proposed Project would not result in any significant public health or safety impacts.

CUMULATIVE HAZARDS AND HAZARDOUS MATERIALS IMPACTS

Cumulative Impact Haz-4: The cumulative effect of the Project on hazardous materials, in combination with other foreseeable project, would be less than significant. **(LTS)**

Compliance with Standard Conditions of Approval identified above would reduce risks associated with possible exposure to contaminated groundwater, metals that may be found in the soil, or other chemicals that may have been released during junkyard operations at the Project site to a level of less than significant. However, it is possible for combined effects of transporting and disposal of hazardous materials to be affected by cumulative development. The downtown Oakland area was used as context for assessing cumulative impacts on the transportation and disposal of hazardous materials.

Other foreseeable development in downtown Oakland, although likely to increase the potential to disturb existing contamination and the handling of hazardous materials, would be required to comply with the same regulatory framework as the proposed Project. To the extent that future projects contain a mix of residential and non-residential uses, such projects could consider project-specific operational performance standards as part of the applicable zoning regulations. In all cases, future projects would be required to comply with federal and State regulatory requirements for transporting hazardous materials or cargo (including fuel and other materials used in motor vehicles on public roadways (Cal EPA and Caltrans) or disposing of hazardous materials (Cal EPA, DTSC, ACEHD). Therefore, the effect of the Project on hazardous materials, in combination with other foreseeable project, would be less than significant.

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WASTEWATER INFRASTRUCTURE

The Initial Study prepared for this Project in December 2007 determined that the Project would have no significant environmental impacts with respect to public utilities (see **Appendix A**, Initial Study). Following review of that Initial Study, the East Bay Municipal Utility District (EBMUD) indicated that the project developer needed to confirm with the City of Oakland Public Works Department that there is available capacity within the sub-basin flow allocation, and that such capacity had not been allocated to other developments. EBMUD also indicated that the Project should address the replacement or rehabilitation of the existing sanitary sewer collection system to prevent an increase in inflow/infiltration (I/I), and that the projected peak wet weather flows from the Project would need to be determined to assess available capacity within the sub-basin, with confirmation included in the EIR.

SETTING

Existing Conditions

As indicated in the Initial Study, the Project site is situated in Sub-basin 64-02. Each numbered sub-basin encompasses a specific physical area, and its sewer flows are assigned by the City of Oakland to a single discharge point from the City's collection system to the EBMUD interceptor system. The City allocates each sub-basin a certain amount of sewer flow that may be discharged to the EBMUD system, and flows within a sub-basin normally may not exceed that allocation. Should a sub-basin require more flow than its allocation, allocation may be redirected between adjacent sub-basins. In total, flows from the sewer basin may not exceed that basin's allocation. In this manner, the City ensures the capacity of the EBMUD wastewater transport and treatment system is adequate to serve development as planned and as proposed.

Inflow and infiltration of stormwater into Oakland sewer lines (resulting in high flow levels and overflow of untreated wastewater during wet weather events) has been a continuing issue with respect to the local sanitary sewer collection system. Stormwater passes through the soil and infiltrates deteriorated sewer pipes, while inflow originates from stormwater inlets and manholes that connect to the sanitary sewer system (rather than the stormwater collection system).

The City of Oakland has a 25-year Sanitary Sewer Infiltration/Inflow Correction Program intended to reduce inflow and infiltration by upgrading the existing sewer system by rehabilitating and enhancing key portions of the sewer system that had the greatest problems within infiltration and inflow in order to eliminate overflows. The areas with the highest infiltration and inflow were identified and targeted cost-effectively for system rehabilitation and/or capacity correction. The 25-year plan was prioritized, in general, to achieve the maximum sanitary sewer overflow reduction at the least initial capital cost in the shortest time possible. Also, locations with the highest impact to public health and safety were given higher priorities. This program will be completed by 2013, and Oakland's Sewer Discharge Permit with the Regional Water Quality Control Board mandates the order of these projects.

Capacity improvements have targeted the trunk network only, on the assumption that the local mains have sufficient capacity to serve their respective sub-basins. The Sanitary Sewer Infiltration/Inflow Correction

Program has been designed to accommodate a 20 percent increase in base-flow, with remaining system capacity determined by sub-basin. If the base-flow level of wastewater generated by a proposed development Project would not exceed the projected capacity of the sub-basin in which that project is located, impact analysis may be limited to the study of those local sewer mains which directly serve the Project site.

REGULATORY SETTING

The following section provides the local regulatory framework for wastewater collection.

City of Oakland

City of Oakland Standard Conditions of Approval

The City's Standard Conditions of Approval relevant to wastewater collection system infrastructure impacts are listed below for reference. These Standard Conditions of Approval were cited in the December 2007 Initial Study, and will be adopted as requirements of the proposed Project if the Project is approved by the City to help ensure that no significant impacts (for the applicable topic) occur. As a result, they are not listed as mitigation measures.

SCA WW-1: Improvements in the Public Right-of-Way (General) Approved prior to the issuance of a P-job or building permit

- a. The project applicant shall submit Public Improvement Plans to Building Services Division for adjacent public rights-of-way (ROW) showing all proposed improvements and compliance with the conditions and City requirements including but not limited to curbs, gutters, sewer laterals, storm drains, street trees, paving details, locations of transformers and other above ground utility structures, the design specifications and locations of facilities required by the East Bay Municipal Utility District (EBMUD), street lighting, on-street parking and accessibility improvements compliant with applicable standards and any other improvements or requirements for the project as provided for in this Approval. Encroachment permits shall be obtained as necessary for any applicable improvements- located within the public ROW.
- b. Review and confirmation of the street trees by the City's Tree Services Division is required as part of this condition.
- c. The Planning and Zoning Division and the Public Works Agency will review and approve designs and specifications for the improvements. Improvements shall be completed prior to the issuance of the final building permit.
- d. The Fire Services Division will review and approve fire crew and apparatus access, water supply availability and distribution to current codes and standards.

SCA WW-2: Improvements in the Public Right-of Way (Specific). *Approved prior to the issuance of a grading or building permit.* Final building and public improvement plans submitted to the Building Services Division shall include the following components:

- a. Install additional standard City of Oakland streetlights.
- b. Remove and replace any existing driveway that will not be used for access to the property with new concrete sidewalk, curb and gutter.

- c. Reconstruct drainage facility to current City standard.
- d. Provide separation between sanitary sewer and water lines to comply with current City of Oakland and Alameda Health Department standards.
- e. Construct wheelchair ramps that comply with Americans with Disability Act requirements and current City Standards.
- f. Remove and replace deficient concrete sidewalk, curb and gutter within property frontage.
- g. Provide adequate fire department access and water supply, including, but not limited to currently adopted fire codes and standards.

SCA WW-3: Stormwater and Sewer. *Prior to completing the final design for the project's sewer service.* Confirmation of the capacity of the City's surrounding stormwater and sanitary sewer system and state of repair shall be completed by a qualified civil engineer with funding from the project applicant. The project applicant shall be responsible for the necessary stormwater and sanitary sewer infrastructure improvements to accommodate the proposed project. In addition, the applicant shall be required to pay additional fees to improve sanitary sewer infrastructure if required by the Sewer and Stormwater Division. Improvements to the existing sanitary sewer collection system shall specifically include, but are not limited to, mechanisms to control or minimize increases in infiltration/inflow to offset sanitary sewer increases associated with the proposed project. To the maximum extent practicable, the applicant will be required to implement Best Management Practices to reduce the peak stormwater runoff from the project site. Additionally, the project applicant shall be responsible for payment of the required installation or hook-up fees to the affected service providers.

IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES

CRITERIA OF SIGNIFICANCE

Under the City of Oakland's significance criteria, the Project would have a significant impact on the wastewater collection system if it were to result in a determination by the wastewater treatment provider which serves or may serve the Project that it does not have adequate capacity to serve the Project's projected demand in addition to the providers' existing commitments and require or result in construction of new wastewater treatment facilities or expansion of existing facilities, construction of which could cause significant environmental effects.

LESS-THAN-SIGNIFICANT IMPACTS

Wastewater Collection and Treatment Infrastructure

Impact WW-1: Implementation of the Project would not exceed the wastewater treatment capacity of existing facilities, or require expansion of existing facilities which could cause significant environmental effects. This is a less than significant impact. **(LTS)**

Based on City of Oakland Public Works Agency's standards for *Sanitary Sewer Design Guidelines*, the proposed Project would generate average wastewater flows of approximately 65,300 gallons per day

(gpd).¹ Using the methodology outlined in the Sanitary Sewer Design Guidelines for estimating peak wet weather flows based on average daily flows, peak wet weather flows from the Project site following development could be expected to range between 132,220 gpd (using a peak flow coefficient factor of 2.0) to 247,912 gpd (using a peak flow coefficient factor of 3.75). As current sewer flows attributable to the site are negligible, most of this wastewater flow would be considered increased flows attributable to the Project.

The Project site is located in an urban area already served by utilities and service systems. Specifically, the Project site is situated in the City's sewer sub-basin #64-02 which, according to City staff, has enough capacity to handle the proposed sewer discharge flow associated with the Project.²

On-going sewer collection system capacity improvements pursuant to the Sanitary Sewer Infiltration/Inflow Correction Program address the sewer trunk network, and have been designed to accommodate an overall 20 percent increase in base-flow. Property owners within the City of Oakland fund the Sanitary Sewer Infiltration/Inflow Correction Program improvements through the payment of property taxes, and a portion of the property taxes that would be paid initially by the Project developer (and subsequently by those living at the Project site) would be directed toward this Program.

Standard Conditions of Approval

The remaining system capacity is determined by sub-basin. Since the base-flow level of wastewater generated by the proposed Project would not exceed the capacity of the sub-basin in which it is located, confirmation of the capacity of the City's surrounding sanitary sewer system would be limited to a study of those local sewer mains which directly serve the Project site. Pursuant to the requirements of **SCA WW-1 through -3** (above), the Project applicant will be required to show proposed sewer discharge calculations at the final design stage and to confirm the capacity of the City's surrounding sanitary sewer system and state of repair, and will be responsible for any necessary sanitary sewer infrastructure improvements needed to accommodate the proposed Project. In addition, the Project applicant may be required to pay additional fees to improve sanitary sewer infrastructure if required by the Sewer and Stormwater Division and shall also be responsible for payment of the required installation or hook-up fees to the affected service providers. Any necessary improvements to the local sanitary sewer system needed to accommodate the proposed Project would have relatively minor local construction impacts, typical of local utility improvements, and would not be expected to result in any significant environmental impact as defined by CEQA.

Although development of the Project site as proposed would result in an increased demand for wastewater treatment relative to that associated with current uses at the site, the Community Services Analysis prepared for the Land Use and Transportation Element of the General Plan stated that future in-fill development through the General Plan horizon year of 2015 would not be likely to impose a burden on existing utilities and service systems. Implementation of the City of Oakland Standard Condition of Approval (see above) would further reduce such potential impacts to a level of less than significant.

¹ Estimated at 232 1-bedroom units x 150 gpd/unit, 148 2-bedroom units x 200 gpd/unit, and 9,110 square feet of retail at 100 gpd/1,000 sf.

² e-mail from Gus Amirzehni, Engineering and ROW Management, CEDA, City of Oakland to Heather Klein, Planner III, CEDA, City of Oakland, July 11, 2007

SIGNIFICANT WASTEWATER COLLECTION INFRASTRUCTURE IMPACTS

No significant Project-related wastewater collection infrastructure impacts have been identified.

CUMULATIVE WASTEWATER COLLECTION INFRASTRUCTURE IMPACTS

Cumulative Impact WW-2: Implementation of the Project, in combination with other cumulative development would not cumulatively exceed the wastewater treatment capacity of existing facilities, or require expansion of existing facilities which could cause significant environmental effects. This is a less than significant impact. **(LTS)**

As indicated above, the owner of the Project site and owners of all other properties in the City of Oakland will be required to fund Sanitary Sewer Infiltration/Inflow Correction Program improvements through the payment of property taxes. Payment of these taxes and implementation of SCA WW-1 through -3 above reduces potential cumulative wastewater collection impacts to a level of less than significant.

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CULTURAL RESOURCES

The Initial Study prepared for this Project in December 2007 determined that the Project would have no significant environmental impacts with respect to historic resources, archaeological resources, paleontological resources or human remains (see **Appendix A**). This conclusion was partly based on the proposal at that time for relocating the existing residential structure located at 617-621 Harrison Street to a new site near 14th Street and Peralta Street, within a separate historic district in Oakland. The property at 617-621 Harrison Street is described in the City of Oakland Cultural Heritage Survey (OCHS) as being a C1+ rated property. This rating indicates the property is of secondary historical importance, is located within an Area of Primary Importance (i.e., within the 7th Street/Harrison Square Residential Historic District), and is a contributor to that District. As such, it is considered a historic resource under CEQA. However, since publication of the Initial Study in December 2007, the Project applicant now proposes to instead demolish the existing residential structure at 617-621 Harrison Street. This represents a change in the description of the Project as presented in the Initial Study.

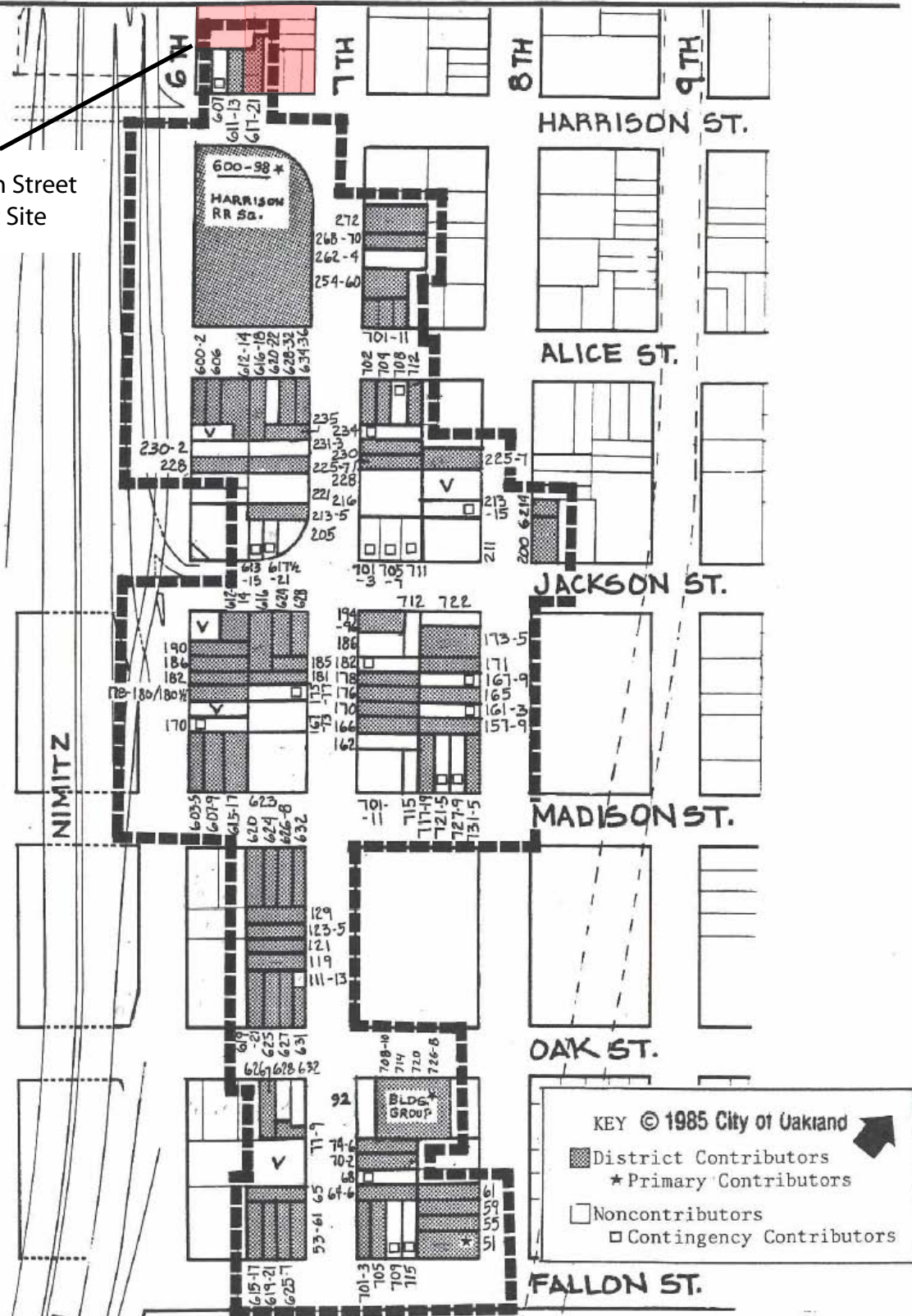
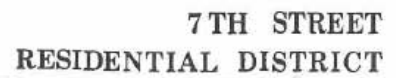
This section of the Draft EIR focuses on an evaluation of this change in the Project Description, identifying those impacts that demolition of the building at 617-621 Harrison Street would have on that historic resource and on the District.

SETTING

7TH STREET/HARRISON SQUARE RESIDENTIAL HISTORIC DISTRICT

The 7th Street/ Harrison Square Residential Historic District is designated in the OCHS as an Area of Primary Importance and appears eligible for listing on the State and National Register of Historic Places.

The most northerly edge of this District extends one parcel deep into the block on which the Project site is located, and includes 3 properties along Harrison Street, including 607, 611 and 617-621 Harrison Street. One of these properties, 617-621 Harrison Street, is located within the Project site itself. Other portions of the Project site's southerly boundary abut the northern boundary of this District as shown in **Figure 4.7-1**.



Source: Oakland Cultural Heritage Survey

The following information is derived from the City of Oakland's Cultural Heritage Survey pertaining to the 7th Street / Harrison Square Residential Historic District:¹

The 7th Street/Harrison Square Residential Historic District consists of the properties along five blocks of 7th Street and the cross streets from Harrison to Fallon, extending in some places to 8th Street and 6th Street. It is almost entirely housing and one City park. Individual block fronts are varied, though matching pairs and triplets occur. A surviving remnant of a much larger neighborhood developed in the decades just before and after 1900, the district is bounded on the west and northwest by the Chinatown commercial district and on the other three sides by new construction: BART and ABAG buildings to the north, Laney Community College buildings and parking lot to the east, and to the south freeway and related uses (gas station, small parking lots, small industrial buildings, a motel). The majority of residents are ethnically Chinese. There are no longer any small stores within the neighborhood.

Most of the buildings look like one- or two-family dwellings. They are detached, one- or two-story wood-frame structures set back from the sidewalk line. The typical house has a raised basement, drop siding, double-hung windows, a recessed main entry reached by a single flight of exterior stairs, a cornice and/or overhanging eaves and one more polygonal, curved, or rectangular bay windows. At the front the house usually shows a small side yard, which is terminated by a side bay window or by a widening of the body of the house, creating a notch—back effect. The scale is small: about half the houses are “cottages”, with only one story, the rest are not very large, and most lots are only 25 feet wide. Most houses occupy about half their respective lots, with small front setbacks, the notch-backs, and large back yards. Exterior ornaments are wood, concentrated especially at the entry recess or porch, on the bay windows, at cornices and gable—ends.

The most numerous building type, about one-fourth of the total, is the Queen Anne cottage. . . . Other styles prevalent in the district are the Queen Anne house (similar to the cottage but taller) and the Colonial Revival house or cottage (more sedate and more classical in ornamentation, with fewer contrasts, greater symmetry, allusions to 18th-century American designs such as clapboard siding, slender turned balustrades and shouldered window surrounds). There is also a handful of houses in transition between the two styles. Another important group is houses in styles that predate the local Queen Anne mode. There are a few Stick style cottages (with rectangular bay windows), a few Italianate houses (polygonal-bayed or flat-fronted with Italianate ornament) and even some very simple and very early structures of a Gold Rush or Greek Revival character.

¹ Oakland Cultural Heritage Survey, City of Oakland Planning Department, *Seventh Street/Harrison Square Residential District*, City of Oakland 1985.

However, the district is far from intact. Half a dozen industrial buildings intrude on the residential picture, four of them on 7th Street, three massive. There are also a dozen modern apartment buildings, ranging in size from a modest duplex to a vastly over-scale, 7-story, 48-unit structure. Although not compatible in design, their residential use does harmonize with that of the older houses.

The original buildings themselves have also been changed. Most now contain more units than originally. Many garages' have been inserted under projecting bay windows. Wooden window sash has often been replaced with aluminum, usually with casements or sliders and transoms replacing original double-hung shapes. A few houses have siding covered or replaced with asbestos shingles. Some have been stuccoed over more or less completely. A less serious and almost universal change is the replacement of original exterior stairs, railings, and balusters with simpler substitutes. Quite a few need maintenance. Most have rear additions not generally visible from the street.

Significance of the Seventh Street/Harrison Square Residential District

National Register of Historic Places

The Seventh Street/Harrison Square Residential Historic District appears to be eligible for listing on the National Register of Historic Places as a surviving area of middle-and lower-middle-class housing constructed largely between 1889 and 1910. Two-thirds of the district's features are contributors, and more could contribute if restored. Except for intrusions, the district is unified in scale, apparent density, use and relationship of buildings to lots. The best buildings are on the cross streets: Fallon, Oak, Madison, Jackson and Alice. Seventh Street has "*just enough shining links to rationalize stringing all the cross streets together like dangling beads of unequal lengths.*"² The District's boundaries are clearly delineated by freeways, block-long new office and education structures, a park and the Chinatown commercial district.

California Register of Historic Resources

Any resource listed on or formally determined to be eligible for listing on the National Register is automatically listed on the California Register. Thus, the 7th Street/Harrison Square Residential Historic District appears eligible for listing on the California Register of Historic Resources as well.

Local Register

The 7th Street/Harrison Square Residential Historic District is designated in the OCHS as an Area of Primary Importance.

CULTURAL RESOURCES AT THE PROJECT SITE

No individual structures at the Project site have been listed, or been determined to be eligible for listing in the National Register of Historic Places or the California Register of Historical Resources.

² Ibid

One structure within the Project site (located at 617-621 Harrison Street) has been identified in the Oakland Cultural Heritage Survey as a Potential Designated Historic Property (PDHPs) with a rating of “C1+” (a property of secondary importance, located within an Area of Primary Importance, and a “contributor” to the 7th Street/Harrison Square Residential Historic District). This structure is considered an historic resource pursuant to CEQA based on City of Oakland criteria as a Potential Designated Historic Property located within an Area of Primary Importance.

None of the other structures within the Project site are considered to be historic resources.

REGULATORY SETTING

Federal: National Historic Preservation Act of 1966 (as amended)

The National Historic Preservation Act (NHPA) of 1966 establishes a program to preserve historic properties throughout the U.S. and, among other things, authorizes the Secretary of the Interior to expand and maintain a National Register of Historic Places composed of districts, sites, buildings, structures, and objects significant in American history, architecture, archaeology, engineering, and culture. The National Register is administered by the National Park Service, which is part of the U.S. Department of the Interior.

In general, properties listed in the Register include districts, sites, buildings, structures, and objects that are significant in American history, architecture, archeology, engineering, and culture, and that:

- Are associated with events that have made a significant contribution to the broad patterns of U.S. history; or
- Are associated with the lives of persons significant in the past; or
- Embody distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
- Have yielded, or may be likely to yield, information important in prehistory or history.

In general, cemeteries, birthplaces, or graves of historical figures, properties owned by religious institutions or used for religious purposes, structures that have been moved from their original locations, reconstructed historic buildings, properties primarily commemorative in nature, and properties that have achieved significance within the past 50 years shall not be considered eligible for the National Register.

No individual structures at the Project site have been listed, or been determined to be eligible for listing in the National Register of Historic Places. The Seventh Street/Harrison Square Residential Historic District appears to be eligible for listing on the National Register of Historic Places as a surviving area of middle- and lower-middle-class housing constructed largely between 1889 and 1910. The one property on the Project site at 617-621 Harrison Street is a contributor to this District.

State of California

The mission of the State Historical Resources Commission and the Office of Historic Preservation is to preserve and enhance California’s irreplaceable historic heritage as a matter of public interest so that its vital legacy of cultural, educational, recreational, aesthetic, economic, social, and environmental benefits will be maintained and enrich the lives of present and future generations.

California Register of Historical Resources

In order for a resource to meet the criteria for listing in the California Register of Historical Resources, it must satisfy all of the following three provisions:

1. It meets one or more of the following four criteria of significance:
 - The resource is associated with events or patterns of events that have made a significant contribution to the broad patterns of local and regional history;
 - The resource is associated with the lives of persons important to the nation or to California's past;
 - The resource embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master, or possesses high artistic values; or
 - The resource has the potential to yield information important to the prehistory or history of the State or the nation (this criterion applies primarily to archaeological sites).
2. The resource retains historic integrity (defined below); and
3. It is fifty years old or older (except for rare cases where it can be demonstrated that sufficient time has passed to understand the historical importance of the resource).

The California Register regulations are similar to the criteria used by the National Park Service for the National Register of Historic Places. Any resource listed on or formally determined to be eligible for listing on the National Register is automatically listed on the California Register.¹

The California Register defines "integrity" as "the authenticity of a property's physical identity, evidenced by the survival of characteristics that existed during the property's period of significance." A property must, therefore, retain enough of its historic character or appearance to be recognizable as an historical resource. California Register regulations specify that integrity is a quality that applies to historic resources in seven ways: location, design, setting, materials, workmanship, feeling, and association. A property must retain most of these qualities to possess integrity.

No individual structures at the Project site have been listed, or been determined to be eligible for listing in the California Register of Historical Resources. As a district which has been determined to be eligible for listing on the National Register, the 7th Street/Harrison Square Residential Historic District is automatically listed on the California Register. The one property on the Project site at 617-621 Harrison Street is a contributor to this District.

City Of Oakland

Relevant policies and conditions from the City's General Plan, Municipal Code and Standard Conditions of Approval are described below:

¹ California Code of Regulations, Title 14, Chapter 11.5, Section 4851(a)

General Plan

Land Use and Transportation Element. The Land use and Transportation Element (LUTE) is intended to guide development within the City of Oakland. Applicable historic resources policies are listed below:

Policy N3.6: Encouraging Retention of Dwelling Units. The City strongly encourages the moving of dwelling units which might otherwise be demolished onto vacant lots, where appropriate and economically feasible, such as onto infill lots.

Policy N9.8: Preserving History and Community. Locations that create a sense of history and community within the City should be identified and preserved where feasible.

Policy N9.9: Respecting Architectural Integrity. The City encourages rehabilitation efforts which respect the architectural integrity of a building's original style.

Policy I/C2.2: Reusing Abandoned Buildings. The reuse of abandoned industrial buildings by non-traditional activities should be encouraged where the uses are consistent with, and will assist in the attainment of, the goals and objectives of all elements of the Plan.

City of Oakland Historic Preservation Element: The City of Oakland's Historic Preservation Element (HPE), adopted in 1994 and amended several times subsequently, is intended to "provide a broad, multifaceted historic preservation strategy that addresses a wide variety of properties, and is intended to help revitalize Oakland's districts and neighborhoods and secure other preservation benefits."² The Element establishes goals and objectives, and provides a means of identifying historic properties in Oakland. It also lists all existing properties currently on the National Register, discusses the Oakland Cultural Heritage Survey's evaluation system, and establishes guidelines for determining landmark eligibility. The Historic Preservation Element of the General Plan (HPE) describes policies for the preservation of Oakland's historic resources. These policies include:

Policy 2.4: Landmark and Preservation District Regulations. Demolitions and removals involving Landmarks or Preservation Districts will generally not be permitted, or be subject to postponement unless certain findings are made. Demolition or removal of more important landmarks and of most Preservation District properties will normally not be permitted without the required findings, while demolition or removal of less important landmarks will be subject only to postponement.

- Alterations or new construction involving Landmarks and Preservation Districts will normally be approved if they are found to meet the Secretary of the Interior's Standards for the Treatment of Historic Properties or if certain other findings can be made.
- Findings for approval of demolitions, removals, alterations or new construction involving Landmarks or Preservation Districts will seek to balance preservation of these properties with other concerns.

Policy 3.1: Avoid or Minimize Adverse Historic Preservation Impacts Related to Discretionary City Actions. This City will make reasonable efforts to avoid or minimize adverse effects on the Character-Defining Elements of existing or Potential Designated Historic Properties (PDHPs) which could result from private or public projects requiring discretionary actions.

² City of Oakland, *City of Oakland General Plan, Historic Preservation Element*, 1994, p. 1-1

Policy 3.7: Property Relocation Rather than Demolition. As a condition of approval for all discretionary projects involving demolition of existing PDHPs, the City will normally require that reasonable efforts be made to relocate the properties to an acceptable site.

The HPE also provides the following policy for identification of historic resources for CEQA purposes:

Policy 3.8: Definition of “Local Register of Historical Resources” and the Historic Preservation “Significant Effects” for Environmental Review purposes: For purposes of environmental review under CEQA, the following properties will constitute the City of Oakland’s Local Register of Historic Resources:

- All Designated Historic Properties
- Those Potential Designated Historic Properties that have an existing rating of “A” or “B” or are located within an Area of Primary Importance.
- Until complete implementation of Action 2.1.2 (Re-designation), the “Local Register” will also include the following designated properties: Oakland Landmarks, S-7 Preservation Combining Zone properties, and Preservation Study List properties.

Action 3.8.1: Include Policy 3.8’s definitions of “Local Register of Historical Resources” and historic preservation “significant effect” in the City’s Environmental Review Regulations. Amend the Regulations to include specific measures that may be considered to mitigate significant effects to a Historical Resource. Measures appropriate to mitigate significant effects to a Historical Resource may include one or more of the following measures depending on the extent of the proposed addition or alteration.

- Modification of those elements of the Project design adversely affecting the character elements of the property.
- Relocation of the affected Historical Resource to a location consistent with its historical or architectural character.

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

- Modification of the Project design to include restoration of the remaining historic character of the property.
- Modification of the Project design to incorporate or replicate elements of the building’s original architectural design.
- Salvage and preservation of significant features and materials of the structure in a local museum or within the new project.
- Measures to protect the Historical Resource from effects of on-site or other construction activities.
- Documentation in a Historic American Buildings Survey report or other appropriate format:
- Photographs, oral history, video, etc.

- Placement of a plaque, commemorative marker, or artistic or interpretive display on the site providing information on the historical significance of the resource.
- Contribution to a Facade Improvement Fund, the Historic Preservation Revolving Loan Fund, the Oakland Cultural Heritage Survey, or other program appropriate to the character of the resource.

OCHS Survey

The HPE lays out a rating system for designating historic properties as derived from the OCHS. The OCHS uses a five tier rating system for describing the historic importance of an individual property, “A” (Highest Importance), “B” (Major Importance), “C” (Secondary Importance), “D” (Minor Importance), E (No Importance). The ratings are derived from evaluations based on the following criteria:

- Visual Quality/Design: Evaluation of exterior design, interior design, materials and construction, style or type, supporting elements, feelings of association, and importance of designer.
- History/Association: Association of person or organization, the importance of any event, association with patterns, and the age of the building.
- Context: Continuity and familiarity of the building within the district.
- Integrity and Reversibility: Evaluation of the building’s condition, its exterior and interior alterations, and any structural removals.

Properties that have the potential for improvement are assigned both an “existing” and “contingency” rating (e.g., Ca). The existing rating describes the current condition of the property, and is denoted by an upper case letter. The contingency rating evaluates the possible rating if certain improvements were made, and is designated by a lower case letter. A (+) or a (-) following the rating indicates a slightly higher or lower rating.

Individual properties are also rated based on the historic importance of the surrounding properties, or district: “1” (Area of Primary Importance), “2” (Area of Secondary Importance), or “3” (Not in an Area of Primary or Secondary Importance). The importance of the individual property to the district is designated by a “+” (Contributor to the District) or “-” (Not a Contributor). For example, a property designated “Ba-1+ is a B-rated property with a possibility of attaining an A- rating, and is a contributor to an Area of Primary Importance.

City of Oakland’s Standard Conditions of Approval

The City’s Standard Conditions of Approval relevant to cultural resources are listed below for reference. These Conditions of Approval were cited in the December 2007 Initial Study, and will be adopted as requirements of the proposed Project if the Project is approved by the City to help ensure that significant impacts (for the applicable topic) are reduced. As a result, they are not listed as mitigation measures.

SCA Hist-1: Construction Adjacent to Historic Structures. *Prior to issuance of a demolition, grading or building permit.* The project applicant shall retain a structural engineer or other appropriate professional to determine threshold levels of vibration and cracking that could damage the adjacent residential structures at 607 and 611 Harrison Street and design means and methods of construction that shall be utilized to not exceed the thresholds.

To further implement Standard Condition of Approval Hist-1:

- a. The applicant shall retain an historic preservation architect (who meets the Secretary of the Interior's Standards and Guidelines for Historic Preservation Professional Qualifications) and a structural engineer (Monitoring Team), who shall undertake an Existing Conditions Study (Study) of 617-621 Harrison Street. The purpose of the Study is to establish the baseline condition of the building(s) prior to construction of the Project, including but not limited to the location and extent of any visible cracks or spalls on the building(s), and condition of the roof. The Study shall include written descriptions and photographs of the building(s) and include, without limitation, those physical characteristics that justify their inclusion on or eligibility for the Local Register. The Study shall be reviewed and approved by the City of Oakland's CEDA Deputy Director and Building Official.
- b. Initial construction activities shall be monitored by the Monitoring Team and if vibrations are above threshold levels, appropriate measures shall be taken to reduce vibrations to below established levels. The Monitoring Team shall continue to regularly monitor the buildings during construction and report any changes to the existing conditions, including but not limited to, expansion of cracks, new spalls, or other exterior deterioration, including roof damage. If there are such changes, appropriate corrective measures shall be taken to reduce vibrations to below established levels, or other measures taken to prevent damage to the building(s).
- c. Written monitoring reports shall be submitted to the City's CEDA Deputy Director and Building Official on a periodic basis as determined by the Monitoring Team. The structural engineer shall consult with the historic preservation architect, especially if any problems with character defining features of a historic resource are discovered. If in the opinion of the structural engineer, in consultation with the historic preservation architect, substantial adverse impacts to historic resources related to construction activities are found during construction, the Monitoring Team shall immediately inform, both orally and in writing, the project sponsor and/or the project sponsor's designated representative responsible for construction activities and the City Planning and Zoning Division. The project sponsor shall follow the Monitoring Team's recommendations for corrective measures, including halting construction activities in situations where further construction work would damage historic resources, or taking other measures to protect the building. The historic preservation officer shall establish the frequency of monitoring and reporting prior to the issuance of a demolition, grading, or building permit.
- d. The project sponsor shall respond to any claims of damage by inspecting the affected property promptly, but in no case more than five working days after the claim was filed and received by the project sponsor's designated representative. Any new cracks or other changes in the structures, including roof damage, shall be compared to pre-construction conditions and a determination shall be made as to whether the proposed project could have caused the damage. In the event that the project is demonstrated to have caused any damage, such damage shall be repaired to the pre-existing condition, provided the property owner approves of such.
- e. The historic preservation architect shall establish a training program for construction workers involved in the project that emphasizes the importance of protecting historic resources. The program shall include information on recognizing historic materials and directions on how to exercise care when working around and operating equipment near historic structures, including storage of materials away from historic buildings. It shall also include information on means to reduce vibrations from demolition and construction, and preventing other damage, and monitoring and reporting any potential problems that could affect the historic resources in the area. A provision for establishing this training program shall be included in the construction contract, and the contract provisions shall be reviewed and approved by the City of Oakland.

SCA Hist-2: Compliance with Policy 3.7 of the Historic Preservation Element (Property Relocation Rather than Demolition). *Prior to issuance of a demolition permit.* The project applicant shall make a

good faith effort to relocate the building located at 617-621 Harrison Street to a site acceptable to the Planning and Zoning Division and the Oakland Cultural Heritage Survey. Good faith efforts include, at a minimum, the following:

- a. Advertising the availability of the building by: (1) posting of large visible signs (such as banners, at a minimum of 3'x 6' size or larger) at the site; (2) placement of advertisements in Bay Area news media acceptable to the City ;and (3) contacting neighborhood associations and for-profit and not-for-profit housing and preservation organizations;
- b. Maintaining a log of all the good faith efforts and submitting that along with photos of the subject building showing the large signs (banners) to the Planning and Zoning Division;
- c. Maintaining the signs and advertising in place for a minimum of 90 days; and
- d. Making the building available at no or nominal cost (the amount to be reviewed by the Oakland Cultural Heritage Survey) until removal is necessary for construction of a replacement project, but in no case for less than a period of 90 days after such advertisement.

IMPACTS, STANDARD CONDITIONS OF APPROVAL AND MITIGATION MEASURES

This section outlines potential impacts related to historic resources resulting from demolition of the property at 617-621 Harrison Street, and recommends mitigation measures as appropriate and feasible. Criteria of significance for historic resources impacts are listed first. Less-than-significant impacts are then discussed, followed by discussion of potentially significant impacts and cumulative impacts.

CRITERIA OF SIGNIFICANCE

The December 2007 Initial Study concluded that the Project would have no significant environmental impacts with respect to archaeological resources, paleontological resources or human remains. These conclusions remain valid and are not further studied in this EIR.

Implementation of the proposed Project would have a significant effect on historic resources if it would:

Cause a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines §15064.5. Specifically, a substantial adverse change includes physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of the historical resource would be “materially impaired.” The significance of an historical resource is “materially impaired” when a project demolishes or materially alters, in an adverse manner, those physical characteristics of the resource that convey its historical significance and that justify its inclusion on, or eligibility for inclusion on an historical resource list (including the California Register of Historical Resources, the National Register of Historical Resources, Local Register, or historical resources survey form (DPR Form 523) with a rating of 1-5);

City of Oakland Definition of Historic Resources

The City of Oakland defines an historical resource under CEQA as one that meets the following criteria:

- A resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources

- A resource included in Oakland's Local Register of Historical Resources (which includes all Designated Historic Properties [Landmarks, Heritage Properties, Study List Properties, Preservation Districts, and S-7 and S-20 Preservation Combining Zone Properties], and those Potential Designated Historic Properties that have an existing rating of "A" or "B" or are located within an Area of Primary Importance), unless the preponderance of evidence demonstrates that it is not historically or culturally significant;
- A resource identified as significant (e.g., rated 1-5) in a historical resource survey recorded on Department of Parks and Recreation Form 523, unless the preponderance of evidence demonstrates that it is not historically or culturally significant;
- Any object, building, structure, site area, place, record, or manuscript which the Oakland City Council determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, provided the determination is supported by substantial evidence in light of the whole record. Generally, a resource is considered "historically significant" if it meets the criteria for listing on the California Register of Historical Resources CEQA Guidelines Section 15064.5; or
- A resource that is determined by the City Council to be historically or culturally significant even though it does not meet the other four criteria listed here.

Definition of Impact to Historic Resources

Under CEQA Guidelines Section 15064.5 (b), a project with an effect that may cause a substantial adverse change in the significance of an historic resource is a project that may have a significant effect on the environment. Substantial adverse change in the significance of an historical resource means the physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired. The significance of an historical resource is materially impaired when a project:

- Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register of Historical Resources.
- Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- Demolishes or materially alters in an adverse manner those physical characteristics of a historical resource that convey its historical significance and that justify its eligibility for inclusion in the California Register of Historical Resources as determined by a lead agency for purposes of CEQA.

LESS-THAN-SIGNIFICANT CULTURAL RESOURCES IMPACTS

Potential Impacts to Adjacent Historic Buildings

Impact Hist-1: The Project would involve construction and demolition adjacent to two buildings identified as contributors to the 7th Street/Harrison Square Residential Historic District that are proposed to remain. Construction effects could potentially damage, but would not materially impair these historic resources. **(LTS, with Standard Conditions of Approval)**

As previously discussed in the December 2007 Initial Study, of the two buildings that are adjacent to the Project site, the building at 611 Harrison Street has been listed on the OCHS as “C1” - a property of secondary importance but a “contributor” to an Area of Primary Importance (the Historic District). The second building at 607 Harrison Street has been listed as “Dc1” - a property of minor importance but with potential to be of secondary importance (if restored) and a “contingency contributor” to an Area of Primary Importance (the Historic District). With construction of the Project, these two adjacent buildings would still retain the integrity of their location, design, materials, workmanship, and association from their period of significance. Although they would remain standing adjacent to a much more imposing modern structure (the Project), the historical significance of these structures would not be “materially impaired” as a result of Project development, since the physical characteristics of these resources that convey their historical significance and justify their listing on the OCHS would not change.

Whether the adjacent structure at 617-621 Harrison Street is demolished (as currently proposed) or relocated to a new site (as was indicated in the December 2007 Initial Study), the prior conclusions regarding impacts on adjacent historic structures remains unchanged. Even with demolition of 617-621 Harrison Street, this would not change the prior conclusions of the Initial Study that the loss of this structure would not “materially impair” the historical significance of the two remaining adjacent structures at 611 and 607 Harrison Street.

Standard Conditions of Approval

Implementation of SCA Hist-1: Construction Adjacent to Historic Structures would apply to the Project, reducing potential construction-related effects on the adjacent historic structures located at 607 and 611 Harrison Street to a level of less than significant.

SIGNIFICANT CULTURAL RESOURCES IMPACT

Demolition of an Historic Resource

Impact Hist-2: Demolition of the residential structure currently located at 617-621 Harrison Street, which is an historic resource, would be a significant impact of the Project. **(S)**

The residential structure currently located at 617-621 Harrison Street is identified in the Oakland Cultural Heritage Survey as “C1+”, signifying a property of secondary importance, located within an Area of Primary Importance, and a “contributor” to the 7th Street / Harrison Square Residential District (a National Register-eligible historic district). This structure is considered an historic resource pursuant to CEQA based on City of Oakland criteria as a Potential Designated Historic Property located within an Area of Primary Importance. Under the proposed Project, this building will be demolished to enable development of the Project site as proposed.

Standard Conditions of Approval

Pursuant to the requirements of **SCA Hist-2**, the Project applicant will be required to make good faith efforts to relocate the existing structure at 617-621 Harrison Street to a location consistent with its historical or architectural character. Although the Project applicant has indicated that efforts to relocate this building to date have not proven successful, the Standard Condition of Approval includes several procedural steps that must be taken, including:

- Advertising the availability of the building by posting large visible signs, placement of advertisements in Bay Area news media, and contacting neighborhood associations and housing and preservation organizations;
- Maintaining a log of all the good faith efforts and submitting that along with photos of the subject building showing the large signs (banners) to the Planning and Zoning Division,
- Maintaining the signs and advertising in place for a minimum of 90 days; and
- Making the building available at no or nominal cost (the amount to be reviewed by the Oakland Cultural Heritage Survey) until removal is necessary for construction of a replacement project, but in no case for less than a period of 90 days after such advertisement.

If such relocation efforts were to prove successful in moving the building to a new location consistent with its historical or architectural character, the impacts to this building would be less than significant.

If relocation efforts are unsuccessful, Historic Preservation Element, Action 3.8.1 requires that efforts be made to modify those elements of the Project design that adversely affect the character-defining elements of the property. This is further addressed in Chapter 5: Alternatives.

If relocation or re-design efforts are unsuccessful or not feasible, demolition of the building at 617-621 Harrison Street is conservatively assumed. The impact of that demolition would remain significant and unavoidable.

Mitigation Measures

The Project's proposed design is dependent upon use of the property at 617-621 Harrison Street, and there are no feasible mitigation measures (beyond relocation as described above) to fully avoid the loss of this resource under the Project as proposed. Mitigation Measures that are able to reduce and/or compensate for the loss of this structure include the following:

Mitigation Measure Hist-2a: If the building cannot be successfully relocated, the Project applicant shall retain a qualified historic architect to prepare a Deconstruction and Salvage Plan (Plan) that identifies which, if any, of the interior and exterior elements from the building can be retained and re-used either on or off-site. Those features to be retained/reused could include but are not limited to doors, windows, wood members, timbers, roof trusses, siding, and specific architectural elements, etc. The Plan shall be submitted prior to demolition of the building for review and approval by the Landmarks Preservation Advisory Board. A demolition permit shall not be issued until the Plan has been approved and all deconstructed and salvageable features or materials that have been identified in the approved Plan have been appropriately preserved. The approved Plan shall be implemented by a person experienced in deconstruction techniques to ensure proper deconstruction techniques/processes are followed. This person shall be under the supervision of a qualified historic architect. All deconstructed materials shall be properly stored and promptly recycled back into the construction market.

Mitigation Measure Hist-2b: If the building cannot be successfully relocated, the Project applicant shall, prior to issuance of a Certificate of Occupancy, make a monetary contribution to the City which shall exclusively be used for (a) development of an Historic Interpretive and Improvement Program, and (b) an historic resource related program such as the Façade Improvement Program or the Property Relocation Assistance Program, as detailed below.

- a. The Historic Interpretive and Improvement Program will include interpretive materials such as information plaques depicting the history of the 7th Street / Harrison Square Historic District, district identification features and a printed guide to the 7th Street / Harrison Square Historic District with educational features. The Program shall be high quality and provide high public visibility. The Program shall be developed by a qualified historic consultant in consultation with the LPAB and historic preservation staff, based on a City-approved scope of work and submitted to the City for review and approval. The proposed Program will be approved by the Landmarks Preservation Advisory Board and installed prior to issuance of a Certificate of Occupancy.
- b. Any remaining funds after implementing the Historic Interpretive and Improvement Program shall be applied towards a historic resource related program, which can be used to fund other historic preservation projects in the 7th Street/ Harrison Square Historic District or in the immediate vicinity. Such programs include, without limitation, a Façade Improvement Program or the Property Relocation Assistance Program. The project applicant shall make the monetary contribution prior to Certificate of Occupancy.

Significance After Mitigation: Significant and Unavoidable

Notwithstanding the Standard Conditions of Approval, project alternatives and mitigation measures described above, demolition of the historic resource at 617-621 Harrison Street would be a significant and unavoidable impact of the Project.

CUMULATIVE HISTORIC RESOURCE IMPACTS

Cumulative Impact Hist-3: Other past, present, existing, pending and reasonably foreseeable projects in Oakland that have, or will have resulted in demolition of historic resources could combine with the loss of the building at 617-621 Harrison Street to form a significant cumulative impact to historical resources. **(LTS)**

Cumulative analysis includes a review of the proposed Project and its relationship with past, present, and reasonably foreseeable projects. The geographic context considered for the cumulative historic resource impact analysis consists of the area that includes the Project site which, when combined with the proposed Project, could result in cumulative impacts. Given the nature of the potential historic resource impact of the Project, the geographic scope for cumulative historic impacts would generally include projects within the vicinity of Project area that are within a five-block radius of the Project site.

Based on a review of City of Oakland environmental documents (either in process or complete and certified) and recent project applications (filed during 2010), there are 11 reasonably foreseeable future development projects within about a five-block radius of the Project site. Of these 11 projects, only two projects have been identified as having an adverse effect on historic resources:

- 426 Alice Street – A 94-unit residential project with ground floor retail space was found to have a significant and adverse effect on the continuity of the Waterfront Warehouse Historic District in Jack London Square.

- 300 Harrison Street – A 91-unit residential project was found to have a significant and adverse cumulative effect on the continuity of the Waterfront Warehouse Historic District in Jack London Square.

Cumulative Impacts to the 7th Street/Harrison Square Residential Historic District

There is only one (1) other pending and reasonably foreseeable project included in the City's cumulative growth scenario and land use database³ located within the immediate vicinity of the 7th Street/Harrison Square Residential Historic District with the potential to affect historic resources. This other cumulative project, 609 Oak Street (located at the southwest corner of 6th and Oak Street) is currently a vacant parcel located adjacent to, but not within the District and thus would not contribute to a cumulative historic impact to the District.

The 7th Street/ Harrison Square Residential Historic District has been determined to be eligible for listing on the National Register of Historic Places, is therefore automatically listed on the California Register of Historic Resources, and is designated in the OCHS as an Area of Primary Importance, and thus considered an historic resource under CEQA. The December 2007 Initial Study concluded that relocation of the structure at 617-621 Harrison Street, as was then proposed, would have had a less than significant cumulative impact on the integrity of this District.

The large majority (more than 98 percent) of the contributing structures located within the 7th Street / Harrison Square Residential Historic District would remain intact and in their current locations following Project implementation. The structure at 617-621 Harrison Street represents only one of the eighty existing contributing structures within the District and is located at the outermost edge of the District. The combination of the two projects at 617-621 Harrison and the project at 6th and Oak would not adversely affect two-thirds of the contributing properties within the District, and therefore the District would retain its integrity and its API and NRHP status. Since these potential cumulative changes would not adversely affect the District's potential eligibility to the NRHP or as an API, no significant cumulative impacts to the 7th Street/Harrison Square Residential historic District are anticipated.

Relocating this residential structure as then proposed was regarded as a less than significant cumulative impact on the integrity of the District. Demolition of 617-621 Harrison Street as currently proposed would not change the prior conclusions of the Initial Study that the loss of this structure would have a less than significant cumulative impact on the integrity of the District. The demolition of this building would not so materially alter in an adverse manner those physical characteristics of the District that convey its historical significance as to jeopardize its inclusion in, or eligibility for inclusion in the National Register, the California Register of Historical Resources or the City of Oakland's local historic register.

Cumulative Impacts to Historic Resources in the Vicinity and in the City of Oakland

Taken collectively, the two reasonably foreseeable projects listed above within the Waterfront Warehouse District contribute to the on-going demolition or alteration of historic resources within the Project vicinity. The proposed Project would demolish an historic resource (as a contributor to an historic district), therefore contributing to this trend. However, the Project is similar in nature with other development projects found in this area and would not directly or indirectly affect the eligibility of any other historic resources within the vicinity.

³ City of Oakland, Cumulative Development Project file as of April 2009

While cumulative development projects may affect individual historic resources, the affected resources include a broad range of building typologies and would not have a clear, measurable impact on an individual type of historic resource. For example, the proposed Project would demolish an example of middle-and lower-middle-class housing types constructed largely between 1889 and 1910. None of the other reasonably foreseeable projects identified above would affect similar types of resources, but instead affect waterfront warehouse commercial/industrial sites. Since these projects do not have a clear, measurable impact to an individual type of historic resource, or a type that is particularly rare or threatened, the cumulative impact would be less than significant.

Other reasonably foreseeable projects throughout Oakland which may affect city-wide historic resources and have been considered in the cumulative analysis include alterations to the Ninth Avenue Terminal Building along the waterfront, and alterations and loss of buildings at the former Oakland Army Base. Other projects that have been approved and or constructed include recent development within the Waterfront Warehouse District, and the Courthouse Condominium project. However, such city-wide projects are too far away from the Project site and would affect such different types of historic buildings compared with the middle class home at 617-621 Harrison Street that such projects would not be cumulatively considerable. As such, the proposed Project would have no significant cumulative impacts to historic resources on a city-wide basis.

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ALTERNATIVES

INTRODUCTION

CEQA Guidelines require an analysis of a reasonable range of alternatives for any project subject to an EIR. The purpose of the alternatives section is to provide decision-makers and the public with a discussion of alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project (i.e., the demolition of an historic resource and traffic congestion at certain roadway intersections), even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly. Evaluation of alternatives should present the proposed action and all the alternatives in comparative form to define the issues and provide a clear basis for choice among the options.

CEQA requires that the lead agency adopt mitigation measures or alternatives, where feasible, to substantially lessen or avoid significant environmental impacts that would otherwise occur. Where a lead agency has determined that even after adoption of all feasible mitigation measures a project as proposed would still cause significant environmental effects that cannot be substantially lessened or avoided, the agency must first determine whether there are any project alternatives that are both environmentally superior and feasible.

CEQA provides the following guidelines for discussing project alternatives:

- An EIR need not consider every conceivable alternative to a project. Rather, it must consider a reasonable range of potentially feasible alternatives that will foster informed decision making and public participation (§15126.6(a)).
- An EIR is not required to consider alternatives which are infeasible (§15126.6(a)).
- The discussion of alternatives shall focus on alternatives to the project or its location that are capable of avoiding or substantially lessening any significant effects of the project (§15126.6(b)).
- The range of potential alternatives to the proposed project shall include those that could feasibly accomplish most of the basic objectives of the project and could avoid or substantially lessen one or more of the significant effects (§15126.6(c)).
- The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis and comparison with the proposed project (§15126.6(d)).

OVERVIEW OF ALTERNATIVES

ACCOMPLISHING BASIC PROJECT OBJECTIVES

CEQA requires the analysis of alternatives that would feasibly attain “most of the basic objectives of the project . . .”¹ The overall Project objective is to construct a high-rise residential building within the Chinatown portion of the City’s Central Business District that takes advantage of the area’s proximity to regional transit facilities, encourages pedestrian activity at the street level, and forms an attractive and architecturally interesting addition to the City’s downtown skyline. Specifically, the Project seeks to:

Development & Density

- Provide a critical mass of new housing opportunities in Chinatown, where many of the new residents are also anticipated to work and shop. This new residential population is anticipated to help sustain local businesses and entice new business investment into the neighborhood.
- Provide new urban infill housing in a location within easy walking distance of local commerce and services
- Locate dense, urban-scale infill housing that takes advantage of the site’s proximity to two BART stations and other regional transit facilities.

Neighborhood Enhancement

- Enhance the street-level pedestrian experience by replacing existing warehouse structures with no street-level engagement with new pedestrian-oriented retail spaces that are transparent and inviting to the pedestrian
- Improve the overall aesthetics of the neighborhood by redeveloping empty and underutilized lots and introducing new streetscape elements, large open storefronts and other retail amenities
- Foster a safer community by increasing commercial activity at the street level, and increasing the number of residential “eyes on the street” at all hours

Project Design

- Establish flexibility in the Project’s development and construction to enable it to adjust to market trends by developing two independent towers that can be constructed in sequential yet continuous phases. This design flexibility is intended to create an economically viable project capable of attracting both construction and permanent financing, enabling returns on investment in the initial tower to sustain construction and financing for the second tower.
- Develop an identifiably strong and significant gateway building to Chinatown from the I-880 corridor, signifying the area’s continuing revitalization efforts.
- Reduce the overall bulk and mass of a single large building by creating two separate towers with distinctive height differences and interesting architectural treatments at the rooftops.

¹ CEQA Guidelines, Section 15126.6 (a)

- Provide the right balance between adequate off-street parking for proposed residential and commercial uses, and not so much parking as to encourage auto use over alternative modes of travel such as transit, bicycles and walking.

REDUCING SIGNIFICANT AND UNAVOIDABLE PROJECT IMPACTS

CEQA also requires the identification and analysis of alternatives that would “. . . avoid or substantially lessen any of the significant effects of the project”.² As indicated in the preceding chapters of this EIR, significant effects of the proposed Project are as summarized below.

Traffic and Circulation

- The Project would generate traffic at the intersections of 5th Street/Oak Street and 6th Street/Jackson Street that would exceed the thresholds of significance. Although mitigation measures have been recommend that could effectively reduce these traffic impacts, the City of Oakland could not implement these mitigation measures without the prior approval of Caltrans. Therefore, the traffic impacts of the Project at 5th Street/Oak Street and at 6th Street/Jackson Street are conservatively considered significant and unavoidable.

Historic Resources

- The Project’s proposed design is dependent upon the removal of a residential structure located at 617-621 Harrison Street, which is considered an historic resource pursuant to CEQA criteria. City Standard Conditions of Approval requires the Project applicant to make good faith efforts to relocate this structure to another location. However, if relocation efforts are unsuccessful and demolition of this building were to occur, there are no feasible mitigation measures to reduce the loss of this historic resource to a less than significant level. The demolition of the historic structure at 617-621 Harrison Street would be a significant and unavoidable impact of the Project.

CEQA- BASED ALTERNATIVES

The three CEQA-based alternatives analyzed in this EIR are listed below. These three alternatives are included to meet the CEQA requirement for an EIR to describe a range of reasonable alternatives to the Project that would feasibly attain most of the basic objectives of the Project, but would avoid or substantially lessen the significant effects of the Project. These CEQA alternatives include:

No Project/No Development Alternative

CEQA Guidelines Section 15126.6(e)(3)(B) states that “if a project is a development project on an identified property, the No Project Alternative is the circumstances under which the project does not proceed.” Thus, the No Project Alternative is defined as the property remaining in its existing state – in essence the existing physical condition.

Reduced Density Alternative

At the time the application for this Project was deemed complete, all seven parcels at the Project site were zoned C-40: Community Thoroughfare Commercial. Multiple family residential facilities are a permitted

² CEQA Guidelines, Section 15126.6 (a)

use in the C-40 Zone, subject to maximum density and other related regulations set forth for the R-70 Zone. A hypothetical design has been developed to illustrate how development could be adapted to meet the R-70 density limits applicable to the Project site. This design would result in the development of 78 residential units with off-street parking and 9,110 square feet of ground floor commercial space, in a five-story structure.

Reduced Site – Historic Resource Avoidance Alternative

Under this alternative, the Project's site area would be reduced by not including the property located at 617-621 Harrison Street. This property is identified as an historic resource that would be preserved under this alternative. Development of this alternative would occur on the remaining parcels within the Project area. The development potential under this alternative, derived by not including those units located above the property at 617-621 Harrison Street as shown under the Project, is estimated at 320 residential units. Off-street podium parking and 9,110 square feet of ground floor commercial space, similar to that included in the Project, would also be part of this alternative.

PLANNING ALTERNATIVES

In addition to considering alternatives that lessen the significant Project impacts for purposes of CEQA, additional planning alternatives are analyzed in this EIR. These alternatives were identified and developed to consider the implications of other on-going transportation planning efforts in the immediate vicinity, and to consider an alternative architectural/urban design approach for the site.

Alternative Circulation – I-880/Broadway/Jackson Interchange Project

The first planning alternative is included to consider the possible effects on the proposed Project that might result from implementation of a separately proposed transportation improvement project known as the I-880/Broadway/Jackson Interchange project that was being considered by the Alameda County Transportation Improvement Association (ACTIA), the City of Alameda, the City of Oakland and the California Department of Transportation (Caltrans) in 2008. This alternative is included to provide an assessment of potential consequences to the proposed Project that may be anticipated should the 2008 version of the I-880/Broadway/Jackson Interchange project or similar transportation improvement project ultimately be implemented.

Point Tower Alternative

This planning alternative has been developed to consider a project with a different architectural and urban design approach, and that also responds to the historic resource preservation objectives of Alternative 3. As such, it is both a CEQA-based and a planning-based alternative. This alternative, like the Project, is a high-rise residential project with ground floor commercial space, but the design of this alternative is a single "point tower" of approximately 400 feet in height, considerably taller than the two towers proposed under the Project. The density of this alternative is calculated based on the densities permitted under the City of Oakland's current Central Business District (CBD) zoning regulations, resulting in a total development potential of 365 units.

Table 5-1 provides a comparison of the proposed project to the three CEQA alternatives and the two planning alternatives.

TABLE 5-1: PROJECT AND PROJECT ALTERNATIVES

	Demo of Historic Structure?	Building Massing	Land Use	Parking Spaces
Project	Yes	Two Towers (27 and 20 stories)	380 Units 9,100 sq ft Commercial	399
Alternative 1: No Project	No	No development or improvements	No change	none
Alternative 2: Reduced Density	No	One, 5-story building	78 Units 9,110 sq ft Commercial	98
Alternative 3: Reduced Site	No	Two Towers (27 and 20 stories)	320 Units 9,100 sq ft Commercial	340
Alternative 4: Alternative Circulation	Yes	Same as Project	Same as Project	Same as Project
Alternative 5: Point Tower	No	One Tower (34 stories - 400 feet tall)	365 units 9,1000 sq ft Commercial	365

ALTERNATIVES CONSIDERED BUT REJECTED

In considering the range of alternatives to be analyzed in an EIR, the CEQA Guidelines state that an alternative site/location should be considered when feasible alternative locations are available and the “significant effects of the project would be avoided or substantially lessened by putting the project in another location.” No specific alternative site locations are considered in this EIR. The Project Applicant does not control any alternate sites in downtown Oakland that could accommodate the Project as proposed, and has no interest in pursuing similar development at other locations within Oakland. Relocation of this Project to another location (if one was available) might reduce Project-related traffic impacts at some specific intersections, but would likely result in similar impacts at different intersections in proximity to any alternate site. For these reasons, an alternative site location is not considered.

CEQA ALTERNATIVES

Throughout this section a description of each alternative is followed by a discussion of impacts and how those impacts compare to those of the Project and the City’s CEQA Thresholds for those impact categories addressed in this Draft EIR. As permitted by CEQA, the effects of the alternatives are discussed in less detail than the impact discussions of the project (CEQA Guidelines Section 15126.6[d]). However, the alternatives analysis is conducted at a sufficient level of detail to provide the public, other public agencies, and City decision-makers adequate information to fully evaluate the alternatives and for the City to consider approval of any of the alternatives without further environmental review.

The significance of each alternative’s impacts are compared to City of Oakland thresholds, as indicated in the topic heading (e.g., Aesthetics [LTS]). These significance conclusions assume implementation of those mitigation measures and/or Standard Conditions of Approval recommended for the Project. The impacts of each alternative are also compared to the impacts of the proposed Project to indicate whether the alternative: 1) would avoid potentially significant impacts of the Project; 2) would generally have the

same impact as the Project; or 3) would result in impacts either greater than or less than the impacts of the Project.

ALTERNATIVE 1 – NO PROJECT/NO DEVELOPMENT

CEQA Guidelines Section 15126.6(e) requires that a “no project” alternative be evaluated, along with its impacts. The “No Project” alternative must be the *practical result* of non-approval of the Project and is, in essence the existing physical condition.

Description of No Project Alternative

For this Draft EIR, the “no project” alternative is defined as an alternative under which the property remains in its existing state. The Project site consists of seven separate parcels with five existing buildings: two office buildings, two warehouses and a residence. There is also a parking lot and a vacant commercial lot on the site. Under this alternative, there would be no change in the physical characteristics of the Project site. All existing uses at the site would continue to operate as they do now. There would also be no reconfiguration of the existing parking areas under this alternative.

Comparative Environmental Analysis

Aesthetics (No Impact)

In the absence of development at the Project site, there would be no changes in the visual character of the site or surrounding area, and no new shadows would be generated by any new structures. Existing wind patterns on and in the vicinity of the Project site would remain unchanged in the absence of any new development.

The No Project Alternative would not provide an opportunity to enhance the street-level pedestrian experience by replacing existing warehouse structures and surface parking lots with new pedestrian-oriented retail spaces, nor would it provide an opportunity to improve the overall aesthetics of the neighborhood by redeveloping empty and underutilized lots and introducing new streetscape elements, large open storefronts and other retail amenities.

Traffic and Circulation (No Impact)

The traffic analysis prepared for this Project determined traffic counts and vehicle trip generation for both the existing conditions (which is the “No Project/No Development” alternative) and the proposed Project. No additional vehicle trips would be generated from the Project site under this alternative, so existing traffic conditions in the vicinity of the Project site would be expected to remain unchanged. In the absence of development at the Project site, there would be no changes in existing transit usage or in existing conditions that may affect pedestrian and bicycle safety in the vicinity.

Air Quality (No Impact)

With no construction activity occurring under this alternative, there would be no construction-period air emissions or dust generation.

With no increase in development at the Project site, there would be no increased operational-related emissions from stationary source or mobile emissions.

With no new residents and no increased non-residential activity at the Project site, so there would be no increase in potential health risk levels associated with exposure to toxic air contaminants from adjacent freeway emissions. However, as indicated in Chapter 4.3, that risk is considered less than significant for the Project based on the thresholds established by BAAQMD and the conclusions of the Health Risk Assessment completed for this EIR.

Greenhouse Gas Emissions (No Impact)

With no change in existing use at the Project site, there would be no increase in greenhouse gas emissions generated by construction or operation activity.

Hazardous Materials (No Impact)

Construction activities present the greatest potential for the disturbance and release of hazardous materials, and an increased population at the site would increase the potential of exposure of people to hazardous materials. Under the “No Project” alternative, there would be no construction activities or any new residential population at the Project site. As such, this alternative would not create significant hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials, or create a significant hazard to the public or the environment through reasonably foreseeable upset or accident conditions involving the release of hazardous materials into the environment. This alternative would not expose construction workers or the public to hazardous materials from contaminants in the soil during and following construction activities, or expose workers or the public to airborne toxics, (e.g., lead-based paint and asbestos) during demolition. In the absence of development at the site, there would be no clean-up of any hazardous materials, if required. Since further investigation will be necessary only when development is proposed (and it may be that remediation would be required), the “No Project/No Development” alternative is likely to have fewer effects related to hazardous materials than would the Project but the site would continue to remain potentially contaminated.

Wastewater Collection Infrastructure (No Impact)

With no new development at the project site under this alternative, there would be no increased demand on the wastewater collection infrastructure and no increased demand on the remaining capacity of the sub-basin in which the site is located.

Historic Resources (No Impact)

Under this alternative, there would be no change in the physical characteristics of the Project site. All existing structures, including those residences along Harrison Street which are contributors to the 7th Street / Harrison Square Residential Historic District would remain as they are now. There would be no loss of historic resources and no adverse effect to the Historic District that would otherwise occur under the Project.

ALTERNATIVE 2 – REDUCED DENSITY

Description of Reduced Density Alternative

Under Alternative 2, the level of development at the Project site would be limited to that permitted under the City of Oakland’s Planning Code per the standards that were applicable at the time the Project application was determined complete (2007). At that time, all seven parcels at the Project site were zoned

C-40: Community Thoroughfare Commercial. This zoning district is intended to create, preserve, and enhance areas with a wide range of both retail and wholesale establishments serving both short and long term needs in convenient locations, and is typically appropriate along major thoroughfares. Multiple family residential facilities are a permitted use in the C-40 Zone, subject to maximum density and other related regulations set forth for the R-70 Zone. In the R-70 zone, residential density is limited to 1 unit per 450 square feet of site area (or approximately 96 units per acre). The Project site is approximately 0.81 acre, so would support up to approximately 78 residential units under the applicable “grandfathered” zoning in effect at the time of the Project’s application.

At the request of City of Oakland staff, the Project applicant developed a hypothetical design to illustrate how development could be adapted to meet the R-70 density limits applicable to the Project site. This design would result in the development of 78 residential units, 98 off-street parking spaces, and 9,110 square feet of ground floor commercial space in a five-story structure (see **Figures 5.1 and 5-2**). Under this Alternative, access to ground-level parking would be at 7th Street, and access to underground parking would be at 6th Street.

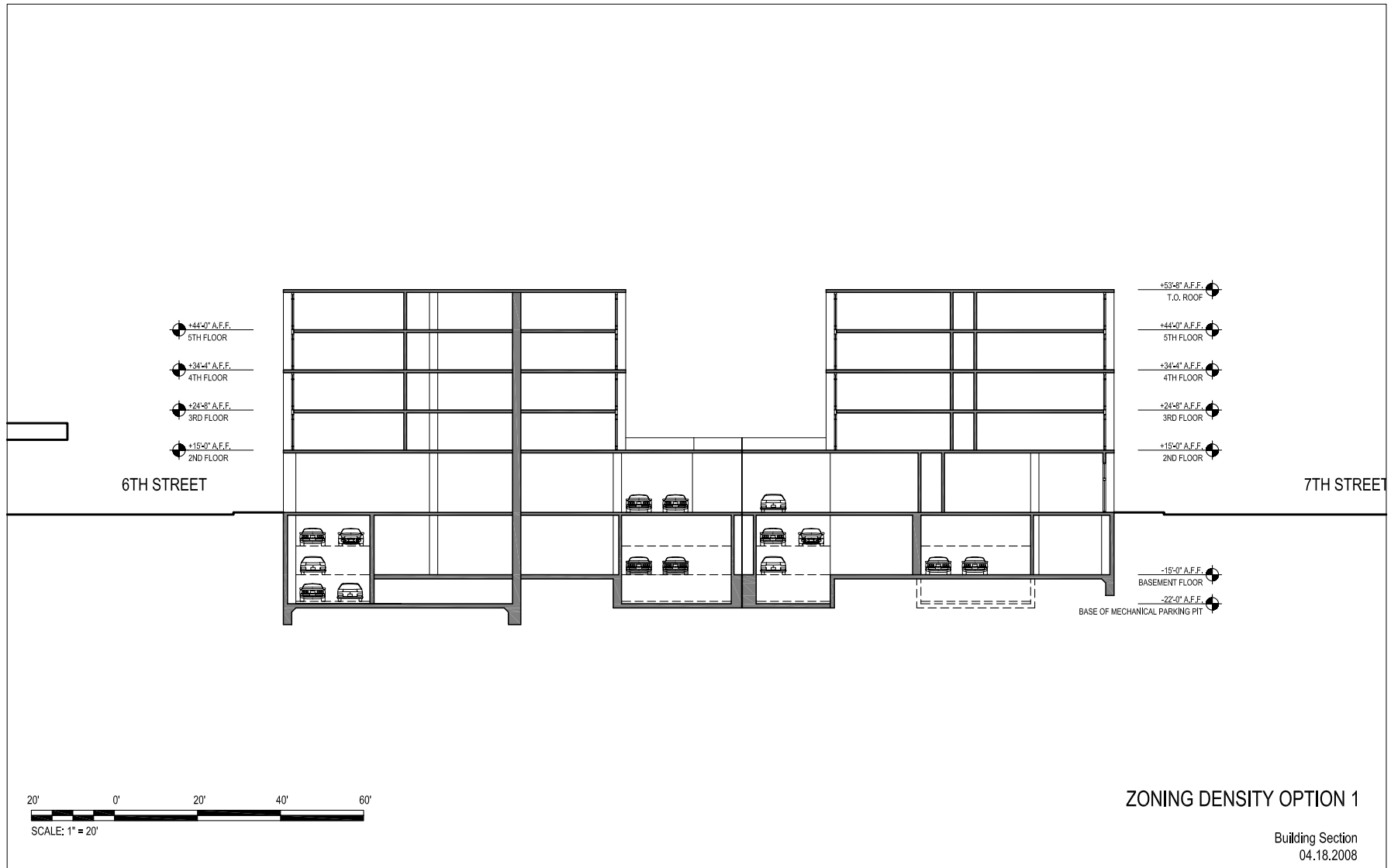


Figure 5-1
Reduced Density Alternative - Section



Source: YHLA Architects

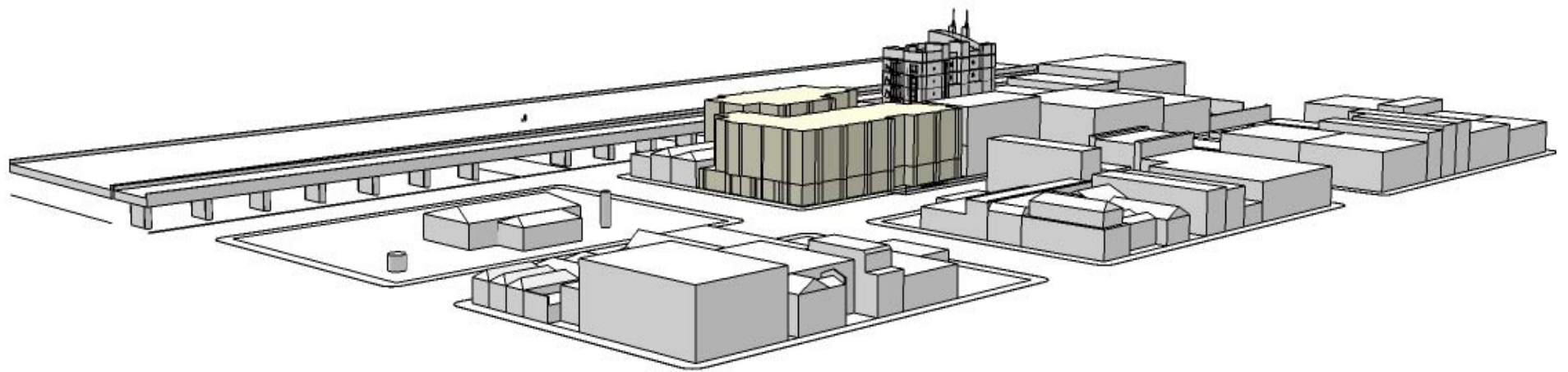


Figure 5-2
Reduced Density Alternative - Height and Massing



Source: YHLA Architecture

Comparative Environmental Analysis

Aesthetics (LTS)

With development of the Project site limited to 78 residential units, the 5-story structure needed to support this level of development would not be as tall or as massive as that proposed under the Project. As a result, shadows generated by a 5-story structure at the site would be more limited than those associated with the proposed Project. Given that the larger Project's shadows would have a less than significant impact on adjacent properties this smaller alternative would also have a less than significant shadow effect. The reduced size of this alternative's structure would further reduce the already less than significant shadow impacts of the Project.

The structures that would be built at the site under this alternative may alter existing wind patterns at the site and in the vicinity to some extent. The reduced size of these structures would have even less of an impact on wind patterns than the impacts associated with the larger structures built under the Project as proposed. Given that the larger Project's buildings would have a less than significant impact on wind patterns, this smaller alternative would also further reduce the already less than significant wind impacts of the Project.

Traffic and Circulation (SU)

With fewer residential units at the Project site under this alternative (78 units, as opposed to 380 units under the proposed Project), there would be significantly fewer daily vehicle trips generated from the Project site relative to those associated with the proposed Project. Whereas the Project would generate 2,102 daily trips, 262 PM peak hour trips and 163 AM peak hour trips, the Reduced Density Alternative would generate only 890 daily trips, 80 PM peak hour trips and 70 AM peak hour trips. This would mean that there would be fewer traffic impacts associated with this alternative relative to the proposed Project.

Existing + Reduced Density Alternative:

- The existing LOS F conditions at the intersection of 5th Street/Oak Street (Intersection #1) would prevail during the PM peak hour under the Existing + Reduced Density Alternative conditions. During the PM peak hour, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-10) would apply to this alternative. Because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the impact would conservatively be considered significant and unavoidable. **(SU)**
- The existing LOS E conditions at the intersection of 6th Street/Jackson Street (Intersection #4) would prevail during the AM and PM peak hours under the Existing + Reduced Density Alternative conditions. However, traffic generated by this alternative would not cause the City's thresholds of significance to be exceeded, and the recommended mitigation measure (Mitigation Measure Traf-13) would not be necessary. **(LTS)**
- The existing LOS F conditions at the intersection of 8th Street/Webster Street (Intersection #9) would prevail during the PM peak hour under the Existing + Reduced Density Alternative conditions. However, traffic generated by this alternative would not cause the City's thresholds of significance to be exceeded, and the recommended mitigation measure (Mitigation Measure Traf-16) would not be necessary. **(LTS)**

2015 Baseline + Reduced Density Alternative:

- The projected LOS E and F conditions at the intersection of 5th Street/Oak Street (Intersection #1) would prevail during the AM and PM peak hour under the 2015 Baseline + Reduced Density Alternative conditions. During the PM peak hour, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-11) would apply to this alternative. Because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the impact would conservatively be considered significant and unavoidable. **(SU)**
- The projected LOS F and E conditions at the intersection of 6th Street/Jackson Street (Intersection #4) would prevail during the AM and PM peak hours under the 2015 Baseline + Reduced Density Alternative conditions. However, traffic generated by this alternative would not cause the City's thresholds of significance to be exceeded, and the recommended mitigation measure (Mitigation Measure Traf-14) would not be necessary. **(LTS)**
- The projected LOS F conditions at the intersection of 8th Street/Webster Street (Intersection #9) would prevail during the PM peak hours under the 2015 Baseline + Reduced Density Alternative conditions. However, traffic generated by this alternative would not cause the City's thresholds of significance to be exceeded, and the recommended mitigation measure (Mitigation Measure Traf-17) would not be necessary. **(LTS)**

2030 Cumulative + Reduced Density Alternative:

- The projected LOS F conditions at the intersection of 5th Street/Oak Street (Intersection #1) would prevail during the AM and PM peak hour under the 2030 Cumulative + Reduced Density Alternative conditions. During both the AM and PM peak hours, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-12) would apply to this alternative. Because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the impact would conservatively be considered significant and unavoidable. **(SU)**
- The projected LOS F conditions at the intersection of 6th Street/Jackson Street (Intersection #4) would prevail during the AM and PM peak hours under the 2030 Cumulative + Reduced Density Alternative conditions. During the AM peak hour only, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-15) would apply to this alternative. Because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the impact would conservatively be considered significant and unavoidable. **(SU)**
- The projected LOS F conditions at the intersection of 8th Street/Webster Street (Intersection #9) would prevail during the AM and PM peak hours under the 2030 Cumulative + Reduced Density Alternative conditions. During both the AM and PM peak hours, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-18) would apply to this alternative. Implementation of this mitigation measure would reduce the traffic impacts to a level of less than significant. **(LTS with mitigation)**

This alternative would result in similar, less than significant impacts as those associated with the proposed Project pertaining to construction period traffic, emergency access, impacts on CMA travel routes, transit usage, pedestrian and bicycle safety and transit travel times in the vicinity.

Air Quality (LTS)

Construction of the Reduced Density Alternative would generate fugitive dust from demolition, grading, hauling and construction activities. The fugitive dust emissions associated with these construction activities would be effectively reduced to a level of less than significant with implementation of Standard Condition of Approval SCA Air-1, similar to the Project.

The Reduced Density alternative (at 78 units) would not exceed the construction-period emission screening criteria for criteria pollutants established in the June 2010 BAAQMD CEQA Guidelines (which is 252 units for high rise condominium and townhouse unit projects), but would include demolition and potentially the simultaneous occurrence of more than two construction phases. As a smaller development than the proposed Project, this alternative would have less construction-period criteria pollutant emissions than the proposed Project, and would have fewer emissions of toxic air contaminants (diesel particulate matter and PM_{2.5}). This alternative would be subject to implementation of construction-period emission reduction measures as indicated in Standard Condition of Approval SCA Air-1 and, depending upon the conclusions of a project-specific health risk analysis that would need to be conducted for this alternative, may also be required to implement Mitigation Measure Air-7 to further address construction-period diesel emissions. With implementation of these measures, this alternative would have a less-than-significant impact to air quality due to construction emissions.

The Reduced Density Alternative would result in the operational emission of criteria pollutants (ROG, NO_x and PM₁₀) primarily as a result of increased motor vehicle traffic and area source emissions. However, the Reduced Density Alternative, at 78 units, is well below the 510-unit screening level criteria established in the June 2010 BAAQMD CEQA Guidelines. The Reduced Density Alternative would therefore result in a less-than-significant cumulative impact to air quality from criteria air pollutant and precursor emissions under the current thresholds. The Reduced Density Alternative would also be well below the screening level criteria for carbon monoxide emissions, and would thus have a less-than-significant impact to air quality due to CO concentrations. In addition, the Reduced Density Alternative would be subject to City of Oakland Standard Conditions of Approval requiring preparation and implementation of a TDM Plan. On-going implementation of AB 1493 (Pavley Bill) will also have a positive effect on reducing criteria pollutants from vehicle emissions.

There would be fewer residents living at the project site under this alternative than under the proposed Project, so fewer people would be exposed to potential risks associated with toxic air contaminants. However, as indicated in Chapter 4.3, future residents living at the Project site would not be exposed to concentrations of toxic air contaminants at concentrations that would exceed applicable thresholds established by BAAQMD, and impacts related to toxic air contaminants would be less than significant. In sum, this alternative would further reduce the already less-than-significant impacts associated with the proposed Project.

Greenhouse Gas Emissions (LTS)

With fewer people at the site, less habitable space to heat and cool, and fewer vehicle trips being generated than under the proposed Project, this alternative would generate less greenhouse gas emissions than would the proposed Project. In sum, this alternative would further reduce the already less-than-significant impacts associated with the proposed Project.

Furthermore, the GHG emissions generated during construction and operation would be minimized by virtue of the site characteristics. The site is well served with transit facilities, would be required to meet California and Oakland energy efficiency standards and regulations to reduce future energy demand as well as to reduce its contribution to regional GHG emissions, and would be subject to all the regulatory requirements including those City's Standard Conditions of Approval which would reduce GHG emissions of the Project (e.g., SCA Traf-1: Parking and Transportation Demand Management, SCA Air-1: Construction-Related Air Pollution Controls, SCA Util-1: Waste Reduction and Recycling, SCA Bio-1 through -3: Tree Removal and Replanting, and SCA Hydro-1: Minimizing post construction stormwater runoff that could affect the ability to accommodate potentially increased storms and flooding within existing floodplains and infrastructure systems).

This alternative would be less consistent with Smart Growth principles of developing high density mixed-use use project within the downtown than would the proposed Project.

Hazards and Hazardous Materials (LTS)

With any development at the Project site, the recommendations of the Phase II ESA for further investigations to determine the extent of possible groundwater contamination would be required. Standard Conditions of Approval for the Project require that follow-up soil and groundwater investigations be conducted to determine the extent of potential contaminants and presence or absence of metals or other chemicals that may be associated with prior junkyard uses. Depending on the outcome of those investigations, it is possible that remediation may be necessary. If so, those same Standard Conditions of Approval would apply to this alternative and similar to the proposed Project, the impact would be less than significant.

At only 5 stories in height, this alternative would not interfere with Visual Flight Rules operations, nor would it penetrate the US Standard for Terminal Instrument Procedures (TERPS) surface associated with any existing Instrument Flight Rules (IFR) departure procedures of the Metropolitan Oakland International Airport or San Francisco International Airport. Similar to the proposed Project, the impact would be less than significant.

Wastewater Collection Infrastructure (LTS)

With less new development at the project site under this alternative as under the proposed project, there would be less demand on the wastewater collection infrastructure and less demand on the remaining capacity of the sub-basin in which the site is located. The same Standard Condition of Approval regarding confirmation of the capacity of the sewer system and implementation of any necessary sewer improvements would apply to this alternative.

Historic Resources (LTS)

With a much smaller project as envisioned under this Alternative, it would be possible to develop a site plan that does not rely on use of the property at 617-621 Harrison Street, or alternatively uses a portion of that site but leaves the structure on that property, which is a contributor to the 7th Street / Harrison Square Residential Historic District, intact. Such an alternative would avoid adverse impacts to the historic resource on that property that would otherwise occur under the Project.

ALTERNATIVE 3 – REDUCED SITE

Description of Reduced Site Alternative

Under Alternative 3, the site area would not include the property located at 617-621 Harrison Street. This property would remain as it currently is, and new development would only occur on the remaining parcels within the Project Area. The property at 617-621 Harrison Street is an approximately 2,600 square foot parcel. Subtracting this area from the approximately 35,500 square-foot Project site would leave an approximately 32,900 square feet (0.75 acres) development envelope.

The general description of this Reduced Site Alternative would be very similar to the proposed Project, with the same tower height but a slightly smaller lot area, resulting in fewer residential units. The development potential of this alternative is derived based on the following assumptions:

- floor plans for each level of the proposed Project show approximately 2 residential units and internal circulation occurring in the area over the property at 617-621 Harrison Street, so it is conservatively assumed that this alternative would result in the loss of up to 3 units per level;
- removing three units on each of the 20 levels of the southern tower only would result in a reduction of approximately 60 units from the 380 units proposed under the Project;
- Therefore, the intensity of development that could occur under this alternative is estimated at approximately 320 units (approximately 26% less than the Project).

The design of exterior walls and the layout of interior space would need to change substantially from that proposed under the Project to account for the reduced site area. As such, significant additional architectural design would be required to make this alternative into a realistic and fully developed design. However, the design of this alternative could look quite similar to the Project as proposed.

Comparative Environmental Analysis

Aesthetics (LTS)

This alternative would be approximately the same height and mass as proposed under the Project. As a result, shadows and wind effects generated by this alternative would be virtually the same as those associated with the proposed Project. Although wind related impacts would be less than significant under CEQA thresholds, this alternative would be subject to Recommended Measure Aesth-4 as applicable to the Project to address windy conditions at the Project's upper courtyards.

Traffic and Circulation (SU)

With the fewer residential units at the site under this alternative, there would be a reduction in the number of vehicle trips generated from the site as compared to the proposed Project. Whereas the Project would generate 2,102 daily trips, 262 PM peak hour trips and 163 AM peak hour trips, the Reduced Site Alternative would generate 1,891 daily trips, 169 PM peak hour trips and 144 AM peak hour trips.

Existing + Reduced Site Alternative:

- The existing LOS F conditions at the intersection of 5th Street/Oak Street (Intersection #1) would prevail during the PM peak hour under the Existing + Reduced Site Alternative conditions. During the PM peak hour, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation

measure (Mitigation Measure Traf-10) would apply to this alternative. Because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the impact would conservatively be considered significant and unavoidable. **(SU)**

- The existing LOS E conditions at the intersection of 6th Street/Jackson Street (Intersection #4) would prevail during both the AM and PM peak hours under the Existing + Reduced Site Alternative conditions. However, traffic generated by this alternative would not cause the City's thresholds of significance to be exceeded, and the recommended mitigation measure (Mitigation Measure Traf-13) would not be necessary. **(LTS)**
- The existing LOS F conditions at the intersection of 8th Street/Webster Street (Intersection #9) would prevail during the PM peak hour under the Existing + Reduced Site Alternative conditions. During the PM peak hour, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-16) would apply to this alternative. Implementation of this mitigation measure would reduce the traffic impacts to a level of less than significant. **(LTS with mitigation)**

2015 Baseline + Reduced Site Alternative:

- The projected LOS E and F conditions at the intersection of 5th Street/Oak Street (Intersection #1) would prevail during the AM and PM peak hour under the 2015 Baseline + Reduced Site Alternative conditions. During the PM peak hour, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-11) would apply to this alternative. Because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the impact would conservatively be considered significant and unavoidable. **(SU)**
- The projected LOS F and E conditions at the intersection of 6th Street/Jackson Street (Intersection #4) would prevail during the AM and PM peak hours under the 2015 Baseline + Reduced Site Alternative conditions. However, traffic generated by this alternative would not cause the City's thresholds of significance to be exceeded, and the recommended mitigation measure (Mitigation Measure Traf-14) would not be necessary. **(LTS)**
- The projected LOS F conditions at the intersection of 8th Street/Webster Street (Intersection #9) would prevail during the PM peak hour under the 2015 Baseline + Reduced Site Alternative conditions. During the PM peak hour, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-17) would apply to this alternative. Implementation of this mitigation measure would reduce the traffic impacts to a level of less than significant. **(LTS with mitigation)**

2030 Cumulative + Reduced Density Alternative:

- The projected LOS F conditions at the intersection of 5th Street/Oak Street (Intersection #1) would prevail during the AM and PM peak hour under the 2030 Cumulative + Reduced Density Alternative conditions. During both the AM and PM peak hours, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-12) would apply to this alternative. Because the City of Oakland, as lead agency, could not implement the mitigation

measure without the approval of Caltrans, the impact would conservatively be considered significant and unavoidable. (SU)

- The projected LOS F conditions at the intersection of 6th Street/Jackson Street (Intersection #4) would prevail during the AM and PM peak hours under the 2030 Cumulative + Reduced Density Alternative conditions. During the AM peak hour only, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-15) would apply to this alternative. Because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the impact would conservatively be considered significant and unavoidable. (SU)
- The projected LOS F conditions at the intersection of 8th Street/Webster Street (Intersection #9) would prevail during the AM and PM peak hours under the 2030 Cumulative + Reduced Density Alternative conditions. During both the AM and PM peak hours, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-18) would apply to this alternative. Implementation of this mitigation measure would reduce the traffic impacts to a level of less than significant. (**LTS with mitigation**)

This alternative would result in similar, less than significant impacts as those associated with the proposed Project pertaining to construction period traffic, emergency access, impacts on CMA travel routes, transit usage, pedestrian and bicycle safety and transit travel times in the vicinity.

Air Quality (LTS)

Construction of this alternative would generate fugitive dust from demolition, grading, hauling and construction activities. Similar to the Project, the fugitive dust emissions associated with these construction activities would be effectively reduced to a level of less than significant with implementation of Standard Condition of Approval SCA Air-1.

The Reduced Site Alternative (at 320 units) would exceed the criteria pollutant construction-period emission screening criteria established in the June 2010 BAAQMD CEQA Guidelines (which is 252 units for high rise condominium and townhouse unit projects), and would include demolition and potentially the simultaneous occurrence of more than two construction phases. Although a smaller development than the proposed Project, this alternative would have similar construction-period criteria pollutant emissions as would the proposed Project, and would have similarly significant construction-period emissions of toxic air contaminants (diesel particulate matter and PM_{2.5}). This alternative would be subject to implementation of construction-period emission reduction measures as indicated in Standard Condition of Approval SCA Air-1 and Mitigation Measure Air-7. With implementation of these measures, this alternative would have a less-than-significant impact to air quality due to construction emissions.

This alternative would also result in the operational emission of criteria pollutants primarily as a result of increased motor vehicle traffic and area source emissions. However, at 320 units this alternative is well below the 510-unit screening level criteria. This alternative would also be well below the screening level criteria for carbon monoxide emissions, and would thus have a less-than-significant impact to air quality due to regional emission or CO concentrations. In addition, the Reduced Site Alternative would be subject to City of Oakland Standard Conditions of Approval requiring preparation and implementation of a TDM Plan. On-going implementation of AB 1493 (Pavley Bill) will also have a positive effect on reducing criteria pollutants from vehicle emissions.

There would be fewer residents living at the project site under this alternative than under the proposed Project, so fewer people would be exposed to potential risks associated with toxic air contaminants. However, as indicated in Chapter 4.3, future residents living at the Project site would not be exposed to concentrations of toxic air contaminants at concentrations that would exceed applicable thresholds established by BAAQMD, and impacts related to toxic air contaminants would be less than significant.

Greenhouse Gas Emissions (LTS)

With fewer people, fewer vehicle trips and slightly less habitable space to heat and cool as compared to the proposed Project, this alternative would generate proportionally less greenhouse gas emissions.

Furthermore, the GHG emissions generated during construction and operation would be minimized by virtue of the site characteristics. The site is well served with transit facilities, would be required to meet California and Oakland energy efficiency standards and regulations to reduce future energy demand as well as to reduce its contribution to regional GHG emissions, and would be subject to all the regulatory requirements including those City's Standard Conditions of Approval which would reduce GHG emissions of the Project (e.g., SCA Traf-1: Parking and Transportation Demand Management, SCA Air-1: Construction-Related Air Pollution Controls, SCA Util-1: Waste Reduction and Recycling, SCA Bio-1 through -3: Tree Removal and Replanting, and SCA Hydro-1: Minimizing post construction stormwater runoff that could affect the ability to accommodate potentially increased storms and flooding within existing floodplains and infrastructure systems).

This alternative would be similar to the Project as being consistent with Smart Growth principles of developing high density mixed-use use project within the downtown.

Hazards and Hazardous Materials (LTS)

With any development at the Project site, the recommendations of the Phase II ESA for further investigations to determine the extent of possible groundwater contamination would be required. Standard Conditions of Approval for the Project require that follow-up soil and groundwater investigations be conducted to determine the extent of potential contaminants and presence or absence of metals or other chemicals that may be associated with prior junkyard uses. Depending on the outcome of those investigations, it is possible that remediation may be necessary. If so, those same Standard Conditions of Approval would apply to this alternative and similar to the proposed Project, the impact would be less than significant.

Similar to the proposed Project, this alternative would not interfere with Visual Flight Rules operations, nor would it penetrate the US Standard for Terminal Instrument Procedures (TERPS) surface associated with any existing Instrument Flight Rules (IFR) departure procedures of the Metropolitan Oakland International Airport or San Francisco International Airport and its impact would be less than significant.

Wastewater Collection Infrastructure (LTS)

With fewer residences at the site under this alternative as compared to the proposed Project, there would be less demand on the wastewater collection infrastructure and on the remaining capacity of the sub-basin in which the site is located. The same Standard Condition of Approval regarding confirmation of the capacity of the sewer system and implementation of any necessary sewer improvements would apply to this alternative.

Historic Resources (LTS)

By not including the property located at 617-621 Harrison Street (which is a contributor to the 7th Street/Harrison Square Residential Historic District) within the development envelope for this alternative, the structure on that property would remain in tact. This alternative would avoid the significant and potentially unavoidable adverse impact to the historic resource that would otherwise occur under the Project.

Construction activity would still occur immediately adjacent to this and other historic resources, and therefore City of Oakland Standard Condition of Approval SCA-Hist-1 would apply, requiring the applicant to design means and methods of construction that are capable of preventing damage the adjacent residential structures.

NON-CEQA PLANNING ALTERNATIVES

The following planning-related non-CEQA alternatives include a discussion of other on-going transportation planning programs and how these programs affect circulation and other elements of the proposed Project, and a variation on the architectural and urban design form of the Project. They are not intended to necessarily avoid or lessen environmental effects addressed under CEQA. While these alternatives do not address direct environmental effects under CEQA, they are included here for the benefit of the public, other public agencies and City decision-makers who would ultimately consider the merits of the Project, including matters of transportation planning and project design. Also, while they do not address CEQA impacts, these non-CEQA alternatives may result in secondary environmental effects, which are addressed as appropriate throughout the analysis.

ALTERNATIVE 4: DRAFT I-880/BROADWAY/JACKSON INTERCHANGE

In response to the Notice of Preparation, the City of Alameda and the Alameda County Transportation Improvement Authority (ACTIA) both indicated that a Project Study Report (PSR) for the I-880/Broadway/Jackson Interchange Project was being prepared. The Interchange Project is one of the major projects listed in ACTIA's 20-year Expenditure Plan, and the PSR is a cooperative effort between the City of Oakland, the City of Alameda, ACTIA, and Caltrans. The goal of the Interchange Project is to develop a set of fundable improvements for better access between I-880, the Posey and Webster Tubes, downtown Oakland, and the City of Alameda. The PSR serves as a project initiation document to establish the scope and secure funding for the proposed transportation project. A Draft PSR was released in August, 2008 but as of preparation of this Draft EIR, the PSR has not been acted upon by any of the participating agencies.

Description of the August 2008 Draft PSR Design

The Draft PSR proposes to reconfigure the I-880/Broadway/Jackson interchange to include:

- reconstructing the northbound I-880/Broadway off-ramp to terminate at Webster Street,
- depressing Harrison Street,
- providing a left turn from Harrison Street to 6th Street,
- constructing a new southbound I-880 off-ramp to Martin Luther King Jr. Way,
- constructing a new northbound I- 880 on-ramp from Market Street, and

- making additional improvements along 6th Street and 5th Street.

Each of these Draft PSR elements is more fully described below.

Reconstructed Off-Ramp from Northbound I-880 to Webster/Broadway Street

This element proposes to reconstruct and realign the existing northbound I-880 Broadway off-ramp to terminate at Webster Street. The reconstructed ramp would begin at an existing bridge hinge near Jackson Street, and stay between I-880 and 6th Street before crossing over Harrison Street. The ramp would be one lane until it crosses Harrison Street, where it would then open up to two lanes to allow vehicles to turn left and access the Webster Tube and Alameda or Jack London Square. The end of the ramp would create a new intersection at 6th and Webster Streets (see **Figure 5-3**). This element includes 6th Street corridor improvements from Webster Street to Broadway, including signal timing and re-striping to provide standard lanes and shoulders.

The existing northbound slip ramp between Jackson Street and Broadway would need to be removed as part of this design element.

Depressed Harrison Street

To accommodate the new I-880/Broadway off-ramp, the existing grade of Harrison Street needs to be depressed (i.e., lowered in grade- see **Figure 5-4**). The realigned and depressed Harrison Street profile would begin approximately 144 feet after exiting the Posey Tube. The road would continue to be depressed while traversing underneath I-880 and would require the reconstruction of existing historic retaining walls on both sides of Harrison Street. The profile would then rise up just to the east of the new Webster/Broadway off-ramp and conform to existing grade just upstream of the Harrison Street/7th Street intersection (see **Figure 5-5**). Three travel lanes under the I-880 mainline would open up to four lanes just beyond the reconstructed Broadway off-ramp.

Harrison Street to Northbound 6th Street Connection

This element proposes to construct a new left-turn lane from the depressed portion of Harrison Street onto northbound 6th Street. The left-turn lane would begin as a dedicated turn-pocket on the left side of Harrison Street below the existing I-880 freeway structures. The lane would then traverse under the freeway structures before turning left onto northbound 6th Street. Immediately after the turn, the single left-turn lane would open up into two lanes. The profile would rise along 6th Street and conform to existing grade at the Webster/6th Street intersection (see **Figure 5-6**). New retaining walls would be needed on both sides of the depressed two-lane section on 6th Street.

From a geometrics standpoint, this design element is assumed to be a free left-turn through the intersection because it serves to connect two urban arterials (Harrison Street and 6th Street). The distance between the end of Posey Tube and the left-turn curve is just sufficient to provide the standard deceleration length for vehicles exiting the Tube to partially decelerate within the through lane, enter the left turn pocket, and further decelerate to safely navigate the left-turn curve. An 18-foot lane width would be provided at the left-turn curve to accommodate truck off-tracking.

New Southbound I-880 Off-ramp to Martin Luther King Jr. Way

In the southbound direction, the proposed Martin Luther King Jr. Way off-ramp would serve as the main access ramp to Alameda and Jack London Square. The proposed off-ramp would cross Castro Street approximately 315 feet upstream of the ramp intersection. For the most part, the off-ramp will have a 6-

foot structure depth, except the span over Castro Street will require a 4-foot structure depth to provide the required minimum vertical clearance (15 feet). This thinner segment will be accomplished by a drop-in pre-cast span.

5th and 6th Street Improvements

Proposed improvements along the 5th and 6th Street corridors from Martin Luther King Jr. Way to Broadway include signal timing and re-striping to provide standard lanes and shoulders, and completion of the roadway link between the off-ramp terminus and Jack London Square/Webster Tube.

At the MarketStreet/6th Street intersection, the existing Market Street off-ramp approaches the intersection almost parallel to the proposed one-way 6th Street alignment. The angle between these two legs of the intersection is almost 0 degrees (the ideal approach angle is usually 70 degrees or greater). Similarly at the Martin Luther King Jr. Way/5th Street intersection the proposed Martin Luther King Jr. Way off-ramp approaches the intersection almost parallel to the existing one-way 5th Street alignment. To permit turning movements a split-phase signal will be necessary at both of these intersections. This operational assumption requires concurrence from the District's Traffic Operations and Traffic Safety functional units.

August 2008

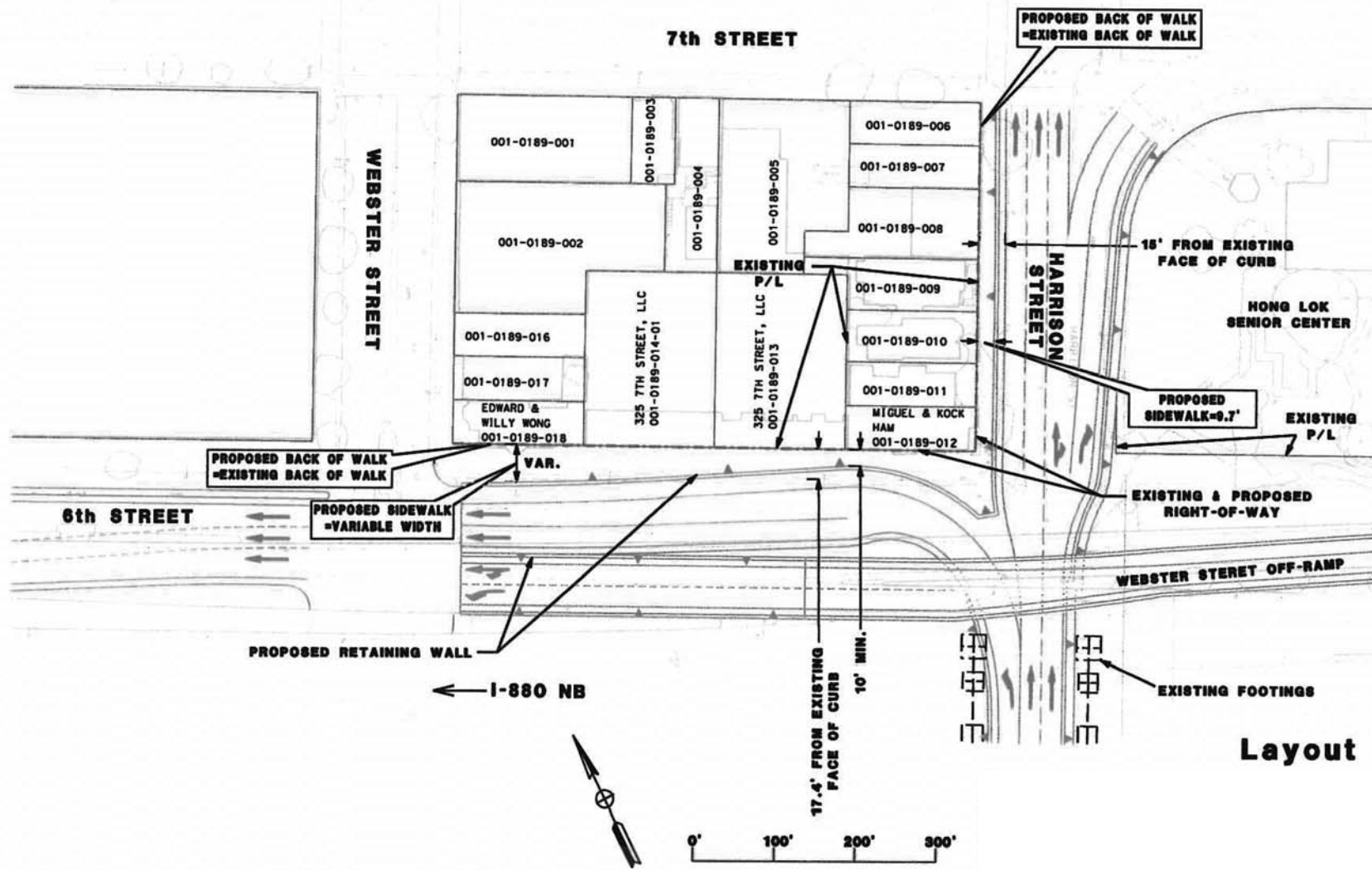


Figure 5-3
I-880/Broadway/Jackson Interchange Project



Source: ACTAI, 2008

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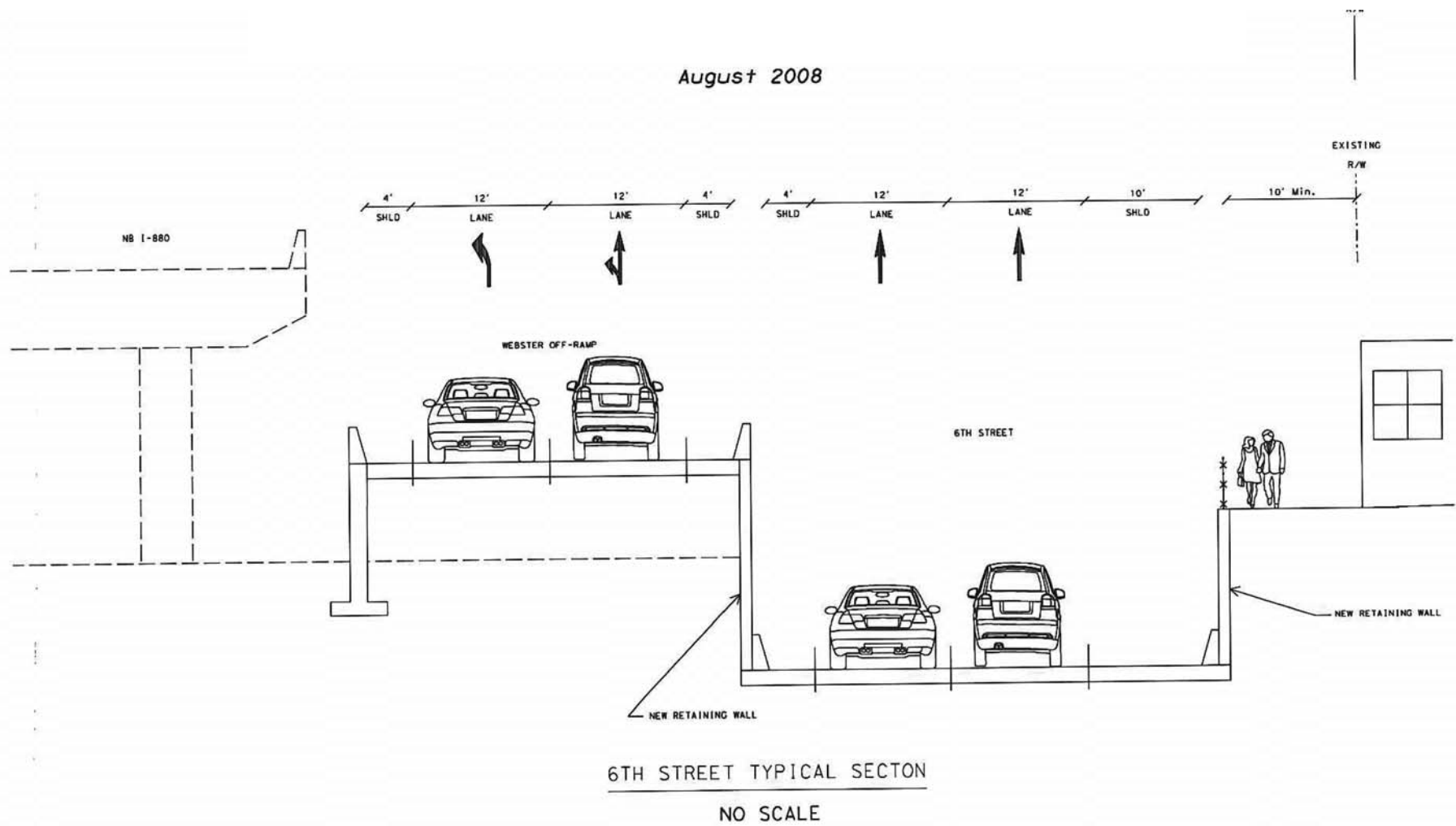


Figure 5-4
Alternative Circulation, 6th Street Typical Section



Source: ACTIA

August 2008

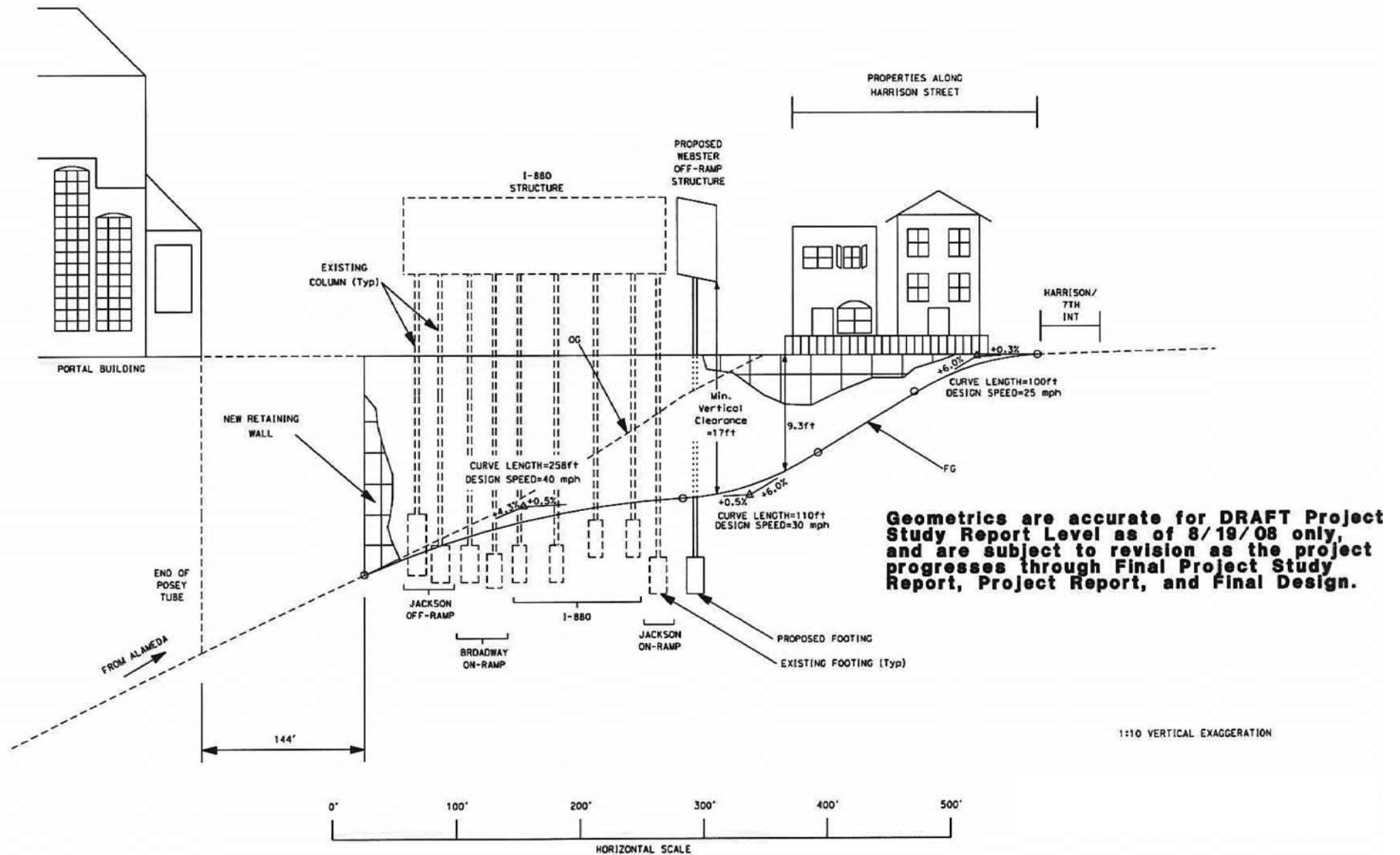


Figure 5.5
Broadway Jackson PSR - Depressed Harrison Street Profile



Source: ACTIA

August 2008

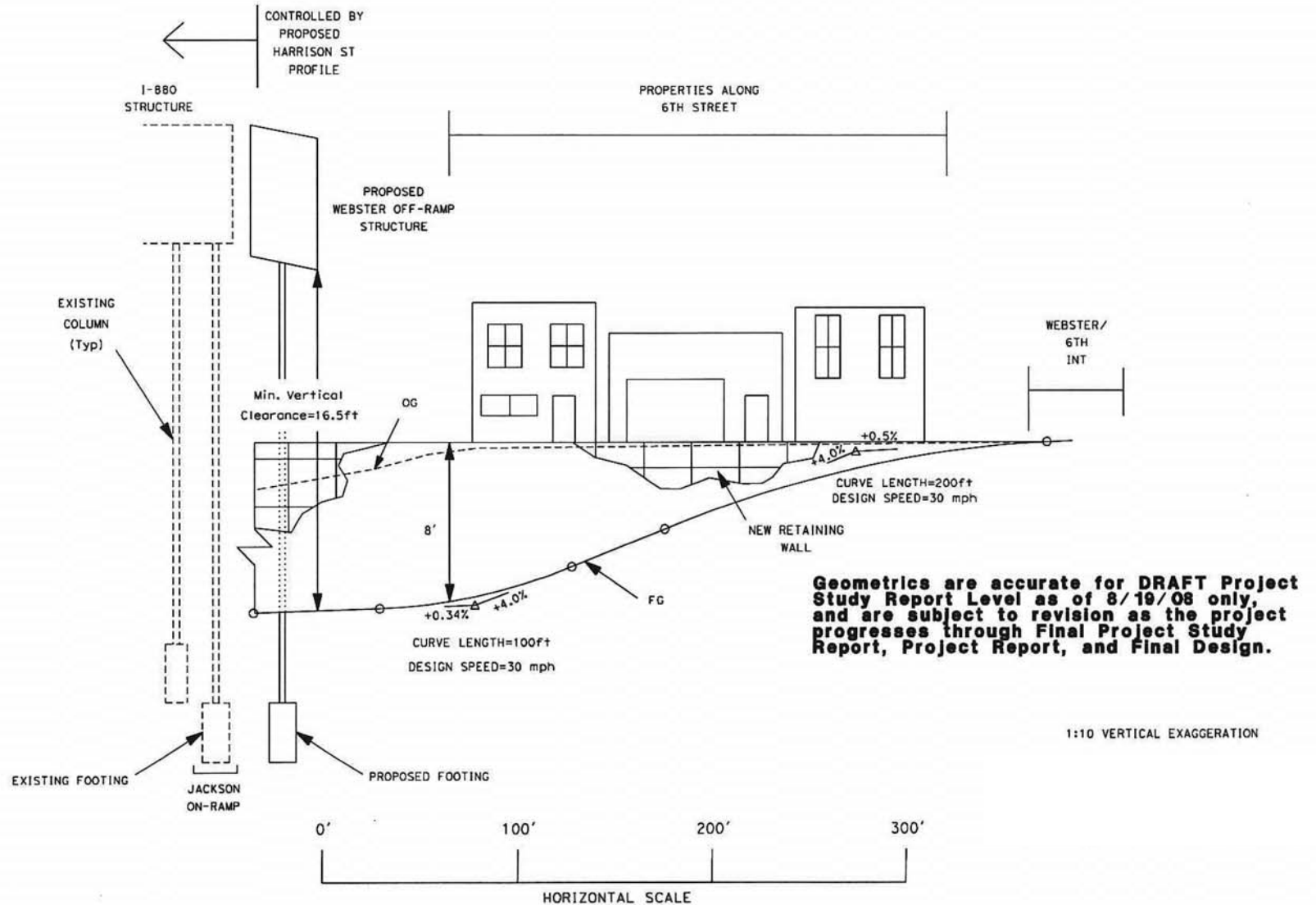


Figure 5-6
Alternative Circulation - Depressed Left Turn to 6th Street, Profile



Source: ACTIA

Potential Traffic Benefits

The reconstructed off-ramp from northbound I-880 to Webster/Broadway Street would provide a direct connection from northbound I-880 to the Webster Tube, eliminating the need for Alameda-bound traffic to go through several local intersections in Oakland. This direct connection would reduce the projected year 2030 total travel delay between northbound I-880 and Alameda by 76.5 percent (75 seconds) during the PM peak period.

The left-turn lane from Harrison Street to 6th Street would provide an alternate route along 6th Street for Posey Tube traffic headed toward Jack London Square, downtown Oakland, West Oakland, northbound I-880 and eastbound I-980. This alternate route would serve as a direct connection between Alameda and several local destinations/freeway access points in Oakland, and would remove a significant portion of traffic from downtown Oakland, Chinatown and the existing Jackson Street on-ramp. It would have the added benefit of relieving congestion along the Harrison-7th-Jackson loop and the I-880/I-980 weaving section.

The new I-880 off-ramp at Martin Luther King Jr. Way would segregate the commute traffic from the truck traffic that currently uses the Union Street off-ramp to enter the Port of Oakland, and thus improve safety.

Corridor improvements along 6th Street would allow 6th Street to function as a high volume arterial. Such an arterial would provide an alternate route for northbound I-880 traffic originating from Alameda, Jack London Square and parts of Chinatown, thereby relieving some of the demand on the existing Jackson Street on-ramp and its related congestion. The improved 6th Street would feed into the new northbound I-880 on-ramp at the Market Street/6th Street intersection, thus completing the alternate route to access northbound I-880.

Corridor improvements along 6th Street in conjunction with the left-turn lane from Harrison Street onto 6th Street would have the added benefit of providing efficient transit connections originating from Alameda. Buses would be able to traverse the Posey Tube with reduced delay and proceed efficiently along a signal-coordinated 6th Street, local buses would have a faster connection to the West Oakland BART station, and Transbay buses would be able to access northbound I-880/Bay Bridge via the new Market Street on-ramp.

With these improvements, the year 2030 AM and PM peak hour queues at the Harrison/7th Street intersection would be shorter, whereas if the improvements were not constructed the queues are projected to back up into the Posey Tube.³

With the proposed I-880 Broadway to Jackson ramp improvement project, several intersection would have improved LOS in 2030 including the intersections of 6th/Jackson, 7th/Broadway, 7th/Harrison, and 8th/Webster Streets.

Potential Access Implications

The existing segment of 6th Street between Webster and Harrison Streets is currently a two-way, two lane roadway that provides access and on-street parking for properties abutting the road. 6th Street also has an existing mid-block T-intersection with Webster Place, a two-way, two lane road that connects 5th and 6th

³ I-880/Broadway/Jackson Interchange PSR, Traffic Operations Analysis Report

Streets. The section of 6th Street in this area would depress the street below existing grade by as much as six feet, and would change travel patterns from one lane in each direction to two lanes of northbound one-way traffic. Retaining walls necessary to depress the street below grade would eliminate access to existing properties and to Webster Street.

If the conceptual interchange improvements contemplated under this Draft PSR were to be implemented in advance of the proposed Project, both the new depressed left turn lanes onto 6th Street and the depression of Harrison Street would require a re-design of the Project's driveway entries as access to these driveways would effectively be precluded. By depressing Harrison Street, the street-level frontage along both Harrison Street and 6th Street would be sealed off to prevent vehicle or pedestrian access to, or exit from the Project site, leaving only 7th Street as a point of access to the site. Given the limited space between the proposed new left turn lanes on 6th Street and the southern side of the proposed structure at the Project site, some of the sidewalk and streetscape improvements proposed along this side of the Project site would likely need to be removed.

Other Environmental Issues

Since there no difference between this Planning Alternative and the proposed Project in terms of building size, residential densities and other characteristics of the project other than circulation, the I-880/Broadway/Jackson Interchange Circulation Alternative would result in the same impacts as the Project in regard to aesthetics, air quality, greenhouse gas emissions, hazards, wastewater infrastructure and historic resources.

ALTERNATIVE 5 – POINT TOWER

This alternative has been developed to consider the possibility of developing an alternatively designed high rise residential project on the Project site, and using that alternative design to consider whether the site could still accommodate a reduction in frontage along 6th Street as necessary to accommodate a depressed Harrison Street and two-lane left-turns onto 6th Street (as described above), and reducing the size of the Project site by excluding that portion of the property at 617-621 Harrison Street that contains a structure that is a contributor to the 7th Street / Harrison Square Residential Historic District.

Description of the Point Tower Alternative

The reduced size of the Project site could, hypothetically, continue to support the development of a high density, high-rise residential project, but in a single “point tower”, which would be considerably taller than either of the two towers currently proposed. The podium-based parking for this alternative would necessarily be considerably different in design than that of the proposed Project, and could be made more rectangular in shape to fit the size of the available parcel.

To develop a design program for this alternative, the City of Oakland's current Central Business District (CBD) zoning regulations (rather than the C-40/R-70 standards that were applicable at the time the Project application was determined complete) were considered as the basis for density and mass. Under the CBD regulations the Project site is split between CBD-P (Pedestrian Retail) along the 7th Street frontage, and CBD-X (Mixed Commercial) along the 6th Street frontage. Both of the districts permit and encourage ground floor retail use. The Project site is also located with Height Area 4 as indicated on the Height/Bulk/Intensity Map. Within the Height Area 4 designation, development is permitted under the following standards:

- Residential density is calculated on a maximum density of 90 square feet of lot area per unit, or 45 square feet of lot area per rooming unit. Under this development density, the reduced site dimensions could accommodate a total of 365 residential units (32,900 sq ft / 90 sq ft per unit).
- The maximum height allowed in Height Area 4 is 275 feet. In order to accommodate a much taller tower design, the applicant would need to apply for a variance to increase the height limit to match the CBD Height Area 5 limits of 400 feet.
- Assuming an average height of 12 feet per floor and a maximum height of 400 feet, the tower could accommodate a total of 33 floors. Assuming three of these floor levels would be needed for podium parking and ground level retail space, there would be 30 floor levels above the podium that could be residential use.
- The maximum average area for a floor plate within Height Area 4 is 15,000 square feet. This is approximately the size of the floor plate designed for the Project, which is able to “fit” an average of 12 residential units per floor. At 30 floors of residential use and 12 units per floor, the tower could contain as many as 360 residential units of similar bedroom mix as the Project. To gain the additional 5 units allowed under the density regulations, the bedroom mix could be revised to include less 2-bedroom units and/or more studio units.

At the request of City of Oakland staff, the Project applicant developed a design to illustrate how a point tower could be developed at the site. Under this alternative, 365 residential units would be developed in a single point tower which would be sufficiently set-back from the existing edge of 6th Street to accommodate a possible future widening of that roadway in conjunction with the I-880/Bradway/Jackson Interchange project, and that would not rely on the property at 617-621 Harrison Street. The point tower would be approximately 400 feet tall, with one level of underground parking, parking at ground level, and two levels of parking above ground level providing a total of 365 off-street parking spaces. All off-street parking would be accessible from 7th Street only. There would be approximately 9,100 square feet of ground floor retail, and 365 condominium units with varying bedroom counts built on levels 4 through 40 (see **Figure 5.7** and **Figure 5.8**).

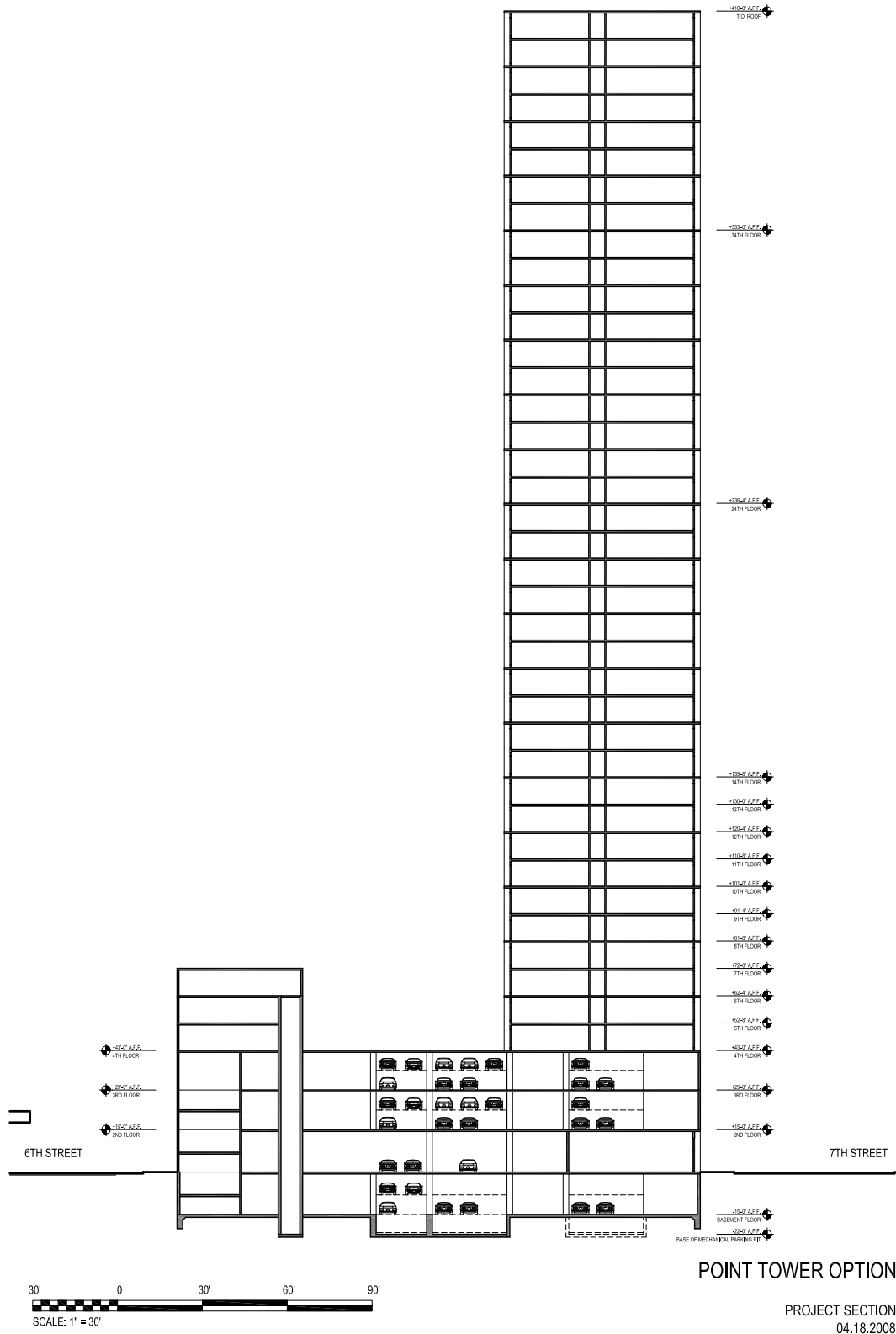


Figure 5.7
Point Tower Alternative - Section



Source: YHLA Architects

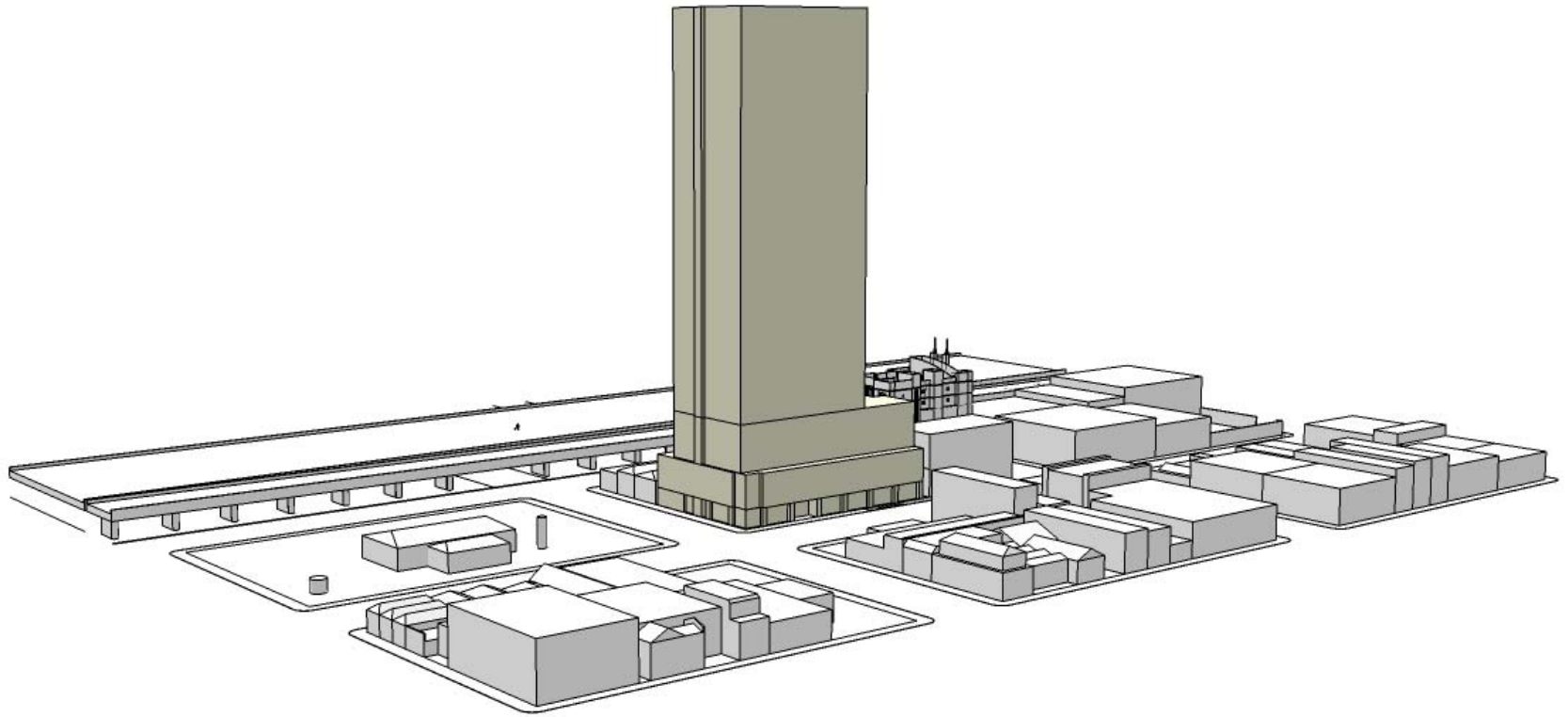


Figure 5-8
Point Tower Alternative - Height and Massing Study



Comparative Environmental Analysis

Aesthetics (PS)

At a height of approximately 400 feet, the point tower described under this alternative would be one of the tallest structures in downtown Oakland and would result in a greater change in the visual character of the Project site and longer shadows.

However, as a single point tower, this alternative could further reduce the less than significant wind effects of the Project. Although not identified as a significant effect of the Project, when two towers are situated side-by-side they have the potential to result in a “channeling effect” caused by wind flows that tend to accelerate through the gap between the buildings. Although wind related impacts would be less than significant under CEQA thresholds, this alternative would be subject to Recommended Measure Aesth-4 as applicable to the Project to address windy conditions at the upper courtyards.

Traffic and Circulation (SU)

With slightly fewer residential units at the site under this alternative, there would be a corresponding reduction in the number of vehicle trips generated from the site as compared to the proposed Project. Whereas the Project would generate 2,102 daily trips, 262 PM peak hour trips and 163 AM peak hour trips, the Point Tower Alternative would generate 2,060 daily trips, 183 PM peak hour trips and 156 AM peak hour trips.

Existing + Point Tower Alternative

- The existing LOS F conditions at the intersection of 5th Street/Oak Street (Intersection #1) would prevail during the PM peak hour under the Existing + Point Tower Alternative conditions. During the PM peak hour, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City’s threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-10) would apply to this alternative. Because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the impact would conservatively be considered significant and unavoidable. **(SU)**
- The existing LOS E conditions at the intersection of 6th Street/Jackson Street (Intersection #4) would prevail during both the AM and PM peak hours under the Existing + Point Tower Alternative conditions. However, traffic generated by this alternative would not cause the City’s thresholds of significance to be exceeded, and the recommended mitigation measure (Mitigation Measure Traf-13) would not be necessary. **(LTS)**
- The existing LOS F conditions at the intersection of 8th Street/Webster Street (Intersection #9) would prevail during the PM peak hour under the Existing + Point Tower Alternative conditions. During the PM peak hour, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City’s threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-16) would apply to this alternative. Implementation of this mitigation measure would reduce the traffic impacts to a level of less than significant. **(LTS with mitigation)**

2015 Baseline + Point Tower Alternative

- The projected LOS E and F conditions at the intersection of 5th Street/Oak Street (Intersection #1) would prevail during the AM and PM peak hour under the 2015 Baseline + Point Tower

Alternative conditions. During the PM peak hour, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-11) would apply to this alternative. Because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the impact would conservatively be considered significant and unavoidable. (SU)

- The projected LOS F and E conditions at the intersection of 6th Street/Jackson Street (Intersection #4) would prevail during the AM and PM peak hours under the 2015 Baseline + Point Tower Alternative conditions. However, traffic generated by this alternative would not cause the City's thresholds of significance to be exceeded, and the recommended mitigation measure (Mitigation Measure Traf-14) would not be necessary. (LTS)
- The projected LOS F conditions at the intersection of 8th Street/Webster Street (Intersection #9) would prevail during the PM peak hour under the 2015 Baseline + Point Tower Alternative conditions. During the PM peak hour, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-17) would apply to this alternative. Implementation of this mitigation measure would reduce the traffic impacts to a level of less than significant. (LTS with mitigation)

2030 Cumulative + Point Tower Alternative

- The projected LOS F conditions at the intersection of 5th Street/Oak Street (Intersection #1) would prevail during the AM and PM peak hour under the 2030 Cumulative + Point Tower Alternative conditions. During both the AM and PM peak hours, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-12) would apply to this alternative. Because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the impact would conservatively be considered significant and unavoidable. (SU)
- The projected LOS F conditions at the intersection of 6th Street/Jackson Street (Intersection #4) would prevail during the AM and PM peak hours under the 2030 Cumulative + Point Tower Alternative conditions. During the AM peak hour only, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-15) would apply to this alternative. Because the City of Oakland, as lead agency, could not implement the mitigation measure without the approval of Caltrans, the impact would conservatively be considered significant and unavoidable. (SU)
- The projected LOS F conditions at the intersection of 8th Street/Webster Street (Intersection #9) would prevail during the AM and PM peak hours under the 2030 Cumulative + Reduced Density Alternative conditions. During both the AM and PM peak hours, traffic congestion would worsen with the addition of traffic generated by this alternative, exceeding the City's threshold of significance. The recommended mitigation measure (Mitigation Measure Traf-18) would apply to this alternative. Implementation of this mitigation measure would reduce the traffic impacts to a level of less than significant. (LTS with mitigation)

This alternative would result in similar, less than significant impacts as those associated with the proposed Project pertaining to construction period traffic, emergency access, impacts on CMA travel routes, transit usage, pedestrian and bicycle safety and transit travel times in the vicinity.

Air Quality (LTS)

Construction of this alternative would generate fugitive dust from demolition, grading, hauling and construction activities. The fugitive dust emissions associated with these construction activities would be effectively reduced to a level of less than significant with implementation of Standard Condition of Approval SCA Air-1.

The Point tower Alternative (at 365 units) would exceed the construction-period emission screening criteria for criteria pollutants established in the June 2010 BAAQMD CEQA Guidelines (which is 252 units for high rise condominium and townhouse unit projects), and would include demolition and potentially the simultaneous occurrence of more than two construction phases. This alternative would have similar construction-period criteria pollutant emissions as would the proposed Project, and would have similarly significant construction-period emissions of toxic air contaminants (diesel particulate matter and PM_{2.5}). This alternative would be subject to implementation of construction-period emission reduction measures as indicated in Standard Condition of Approval SCA Air-1 and Mitigation Measure Air-7. With implementation of these measures, this alternative would have a less-than-significant impact to air quality due to construction emissions.

This alternative would also result in the operational emission of criteria pollutants primarily as a result of increased motor vehicle traffic and area source emissions. However, at 365 units this alternative is well below the 510-unit screening level criteria. This alternative would also be well below the screening level criteria for carbon monoxide emissions, and would thus have a less-than-significant impact to air quality due to regional emission or CO concentrations. In addition, the Point Tower Alternative would be subject to City of Oakland Standard Conditions of Approval requiring preparation and implementation of a TDM Plan. On-going implementation of AB 1493 (Pavley Bill) will also have a positive effect on reducing criteria pollutants from vehicle emissions.

There would be slightly fewer residents living at the project site under this alternative than under the proposed Project, so slightly fewer people would be exposed to potential risks associated with toxic air contaminants. However, as indicated in Chapter 4.3, future residents living at the Project site would not be exposed to concentrations of toxic air contaminants at concentrations that would exceed applicable thresholds established by BAAQMD, and impacts related to toxic air contaminants would be less than significant.

Greenhouse Gas Emissions (LTS)

With slightly fewer people, slightly fewer vehicle trips and slightly less habitable space to heat and cool as compared to the proposed Project, this alternative would generate proportionally less greenhouse gas emissions.

Furthermore, the GHG emissions generated during construction and operation would be minimized by virtue of the site characteristics. The site is well served with transit facilities, would be required to meet California and Oakland energy efficiency standards and regulations to reduce future energy demand as well as to reduce its contribution to regional GHG emissions, and would be subject to all the regulatory requirements including those City's Standard Conditions of Approval which would reduce GHG emissions of the Project (e.g., SCA Traf-1: Parking and Transportation Demand Management, SCA Air-1: Construction-Related Air Pollution Controls, SCA Util-1: Waste Reduction and Recycling, SCA Bio-1

through -3: Tree Removal and Replanting, and SCA Hydro-1: Minimizing post construction stormwater runoff that could affect the ability to accommodate potentially increased storms and flooding within existing floodplains and infrastructure systems).

This alternative would be similar to the Project as being consistent with Smart Growth principles of developing high density mixed-use use project within the downtown.

Hazards and Hazardous Materials (LTS)

With any development at the Project site, the recommendations of the Phase II ESA for further investigations to determine the extent of possible groundwater contamination would be required. Standard Conditions of Approval for the Project require that follow-up soil and groundwater investigations be conducted to determine the extent of potential contaminants and presence or absence of metals or other chemicals that may be associated with prior junkyard uses. Depending on the outcome of those investigations, it is possible that remediation may be necessary. If so, those same Standard Conditions of Approval would apply to this alternative and similar to the proposed Project, the impact would be less than significant.

Similar to the proposed Project, this alternative would not interfere with Visual Flight Rules operations, nor would it penetrate the US Standard for Terminal Instrument Procedures (TERPS) surface associated with any existing Instrument Flight Rules (IFR) departure procedures of the Metropolitan Oakland International Airport or San Francisco International Airport and its impact would be less than significant.

Wastewater Collection Infrastructure (LTS)

With slightly fewer residences at the site under this alternative as compared to the proposed Project, there would be less demand on the wastewater collection infrastructure and on the remaining capacity of the sub-basin in which the site is located. The same Standard Condition of Approval regarding confirmation of the capacity of the sewer system and implementation of any necessary sewer improvements would apply to this alternative.

Historic Resources (LTS)

By not including the property located at 617-621 Harrison Street (which is a contributor to the 7th Street/Harrison Square Residential Historic District) within the development envelope for this alternative, the structure on that property would remain in tact. This alternative would avoid the significant and potentially unavoidable adverse impact to the historic resource that would otherwise occur under the Project.

Other Potential Effects of this Alternative

The 400 foot height of this alternative may conflict with FAA established flight paths into Oakland International Airport.

ENVIRONMENTALLY SUPERIOR ALTERNATIVE

CEQA requires the identification of the environmentally superior alternative in an EIR.

Under the No Project/No Development Alternative there would be no change in existing conditions at the Project site, and none of the potential environmental impacts that might be associated with development as proposed under the Project would occur. The No Project/No Development Alternative is considered the

environmental superior alternative, since maintaining the Project site in its current condition would avoid each of the potential environmental impacts that would result from developing the site as proposed. However, this alternative would meet none of the Project objectives.

Where a No Project alternative has been identified as the environmentally superior alternative, CEQA requires the EIR to identify another alternative that would be considered environmentally superior in the absence of the No Project alternative.

A comparison of the alternatives evaluated indicates that the Reduced Density Alternative would have fewer environmental impacts relative to the proposed Project and to all other alternatives, and would be considered the environmentally superior alternative in the absence of the No Project/No Development alternative. The Reduced Density alternative would result in less significant traffic impacts relative to the proposed Project. By not including the property located at 617-621 Harrison Street within the development envelope for the Reduced Density Alternative, this alternative would also avoid the significant and potentially unavoidable adverse impact to the historic resource that would otherwise occur under the Project.

Comparison of Other Alternatives

Under the Reduced Site alternative, the structure at 617-621 Harrison Street which has been identified as an historic resource would be retained intact, although all other environmental impacts would be generally similar to those identified for the Project as proposed.

Under the planning alternative with the depression of Harrison Street and a two-lane left-turn to 6th Street, impacts of development would be similar to those associated with the proposed Project, although vehicular access to the Project site would be limited to 7th Street, thereby shifting traffic congestion to other intersections.

Under the Point Tower alternative, aesthetic impacts could potentially be greater than those associated with the proposed Project. Air quality, greenhouse gas emissions, hazards and hazardous materials impacts would be similar to those associated with the proposed Project, and traffic impacts would be slightly reduced than under the proposed Project due to a reduction in the number of residential units to be built under this alternative. By not including the property located at 617-621 Harrison Street within the development envelope for the Point Tower Alternative, this alternative would avoid the significant and potentially unavoidable adverse impact to the historic resource that would otherwise occur under the Project.

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CEQA REQUIRED ASSESSMENT CONCLUSIONS

As required by the California Environmental Quality Act (CEQA), this chapter discusses the following types of impacts that could result from implementation of the proposed 325 7th Street Project:

- growth-inducing impacts;
- significant irreversible changes;
- significant unavoidable Project-specific and cumulative environmental impacts; and
- effects found not to be significant.

GROWTH-INDUCING IMPACTS

A project is considered growth-inducing if it would directly or indirectly foster economic or population growth of the construction of additional housing.¹ Examples of projects likely to have significant growth-inducing impacts include extensions or expansions of infrastructure systems beyond what is needed to serve project-specific demand, and development of new residential subdivisions or industrial parks in areas that are currently only sparsely developed or undeveloped. Typically, redevelopment projects on infill sites that are surrounded by existing urban uses are not considered growth-inducing because redevelopment by itself usually does not facilitate development intensification on adjacent sites.

The proposed Project would not have any growth inducement effects. The Project site is in a developed area fully served by public utilities. There are no significant areas that are undeveloped adjacent to the Project site. Additionally, the Project would not remove any obstacles that would help facilitate growth that could significantly affect the physical environment.

Indirect population growth associated with the proposed Project could also occur in association with job creation. The economic stimulus generated by construction of the proposed Project could result in the creation of new construction-related jobs. In addition, commercial square footage that would be built as part of the Project could generate a number of employees. However, the jobs created during both the construction and operation phases of the Project would not be substantial in the context of job growth in Oakland and the region in the next 10 years. Although some of the employees

¹ *CEQA Guidelines*, 2005, Section 15162.2(d).

generated by the proposed Project may decide to live in Oakland, the migration of these employees into the City would not result in a substantial population increase.

Implementation of the proposed Project would result in an estimated residential population of 1,011 people, based on a projected 2005 household size of 2.66 residents per household. According to ABAG², the population of Oakland is expected to increase by 35,100 residents between the years 2005 and 2015. The proposed project's associated increase in population would account for approximately 3 percent of this increase. This residential growth is well within the anticipated population growth for the City of Oakland, and would not be considered substantial.

In addition, the proposed Project would occur on an infill site in an existing urbanized neighborhood in Oakland. It would not result in the extension of utilities or roads into exurban areas, and would not directly or indirectly lead to the development of Greenfield sites in the East Bay. Because the Project site is located within an existing urbanized area, and is not far from several major transit stations, anticipated growth would benefit the existing transit system and could reduce adverse impacts associated with automobile use, such as air pollution and noise. In addition, the provision of additional housing in Oakland would allow more people to live in an existing urbanized area and could reduce development pressures on farmland and open space in the greater Bay Area. Therefore, the population growth that would occur as a result of Project implementation would be largely beneficial, and not considered substantial and adverse.

SIGNIFICANT IRREVERSIBLE CHANGES

An EIR must identify any significant irreversible environmental changes that could result from implementation of a proposed project. These may include current or future uses of non-renewable resources, and secondary or growth-inducing impacts that commit future generations to similar uses. CEQA dictates that irreversible commitments of resources should be evaluated to assure that such current consumption is justified.³ The *CEQA Guidelines* describe three distinct categories of significant irreversible changes: (1) changes in land use that would commit future generations; (2) irreversible changes from environmental accidents; and (3) consumption of non-renewable resources. Additionally, the loss of historic resources would be considered a significant irreversible change.

Changes in Land Use That Would Commit Future Generations

The proposed Project would allow for the redevelopment of approximately 0.82 acre of land in Oakland's Chinatown. The Project site, which is surrounded by urban development on all sides, is designated for additional growth, especially housing, commercial and mixed-use development in the plans and policies of the City of Oakland, including the General Plan and Planning Code. Because the proposed Project would occur on an infill site on land designated for a mixture of and uses, it would not commit future generations to a significant change in land use.

² Association of Bay Area Governments, 2007. *Projections 2007, Forecasts for the San Francisco Bay Area to the Year 2035*.

³ *CEQA Guidelines*, 2003, 15126.2(c).

Irreversible Changes from Environmental Accidents

No significant environmental damage, such as what could occur as a result of an accidental spill or explosion of hazardous materials, is anticipated due to implementation of the proposed project. Furthermore, compliance with federal, State and local regulations, and the City of Oakland's Standard Conditions of Approval as identified in Chapter 4 related to remediation of potential groundwater contamination at the Project site, would reduce to a less-than-significant level the possibility that hazardous substances within the Project site would cause significant environmental damage.

Consumption of Non-Renewable Resources

Consumption of non-renewable resources includes conversion of agricultural lands, loss of access to mining reserves, and use of non-renewable energy resources. The Project site is located within an urban area of Oakland; no agricultural land would be converted to non-agricultural uses. The Project site does not contain known mineral resources, and does not serve as a mining reserve.

Demolition activities and construction of the proposed Project would require the use of energy, including energy produced from non-renewable sources. Energy consumption would also occur during the operational period of the proposed Project due to the use of automobiles, heating and cooling of the building and energy used by appliances. However, the proposed Project would incorporate energy-conserving features, as required by the Uniform Building Code and the California Energy Code Title 24. Additionally, the location of the Project site near transit facilities would facilitate the increased use of public transit, further reducing non-renewable energy consumption associated with single-occupant vehicles.

Loss of Historic Resources

The Project would result in the loss of a designated historic resource with the demolition of the residential structure located at 617-621 Harrison Street. This structure's designation as an "historic" resource makes it a non-renewable, by definition. Therefore, its removal represents the loss of a non-renewable resource.

SIGNIFICANT UNAVOIDABLE PROJECT-SPECIFIC AND CUMULATIVE IMPACTS

A significant and unavoidable impact would result if a project reaches or exceeds the defined threshold of significance and no feasible mitigation measure is available to reduce the significant impact to a less than significant level. The proposed Project would result in the following significant and unavoidable environmental effects and/or cumulative impacts, as identified in this EIR.

Traffic

Under all studied scenarios (Existing + Project, 2015 Cumulative + Project and 2030 Cumulative + Project) the intersections at 5th Street/Oak Street and 6th Street/Jackson Street would operate at unacceptable levels, and the Project would generate traffic at these intersections that would exceed the thresholds of significance. Mitigation measures have been recommend that would optimize the signal timing at these intersections, effectively reducing these impacts to a less than significant level. However, because the City of Oakland, as lead agency, could not implement these mitigation measures without the prior approval of Caltrans, and such approval has not yet been granted, the Project-specific and cumulative impacts are conservatively considered *significant and unavoidable*.

However, in the event that the mitigation measure could be implemented, the impacts would be less than significant.

Historic Resources

The Project would result in demolition of the residential structure currently located at 617-621 Harrison Street, which is an historic resource. The loss of this historic structure would be a ***significant impact*** of the Project. The project's proposed design is dependent upon use of the property at 617-621 Harrison Street.

Pursuant to the requirements of **SCA Hist-2**, the Project applicant will be required to make good faith efforts to relocate the existing structure at 617-621 Harrison Street to a location consistent with its historical or architectural character. If relocation or re-design efforts are unsuccessful or not feasible, demolition of the building at 617-621 Harrison Street is conservatively assumed. The impact of that demolition would remain significant and unavoidable, and there are no feasible mitigation measures to address the loss of this resource. However, if relocation efforts were to prove successful in moving the building to a new location consistent with its historical or architectural character, the impact would be less than significant.

EFFECTS FOUND NOT TO BE SIGNIFICANT

Except for the significant unavoidable impacts to traffic congestion at two intersections (5th Street/Oak Street and 6th Street/Jackson Street) due to uncertainty about Caltrans' approval of recommended improvements and the loss of an historic resource at 617-621 Harrison Street, there are no other significant impacts of the Project. All other impacts are less than significant or would be reduced to less than significant with the implementation of the City of Oakland's Standard Conditions of Approval or recommended mitigation measures.

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