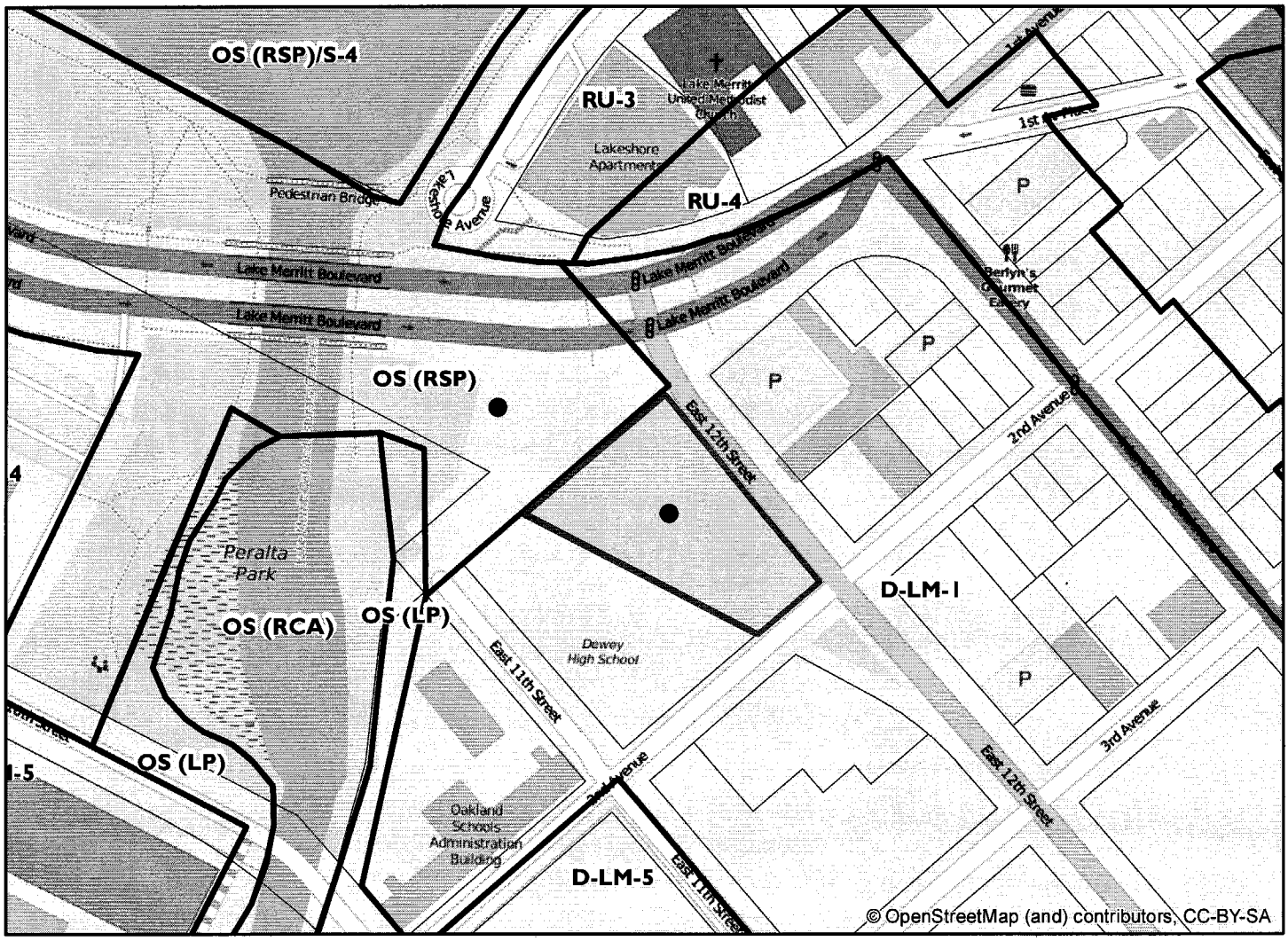
Location:	**Parcel generally bounded by Lake Merritt Boulevard to the north, East 12th Street to the east, 2nd Avenue to the south, and a City park/water treatment basin and Lake Merritt Channel to the west. (see map on reverse)**
Assessors Parcel Numbers:	**019-0027-014**
Proposal:	Construction of a 413,829 square foot, 24-story residential apartment tower, including 298 residential units, 2,000 square feet of ground level commercial space, 209 parking spaces, and associated amenities and improvements. Off-site improvements are also proposed to the existing stormwater treatment basin/park located adjacent to the site.
Applicant:	Ronnie Turner, Urban Core
Owner:	City of Oakland
Planning Permits Required:	Design Review for new construction; Conditional Use Permits to be subject to the requirements of Height Area LM-275 instead of Height Area LM-85; for reduced loading birth dimensions parking spaces (223.5 required; 209 proposed); construction over 100,000 square feet, and improvements to a stormwater treatment facility. Variance for storefront depth of 35 feet instead of the required 50 feet; All permits are Major because the proposed construction is greater than 100,000 square feet in a D-LM zone.
General Plan:	Urban Residential
Zoning:	D-LM-1 Lake Merritt Station Area District Mixed Residential Zone – 1
Environmental Determination:	The anticipated environmental effects of the project have been evaluated by the Lake Merritt Station Area Plan Final Environmental Impact Report (Final EIR) (certified November 2014). The project is also Categorically Exempt under Section 15332 of the State CEQA Guidelines: In-Fill Development Projects; Section 15183 of the State CEQA Guidelines: Projects consistent with a Community Plan, General Plan or Zoning; and 15183.3 (Streamlining for Infill Projects). These analyses and exemptions satisfy CEQA requirements on a separate and independent basis.
Historic Status:	Empty lot; no historic properties.
Decision to be taken	Decision on proposal based on staff's recommendation
Status	Appealable to the City Council within ten days.
Service Delivery District:	4
City Council District:	2
For further information:	Contact case planner **Neil Gray** at **510-238-3878** or by email: ngray@oaklandnet.com

SUMMARY

The proposed project would develop a site created after the reconfiguration of 12th Street adjacent to Lake Merritt with a 21-story residential apartment tower on top of a two-story podium (not including an underground garage) with a 2,000 square foot cafe. Staff recommends approval of the project for the reasons described in this report.

CITY OF OAKLAND PLANNING COMMISSION



0 125 250 500 750 1,000 Feet

Case File: PLN14266
Applicant: UrbanCore
Address: Parcel generally bounded by Lake Merritt Boulevard to the north, East 12th Street to the east, 2nd Avenue to the south, and a City park/water treatment basin and Lake Merritt Channel to the west.
Zone: D-LM-1, OS (RSP)

PROPERTY DESCRIPTION

The site consists of two areas: the parcel proposed for new construction ("project site") and a neighboring publicly owned area proposed for a stormwater treatment facility. The stormwater treatment facility would be a visual amenity but not a recreational facility, and would not contain paths or benches. Both sites are currently owned by the City and on the southeastern edge of the Lake Merritt Specific Plan Area.

The approximately 0.92-acre project site is triangular and generally bounded by Lake Merritt Boulevard to the north, 2nd Avenue and a vacant building formerly occupied by the Oakland Unified School District (OUSD) to the south, East 12th Street to the east, and the stormwater treatment facility to the west. Lake Merritt is located to the north of the project site across Lake Merritt Boulevard. Current uses on the project site include soil stockpiling and staging for nearby construction projects.

The stormwater treatment facility site is a recently re-vegetated 0.91-acre City stormwater basin installed as part of the East 12th Street Reconstruction Project. It is adjacent to Lake Merritt Boulevard to the north, the school site to the south, Lake Merritt Channel to the west, and the project site to the east. This parcel is significantly sloped toward the Channel.

The entire site was uncovered after East 12th Street was realigned as part of the East 12th Street Reconstruction Project, which was funded by Measure DD.

BACKGROUND

In December 2012, staff issued a Request for Proposals (RFP) to developers who showed interest in purchasing the project site from the City and developing it with market-rate housing. Staff received two development proposals and established a selection committee to evaluate the proposals and interview the two respondents to the RFP.

Then in July 2013, the City Council authorized the City Administrator to enter into an Exclusive Negotiating Agreement (ENA) with the selected respondent, UrbanCore-Integral Development, LLC, for the development of the project site. During the 18-month ENA period, staff worked with the developer to refine its project proposal in response to community input, Planning staff input, new zoning regulations that were under development as part of the Lake Merritt Station Area Plan, and market conditions. Community stakeholders, including members of the Measure DD Coalition, Coalition of Advocates for Lake Merritt (CALM), and surrounding neighbors such as residents of 1200 Lakeshore (a residential high-rise located across the street from the Remainder Parcel), participated in public meetings to give input on the Developer's proposed development.

The developer hosted a public meeting on October 28, 2013 to present their initial proposed development and seek input. The developer incorporated the feedback they received from that meeting and followed up with a presentation at the November 18, 2013 meeting of the Measure DD Coalition, a regular and broadly publicized meeting that is open to the public. Most recently,

the developer hosted a meeting on January 20, 2015 to present the latest version of their project's description and design

At each of the three public meetings, there were 30 to 50 participants; about 2 weeks prior to the public meeting, announcement notices went out both by mail and by e-mail to key community listservs, including the City's Lake Merritt Station Area Plan contacts list, and both City Council District 2 and City Council District 3 contacts list. In addition, the developer made themselves available to meet with various interested community stakeholders, when requested. For example, a subcommittee of the Measure DD Coalition interested in the development of the Remainder Parcel was formed to follow the project closely and provide guidance and input on various topics including the project's design, community benefits and environmental impacts, especially wind and shadow.

Several concerns were voiced during the community meetings, including:

- Wind and shadows resulting from the project would impact the beneficial use of public or quasi-public or other open spaces in proximity to the proposed development. Wind and shadow studies performed as part of the site specific CEQA analysis for the project satisfied the concerns of the Measure DD Coalition (see Attachment B), which was the principal party that raised the issue.
- Additional community benefits, especially affordable housing, should be part of the proposal (see Key Issues and Impacts Section, below).
- The Conditional Use Permit for reduced parking and the height of building (see Key Issues and Impacts Section, below).

A public hearing was held in front of the Parks and Recreation Advisory Committee (PRAC) regarding the stormwater treatment facility site. The PRAC voted five in favor of the proposal, one against the proposal, and two abstentions. This vote constitutes "No Recommendation" because six votes are required for an official recommendation. Members of the PRAC raised concerns that the project should include more community benefits and stormwater treatment facility improvements.

This project was on the March 18, 2015 Planning Commission agenda but was continued to the April 1st agenda due to a lack of quorum. Several speakers commented during open forum that the City should have more widely advertised the RFP, the project should have been presented to the Design Review Committee, and more affordable housing should be included in the project.

NEIGHBORHOOD DESCRIPTION

The site vicinity consists of public, institutional, residential, and commercial uses. Public and institutional uses, including the Kaiser Center and the Alameda County Courthouse, are among the most visible land uses in the area and are largely concentrated along the Lake Merritt Channel and 13th Street. The Dewey High School campus and the former Oakland Unified School District (OUSD) administrative offices, which are also planned for redevelopment, are located at the southern border of the project site. This site is also near Laney College campus and sports

fields, the Peralta Community College District Administration buildings, the Oakland Museum of California, the Kaiser Auditorium, the County Court and Offices, and the Public Library.

There are several multi-unit apartment buildings ranging from 2 to 23 stories in the neighborhood. These buildings have a variety of architectural styles: The 1200 Lakeshore Apartments, a 23-story residential building on the shore of Lake Merritt, has a post-modern style; the 18-story "Merritt on 3rd," residential building located southeast of the project site has a contemporary style; and the five-story Lakemount Apartment Building across 2nd Avenue from the project site has a traditional architectural style.

PROJECT DESCRIPTION

The proposed project would develop the site with a 21-story residential apartment tower on top of a two-story podium (not including an underground garage). The podium would also contain a fifty-foot tall residential and recreational building adjacent to the tower. The entire project includes 298 residential units (249,939 square feet of residential floor area), 2,000 square feet of ground level commercial space, 209 parking spaces, and associated amenities and improvements. The proposed building would have an overall height of 270 feet, not including architectural and mechanical features that extend above the roofline. A mix of unit types is proposed, including seven lofts, eight penthouse units, 113 studios, 110 one-bedroom units, and 60 two-bedroom units, which would range in size from approximately 550 to 1,595 square feet.

The project is described in more detail below.

Site Plan

An L-shape created by the tower and recreation/residential building defines a 15,400-square-foot open space area on top of the podium facing the OUSD property. The open space would include amenities such as a fire lounge, a wood deck with a wading pool and hot tub, a kitchen and grilling space, and several movable outdoor chairs and tables.

The approximately 300 feet wide by 75 feet deep tower would be angled north-south to minimize view and shadow impacts on the lake, channel and the park.

The ground level would include the building entrance, lobby, a 2,000-square-foot café, parking, seven townhouse units, and a lounge area. The café would be at the corner of the building facing both East 12th Street and the stormwater treatment facility site and include an outdoor curved terrace on the south portion of the stormwater treatment facility site with views towards Lake Merritt and the Lake Merritt Channel. Stairs would connect the sidewalk to the terrace and entrance into the café.

Three two-story townhouse units would be located adjacent to the café and face the stormwater treatment facility site. A lobby and four townhouse units would be adjacent to the other side of the café and face East 12th Street. Parking and utilities would be screened behind these active uses. Vehicular access to the three-level parking garage (including one-story of underground parking) would be provided by a single entrance on 2nd Avenue.

Access, Circulation and Parking

The parking garage would include a total of 209 parking spaces, including mechanical stackers. Long term storage for a total of 86 bicycles would be available at the below-grade level. Two loading berths would be located on the second level.

The primary pedestrian access would be provided through an entrance located on East 12th Street but access would also be available through the café. There would be an elevator to provide access from the sub-surface garage level and all levels of the building. Internal pathways and stairwells would provide access to various levels within the building.

Building Design

Building Base. The design of the bottom five stories along E. 12th Street creates a prominent building base. The first two levels of the building are a total of 29 feet high; double-story windows and columns unify these levels to create a strong ground floor presence. The next three levels are unified in a similar fashion to create a five-story building base. These tall, rectangular windows echo the windows in civic buildings that ring the west side of the Lake. The darker colors proposed for this base also contributes to a ground floor prominence along East 12th Street, the park, and 2nd Avenue.

Tower. As mentioned, the 21-story tower is proposed to be 300 feet wide. This width is reduced into two volumes facing East 12th Street and the Channel, which are connected by a recessed elevator shaft, to reduce the perceived length of the building. The volumes are designed to be seen as separate towers, each with a separate base and top feature (penthouses and a parapet define the top of each building).

Exterior tower treatments such as cement panels, metal accents, and significant window transparency create a contemporary design. The plan proposes textured integral color concrete or corrugated metal for the recessed elevator shaft. Staff believes that corrugated metal would not be appropriate for this surface because the building does not have an industrial style. Therefore, staff recommends that color concrete be applied to the elevator shaft exterior with significant window recess to provide shadow lines and visual interest.

Landscaping

Street trees and other plantings would be located at the ground level where the site borders East 12th Street, within the podium open space area, and at a sixth level roof terrace.

In addition, off-site improvements are proposed to the existing City-owned stormwater treatment basin/park located adjacent to the site. These improvements would include the installation of natural landscaping to the area north and northwest of the project site. With the proposed improvements, the land would function as a passive open green space consisting mostly of native plantings, groundcover, shrubs and trees. The groundcover would be low maintenance grasses and wildflowers requiring mowing once or twice a year. Temporary irrigation would be used for

two or three years to establish the trees and shrubs. All plantings would adhere to Bay friendly practices and to the State's Water Efficient Landscape Ordinance. All improvements and maintenance would be funded by the developer.

GENERAL PLAN ANALYSIS

The intent of the Urban Residential classification is to "create, maintain, and enhance areas of the City that are appropriate for multi-unit, mid-rise, or high-rise residential structures in locations with good access to transportation and other services." A high-rise apartment building clearly meets the intent of this designation. The project is also consistent with the following policies (the policies are in **bold** text; description of how the project conforms to a policy is in *italic*):

Policy D1.9: Planning for the Channel Park Residential Area. The area between the Channel Park Arts, Educational, and Cultural Center and the waterfront should be developed as a walkable urban residential district, incorporating commercial development and open space as appropriate to take advantage of the cultural and recreational amenities provided by the center and the channel to the estuary, and easy transportation by BART. *The proposal is in the location described by this policy and provides residential development, open space, and ground floor commercial space.*

Policy N3.4: Encouraging Infill Development. In order to facilitate the construction of needed housing unit, infill development that is consistent with the General Plan should take place throughout the City of Oakland. *The project is near Downtown Oakland and would be considered a significant infill development.*

Policy N3.9 Orienting Residential Development. Residential development should be encouraged to face the street and to orient their units to desirable sunlight and views, while avoiding unreasonably blocking sunlight and views for neighboring buildings, respecting the privacy needs of residents of the development and surrounding properties, providing for sufficient conveniently located on-site open space, and avoiding undue noise exposure. *The building is oriented to maximize views of Lake Merritt from buildings to the southeast and reduce shadow impacts. Open space is conveniently located on the podium level and oriented toward the channel and away from the 12th Street Bridge.*

The Land Use Element of the General Plan states that Urban Residential allows a maximum of one unit per 130 square feet of lot area. The project complies with this requirement at a density of one unit per 135 square feet of lot area.

LAKE MERRITT STATION AREA SPECIFIC PLAN ANALYSIS

Staff believes that the project is consistent with the Lake Merritt Station Area Specific Plan for the following reasons.

There are two policies that directly address the project site in the Lake Merritt Station Area Specific Plan:

LU-40 City Owned Remainder Site. Redevelop the City-owned remainder site on Lake Merritt Boulevard with landmark quality design, high density residential, and active ground floor uses that complement the waterfront.

OS-15 Lake Merritt Channel Edge Setback. Require a 100-foot setback along the eastern edge of the Lake Merritt Channel to promote new publicly accessible open space. This requirement would impact in particular the new remainder site at the corner of Lake Merritt Boulevard and 12th Street (site 44) and the OUSD administrative buildings (site 43) if they are redeveloped.

Staff believes that, as conditioned, this high density residential project will have a landmark quality design. The perpendicular angle of the tower to the shoreline along with the two-tower design will successfully break up the mass of the building and create interesting perspectives of the structure as one travels around the lake. Also, the shapes and angles of the proposed tower and 1200 Lakeshore Avenue will funnel attention toward Lake Merritt and the Downtown skyline. High quality materials such cement panels, metal accents, textured integral color concrete, and significant window transparency will create a design that is reflective of contemporary trends in exterior building materials.

The proposed 192-foot distance from Lake Merritt is consistent with Policy OS-15, described above.

The project is also consistent with the Design Guidelines document that was adopted with the Specific Plan. As described in the Guidelines, the tower will be stepped back and balconies, recesses, windows, reveals, and bay windows will articulate the façade. The apparent building bulk is reduced by segmenting it into smaller masses (two towers and the base) that correspond to the internal function of the structure. The commercial space will have a high ceiling and significant transparency as recommended by the Guidelines. The commercial space will not be at the sidewalk grade as recommended by the Guidelines due to grade changes; however, the northeast corner of the project site will be connected to the sidewalk through a welcoming outdoor staircase to draw customers into the proposed commercial space.

ZONING ANALYSIS

The following highlights relevant zoning standards from the LM-1 zone.

Zoning Intent

The intent of the D-LM-1 zone is to create, maintain, and enhance areas of the Lake Merritt Station Area Plan District appropriate for high-density residential development with compatible commercial activities.

Ground Floor Facade Requirements

The following table contains the ground floor façade requirements contained in Chapter 17.101G of the Planning Code.

Regulation	Requirement	Proposed	Notes
Average minimum setback from the Lake Merritt Estuary Channel	60 ft	192 ft	
Minimum ground floor commercial facade transparency	55%	81%	
Minimum height of the ground floor	15 ft	15 ft	
Minimum width of storefronts	15 ft	83 ft	
Minimum depth of storefront bay	50 ft	35 ft	1
Minimum separation between the grade and ground floor living space	2.5 ft	2.5 feet for all units except one, which has no separation.	1, 2

Notes:

1. The proposal requires variances for not meeting minimum requirement for these items. See the Key Issues and Impacts Section, below, for further discussion.
2. This ground floor townhouse is on the northeast area of the project site.

Height, Bulk, Intensity, Open Space, and Tower Standards

The project is in Height Area LM-85 but the applicant has applied for a Conditional Use Permit to be subject to the requirements of Height Area LM-275, as allowed in Table 17.101G.04 of the Planning Code. This Table states that one application in the LM-85 height area can apply for a height area upgrade to LM-275 and that these applications are reviewed on a first come, first served basis; the subject property is the first and so far only project to apply for this upgrade.

Staff recommends approval of this Conditional Use Permit (CUP) for the reasons described in the Key Issues and Impacts section of this report. Staff also recommends approval of a CUP required under Section 17.101G.070 for all projects over 100,000 square feet (the project is a total of 251,939 square feet). The following table lists the relevant requirements of Height Area LM-275 and how the project complies with these requirements:

Regulation	Requirement	Proposed	Notes
Building Intensity Requirements			
Maximum density	364 units	298 units	
Maximum Floor Area Ratio (floor area/site area)	12.0	6.5	
Minimum group open space	75 sf per unit	111 sf per unit	
Conditional Use Permit Required	100,000	251,939 (Conditional Use Permit Required)	
Building Base Requirements			

Regulation	Requirement	Proposed	Notes
Maximum height of building base	85 ft	80 ft	1
Average minimum setback from the Lake Merritt Estuary Channel	60 ft	192 feet	
Tower Requirements			
Maximum total height	275 ft	270 (not including a 16-foot tall cornice, which is an allowed projection into the maximum height)	2
Maximum average per story lot coverage above the base	65 percent (30,203 sf)	34.5 percent (13,893 sf)	2
Maximum building length	150 ft	148 ft	2, 3
Maximum diagonal length	180 ft	179 sf	2, 4
Parking and Loading Requirements			
Minimum parking spaces	223.5 (3/4 space per dwelling unit)	209	5, 6
Minimum bike spaces	14 short term/74 long term spaces	86 long term; 14 short term to be designed in future draft of plans	
Minimum loading births	Two loading births	Two loading births	

Notes:

1. The building base is the area below 85 feet.
2. The tower is the area above the base
3. The building length is the length of the longest frontage of a building
4. The diagonal length is the distance between the two most separated points on a floor
5. The March 18, 2015 staff report stated that the project required one parking space per unit. After reviewing the ordinance adopting the Lake Merritt Station Area Plan, staff discovered that projects in the LM zones require three-quarters a parking space per dwelling unit.
6. According to Section 17.116.110 of the Planning Code, a $20,000 in lieu-fee is required for each parking space below the minimum requirement. The total in-lieu fee would be $290,000 (14.5 times $20,000). This reduction is conditionally permitted and variances may not be granted relating to a reduction of any required parking in the Specific Plan area. The application for a Conditional Use Permit for parking reduction is discussed in the Key Issues and Impacts section, below.

ENVIRONMENTAL DETERMINATION

The anticipated environmental effects of the project have been evaluated by the Lake Merritt Station Area Plan Final Environmental Impact Report (Final EIR) (certified November 2014). The project is also Categorically Exempt under Section 15332 of the State CEQA Guidelines: In-Fill Development Projects; Section 15183 of the State CEQA Guidelines: Projects consistent with a Community Plan, General Plan or Zoning; and 15183.3 (Streamlining for Infill Projects). These analyses and exemptions satisfy CEQA requirements on a separate and independent basis.

A detailed CEQA analysis of the project is contained in Attachment B of this report. There are no new significant or substantially more severe environmental effects that would necessitate preparation of any further environmental review.

KEY ISSUES AND IMPACTS

The following addresses the major issues raised by the public during the community outreach process.

Community Benefits

Staff has received input that the City, as owner of the project site, should require the developer to provide more community benefits. The most frequently cited benefit from the public has been including affordable housing in the development, although a PRAC member also expressed a desire for more park improvements at the adjacent stormwater treatment facility and/or contribute to improvements to an off-site park. As mentioned, the community benefits the developer has agreed to include designing, improving, and maintaining the stormwater treatment facility. The developer has also agreed to not sell condominium conversion rights from the project site.

In July of 2013, the City Council adopted a resolution to authorize an ENA with the developer with an understanding that the property would be sold at its "fair market value" with consideration given to the highest and best use of the property based on the existing zoning and estimated parcel size. At the direction of the City, the determination of the fair market value of the land was made by an appraiser without taking into account the inclusion of affordable housing or other community benefits as part of a development.

There is no requirement in the Planning Code requiring that the project provide affordable housing. It is Planning staff's understanding that the City is maximizing the price of the land for budgetary reasons. The City's 2013-15 Budget, approved in June of 2013, included $4 million in land sale proceeds and the only available property held by the City that could generate sufficient proceeds is the project site. If the property is sold for more than the required $4 million, the City could spend the difference based on its budget priorities.

City staff's analysis of developer's proforma indicates that the project is only feasible if rents increase. This is consistent with recent studies commissioned by the City that show high-rise developments are marginally feasible. The November 25, 2013 Downtown Oakland Development Feasibility Study prepared for the Planning & Building Department showed that

high-rise housing is currently feasible in the Uptown Area, but only feasible at locations near Lake Merritt if rents increase. Therefore, reducing rents on the project in the form of affordable housing will render the project infeasible unless significant public subsidies are proposed.

Reduced parking

Staff recommends approval of the Conditional Use Permit for the reduction in required parking spaces from 223.5 to 209 for the following reasons:

- The project site is five blocks from the Lake Merritt BART Station and served by seven AC Transit bus lines that cross over the Channel on Lake Merritt Boulevard.
- The developer would be required to pay $20,000 per parking space in in-lieu fees below the required number that would be allocated for improvements in the Lake Merritt Specific Plan Area that increase the supply or reduce the demand for public parking. The fees could fund a range of items such as additional parking facilities, transit, bike and pedestrian infrastructure and transportation demand management (TDM) programs; leasing of available private spaces; and improved parking management of existing supply.
- Condition of Approval 23 requires that the applicant submit a Transportation Demand TDM plan that contains strategies to reduce on-site parking demand.
- Condition of Approval #48 requires that the leasing of the parking spaces be "unbundled" from the leasing of the units. It is acceptable to accomplish this by the developer marketing the units with rents that include on parking space per unit and if the resident does not desire to use the space, the rent amount will reduced accordingly. In other words, the cost of renting a unit would be less if the resident does not want a parking space, thereby reducing demand because the tenant is not required to rent a space. Charging extra rent for a parking space should reduce the number of parking spaces required in a building.

Separation between the grade and ground floor living space

As mentioned, the proposal requires a variance because one unit, which is on the northeast area of the project site, has no separation between the grade and the ground floor living space where a 2.5-foot separation is required. Staff recommends approval of this variance because the project site slopes up from Lake Merritt Boulevard to 2nd Avenue, which reduces the available space to install stairs in the front of the unit. Further, lifting the unit to accommodate stairs would create an inconsistent roofline in the East 12th Street elevation and make the unit inaccessible under the American with Disabilities Act.

Minimum depth of storefront bay

The proposed depth of the storefront bay is 35 feet, while 50 feet is required. Staff recommends approval of the variance for the following reasons:

- 35 feet is sufficient depth for a restaurant/café, which is the intended use for the commercial space;

- Increasing the commercial depth would remove parking spaces from a project that is already below the number of spaces required by the Planning Code;
- The developer proposes a large outdoor seating space that will increase the functional area of the restaurant; and
- A 50-foot deep storefront is not required to fulfill the intent of the residential zone where ground floor commercial space is not a required amenity.

LM-275 Height Area

As mentioned, the project is in Height Area LM-85 but the applicant has applied for a Conditional Use Permit to be subject to the requirements of Height Area LM-275. Staff recommends approval of the Conditional Use Permit because the project meets the criteria for approval contained in Note 2 of Table 17.101G.04 as described below. The criteria are in **bold** and staff's response is in *italic*.

a. **The proposal is consistent with the intent and desired land use character identified in the Lake Merritt Station Area Plan and its associated policies;**

As described in the Lake Merritt Specific Plan Analysis section, above, the residential tower with a ground floor commercial use is consistent with Policies LU-40 and OS-15 in the Plan and its accompanying Design Guidelines.

b. **The proposal will promote implementation of the Lake Merritt Station Area Plan;**

New construction that is consistent with the policies identified in (a) directly implements the intent of the Plan.

c. The proposal is consistent with the desired visual character described in the Lake Merritt Station Area Plan and Lake Merritt Station Area Design Guidelines, with consideration given to the existing character of the site and surrounding area.

As described in the Lake Merritt Specific Plan Analysis section, above, a residential tower with a ground floor commercial use is consistent with the Plan's Design Guidelines. The building is not in a historic district and the design context of the surrounding area is a mix of varying styles and building heights.

Finally, the impact on views of Lake Merritt will be minimized due to the angle and depth of the proposed building.

RECOMMENDATION

(1) Accept staff's environmental determination and findings that (a) anticipated environmental effects of the project have been evaluated by the Lake Merritt Station Area Plan Final Environmental Impact Report (Final EIR) (certified November 2014) and, for the reasons discussed in this report, including Attachment B, no further environmental review is required; and (b) that the project is also exempt from CEQA and further CEQA review as discussed in this report.

(2) Approve the project based upon the attached findings and subject to the attached conditions of approval

Prepared by:

NEIL GRAY
Planner III

Approved by:

ROBERT MERKAMP
Development Planning Manager

Approved for forwarding to the
City Planning Commission:

DARIN RANELLETTI, Deputy Director
Bureau of Planning

ATTACHMENTS:

A. Project Plans
B. CEQA Analysis

FINDINGS FOR APPROVAL

This proposal meets the required findings under Sections 17.136.050 -- General Design Review Criteria, 17.134.050 -- General Use Permit Criteria, 17.148.050 – General Variance Criteria, Table 17.101G.04, Note 10 -- Use Permit Criteria for Exceptions to Height/Bulk/Intensity Area Standards in the LM Zones. Required findings are shown in **bold** type; explanations as to why these findings can be made are in *italic*.

Section 17.136.050 Regular design review criteria.

A. For Residential Facilities.

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

The proposed style of the building contains basic forms with an 80-foot base and a rectangular tower. These forms and the tall, rectangular windows at the base of the building relate to the public and institutional buildings on the west side of the lake.

The width of the tower is reduced into two volumes facing East 12th Street, which are connected by a recessed elevator shaft, to reduce the perceived length of the building. Stepping back the building above 85-feet relates to height of other structures in the neighborhood.

The perpendicular angle of the tower to the shoreline and the "two-tower" design will create interesting perspectives of the structure as one travels around the lake. The perpendicular angle of the tower to the Lake Merritt Shoreline also preserves views to the Lake from the west.

The slab design of the tower and the location of the 1200 Lakeshore Avenue building will funnel attention toward Lake Merritt and the Downtown skyline. High quality materials such as concrete panels, metal accents, textured integral color concrete, and significant window transparency create a design that is reflective of contemporary trends in exterior building materials.

2. That the proposed design will protect, preserve, or enhance desirable neighborhood characteristics;

As mentioned in (1), above, the building will protect views of and funnel attention towards the Lake, which is the neighborhood's most valuable natural asset. Further, improvement of the detention basin will improve the water quality of the Lake and provide an attractive landscaped area.

3. That the proposed design will be sensitive to the topography and landscape.

There is no significant topography or landscape on the project site. The native plantings and large native trees in the stormwater treatment facility site have been carefully chosen to be compatible with the lakeside environment and existing bioswale.

4. **That, if situated on a hill, the design and massing of the proposed building relates to the grade of the hill;**

   There is a small upslope along East 12th Street that creates a separation between the grade and ground floor commercial space at the corner of East 12th Street and Lake Merritt Blvd. The design of the building takes advantage of this by creating an outdoor seating area with a view of the Channel and an attractive entrance feature for a ground floor café.

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.**

   The project conforms to the Lake Merritt Station Area Plan and the General Plan as described in the Lake Merritt Station Area Plan Analysis and the General Plan Analysis sections of this report.

B. For Nonresidential Facilities and Signs.

1. **That the proposal will help achieve or maintain a group of facilities which are well related to one another and which, when taken together, will result in a well-composed design, with consideration given to site, landscape, bulk, height, arrangement, texture, materials, colors, and appurtenances; the relation of these factors to other facilities in the vicinity; and the relation of the proposal to the total setting as seen from key points in the surrounding area. Only elements of design which have some significant relationship to outside appearance shall be considered, except as otherwise provided in Section 17.136.060;**

   A double height ceiling and outdoor seating will create a successful café environment. Significant window transparency, awnings, and transom windows will contribute to a visually pleasing storefront design.

2. **That the proposed design will be of a quality and character which harmonizes with, and serves to protect the value of, private and public investments in the area;**

   The proposal will project the value of investments in the area by providing an attractive café to the neighborhood.

3. **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.**

   The project conforms to the Lake Merritt Station Area Plan and the General Plan as described in the Lake Merritt Station Area Plan Analysis and the General Plan Analysis sections of this report

17.134.050 General Use Permit criteria.

FINDINGS

A. That the location, size, design, and operating characteristics of the proposed development will be compatible with and will not adversely affect the livability or appropriate development of abutting properties and the surrounding neighborhood, with consideration to be given to harmony in scale, bulk, coverage, and density; to the availability of civic facilities and utilities; to harmful effect, if any, upon desirable neighborhood character; to the generation of traffic and the capacity of surrounding streets; and to any other relevant impact of the development;

The project fulfills this finding for the following reasons:

- *The tower is angled to minimize view and solar impacts on the Lake from surrounding properties.*
- *The 300-foot width of the building is reduced into two volumes facing East 12th Street, which are connected by a recessed elevator shaft, to reduce the perceived length of the building. The base and tower design of the proposal further reduces the perceived bulk of the building.*
- *As conditioned, the proposal will fund stormwater, sidewalk, and other improvements surrounding the development.*
- *A CEQA analysis contained in Attachment B demonstrates that the project, as conditioned, will not have significant traffic impacts on the surrounding streets.*
- *The reduction in parking will not adversely affect the neighborhood because:*
    - *The project site is five blocks from the Lake Merritt BART Station and served by seven AC Transit bus lines that cross over the Channel on Lake Merritt Boulevard.*
    - *The developer would be required to pay $20,000 per parking space in in-lieu fees that would be allocated for improvements in the Lake Merritt Specific Plan Area that increase the supply or reduce the demand for public parking. The fees could fund a range of items such as additional parking facilities, transit, bike and pedestrian infrastructure and transportation demand management programs; leasing of available private spaces; and improved parking management of existing supply.*
    - *Condition of Approval #23 requires that the applicant submit a Transportation Demand Management plan that contains strategies to reduce on-site parking demand.*
- *The reduction in the size of the loading berths will not adversely affect the neighborhood because they will be of sufficient size to park a medium sized moving vehicle. This size vehicle will be sufficient because of the small unit sizes proposed for the development.*
- *Improvement of the detention basin will improve the water quality of the Lake and provide an attractive open space area.*

B. That the location, design, and site planning of the proposed development will provide a convenient and functional living, working, shopping, or civic environment, and will be as attractive as the nature of the use and its location and setting warrant;

The open space and community room on the podium will be conveniently accessed by residents and the building will be located near Lake Merritt recreational facilities. Parking will be conveniently located underground and behind active spaces.

C. That the proposed development will enhance the successful operation of the surrounding area in its basic community functions, or will provide an essential service to the community or region;

The proposal will contribute high quality residential units to a residential neighborhood and the proposed café will be a valuable amenity to the neighborhood.

D. That the proposal conforms to all applicable regular design review criteria set forth in the regular design review procedure at Section 17.136.050

See Design Review Findings, above.

E. That the proposal conforms in all significant respects with the Oakland General Plan and with any other applicable guidelines or criteria, district plan or development control map which has been adopted by the Planning Commission or City Council.

The project conforms to the Lake Merritt Station Area Plan and the General Plan as described in the Lake Merritt Station Area Plan Analysis and the General Plan Analysis sections of this report.

17.148.050 Variance Findings required.

A. That strict compliance with the specified regulation would result in practical difficulty or unnecessary hardship inconsistent with the purposes of the zoning regulations, due to unique physical or topographic circumstances or conditions of design; or, as an alternative in the case of a minor variance, that such strict compliance would preclude an effective design solution improving livability, operational efficiency, or appearance.

A variance is required because the proposed depth of the storefront bay is 35 feet, while 50 feet is required. Approval of the variance would meet this finding because:

- *35 feet is sufficient depth for a restaurant/café, which is the intended use for the commercial space;*
- *Increasing the commercial depth would remove parking spaces from a project that has fewer parking spaces than dwelling units; and*
- *The developer proposes a large outdoor seating space that will increase the functional area of the restaurant.*

B. That strict compliance with the regulations would deprive the applicant of privileges enjoyed by owners of similarly zoned property; or, as an alternative in the case of a

minor variance, that such strict compliance would preclude an effective design solution fulfilling the basic intent of the applicable regulation.

The basic intent of the applicable regulation is to create a viable and flexible storefront space. The proposed 35-foot storefront depth is sufficient to create a successful café space. Further, a 50-foot deep storefront is not required to fulfill the intent of the LM-1 residential zone where ground floor commercial space is not a required amenity. Finally, the outdoor seating area will provide additional floor space for the café.

C. That the variance, if granted, will not adversely affect the character, livability, or appropriate development of abutting properties or the surrounding area, and will not be detrimental to the public welfare or contrary to adopted plans or development policy.

Increasing the storefront depth will adversely affect the livability of the area by reducing the number of parking spaces in the development.

D. That the variance will not constitute a grant of special privilege inconsistent with limitations imposed on similarly zoned properties or inconsistent with the purposes of the zoning regulations.

Many commercial facilities in high density residential zones have been constructed with a depth of 35 feet or less.

E. That the elements of the proposal requiring the variance (e.g., elements such as buildings, walls, fences, driveways, garages and carports, etc.) conform with the regular design review criteria set forth in the design review procedure at Section 17.136.050.

The element requiring the variance will not affect the exterior of the building and, therefore, conforms to the Regular Design Review Criteria.

F. That the proposal conforms in all significant respects with the Oakland General Plan and with any other applicable guidelines or criteria, district plan, or development control map which have been adopted by the Planning Commission or City Council.

The project conforms to the Lake Merritt Station Area Plan and the General Plan as described in the Lake Merritt Station Area Plan Analysis and the General Plan Analysis sections of this report.

Table 17.101G.04 -- Note 10: Findings required for the granting of a Conditional Use Permit for Exceptions to Height/Bulk/Intensity Area Standards.

A. The proposal is consistent with the intent and desired land use character identified in the Lake Merritt Station Area Plan and its associated policies;

As described in the Lake Merritt Specific Plan Analysis section, above, a residential tower with a ground floor commercial use is consistent with Policies LU-40 and OS-15 in the Plan and its accompanying Design Guidelines.

B. The proposal will promote implementation of the Lake Merritt Station Area Plan;

New construction that is consistent with the policies identified in (a) directly implements the intent of the Plan.

C. The proposal is consistent with the desired visual character described in the Lake Merritt Station Area Plan and Lake Merritt Station Area Design Guidelines, with consideration given to the existing character of the site and surrounding area.

As described in the Lake Merritt Specific Plan Analysis section, above, a residential tower with a ground floor commercial use is consistent with the Plan's Design Guidelines. The building is not in a historic district and the design context of the surrounding area is a mix of varying styles and building heights.

CONDITIONS OF APPROVAL

1. **Approved Use**
   Ongoing
   a) The project shall be constructed and operated in accordance with the authorized use as described in the application materials, staff report, and the plans dated 7/16/14 and submitted on 3/12/15, and as amended by the following conditions. Any additional uses or facilities other than those approved with this permit, as described in the project description and the approved plans, will require a separate application and approval. Any deviation from the approved drawings, Conditions of Approval or use shall required prior written approval from the Director of City Planning or designee.
   b) This action by the City Planning Commission ("this Approval") includes the approvals set forth below. This Approval includes: Approval of Conditional Use Permits, Variances, and Design Review for the construction of a 413,829 square foot, 24-story residential apartment tower.

2. **Effective Date, Expiration, Extensions and Extinguishment**
   Ongoing
   Unless a different termination date is prescribed, this Approval shall expire two years from the approval date, unless within such period all necessary permits for construction or alteration have been issued, or the authorized activities have commenced in the case of a permit not involving construction or alteration. Upon written request and payment of appropriate fees submitted no later than the expiration date of this permit, the Director of City Planning or designee may grant a one-year extension of this date, with additional extensions subject to approval by the approving body. Expiration of any necessary building permit for this project may invalidate this Approval if the said extension period has also expired.

3. **Scope of This Approval; Major and Minor Changes**
   Ongoing
   The project is approved pursuant to the Planning Code only. Minor changes to approved plans may be approved administratively by the Director of City Planning or designee. Major changes to the approved plans shall be reviewed by the Director of City Planning or designee to determine whether such changes require submittal and approval of a revision to the approved project by the approving body or a new, completely independent permit.

4. **Conformance with other Requirements**
   Prior to issuance of a demolition, grading, P-job, or other construction related permit
   a) The project applicant shall comply with all other applicable federal, state, regional and/or local laws/codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City's Building Services Division, the City's Fire Marshal, and the City's Public Works Agency. Compliance with other applicable requirements may require changes to the approved use and/or plans. These changes shall be processed in accordance with the procedures contained in Condition of Approval 3.

a) The applicant shall submit approved building plans for project-specific needs related to fire protection to the Fire Services Division for review and approval, including, but not limited to automatic extinguishing systems, water supply improvements and hydrants, fire department access, and vegetation management for preventing fires and soil erosion.

5. Conformance to Approved Plans; Modification of Conditions or Revocation

Ongoing

a) Site shall be kept in a blight/nuisance-free condition. Any existing blight or nuisance shall be abated within 60-90 days of approval, unless an earlier date is specified elsewhere.

b) The City of Oakland reserves the right at any time during construction to require certification by a licensed professional that the as-built project conforms to all applicable zoning requirements, including but not limited to approved maximum heights and minimum setbacks. Failure to construct the project in accordance with approved plans may result in remedial reconstruction, permit revocation, permit modification, stop work, permit suspension or other corrective action.

c) Violation of any term, Conditions or project description relating to the Approvals is unlawful, prohibited, and a violation of the Oakland Municipal Code. The City of Oakland reserves the right to initiate civil and/or criminal enforcement and/or abatement proceedings, or after notice and public hearing, to revoke the Approvals or alter these Conditions if it is found that there is violation of any of the Conditions or the provisions of the Planning Code or Municipal Code, or the project operates as or causes a public nuisance. This provision is not intended to, nor does it, limit in any manner whatsoever the ability of the City to take appropriate enforcement actions. The project applicant shall be responsible for paying fees in accordance with the City's Master Fee Schedule for inspections conducted by the City or a City-designated third-party to investigate alleged violations of the Conditions of Approval.

6. Signed Copy of the Conditions

With submittal of a demolition, grading, and building permit

A copy of the approval letter and Conditions shall be signed by the property owner, notarized, and submitted with each set of permit plans to the appropriate City agency for this project.

7. Indemnification

Ongoing

a) To the maximum extent permitted by law, the applicant shall defend (with counsel acceptable to the City), indemnify, and hold harmless the City of Oakland, the Oakland City Council, the City of Oakland Redevelopment Agency, the Oakland City Planning Commission and its respective agents, officers, and employees (hereafter collectively called City) from any liability, damages, claim, judgment, loss (direct or indirect)action, causes of action, or proceeding (including legal costs, attorneys' fees, expert witness or consultant fees, City Attorney or staff time, expenses or costs) (collectively called "Action") against the City to attack, set aside, void or annul, (1) an approval by the City relating to a development-related application or subdivision or (2) implementation of an approved development-related project. The City may elect, in its sole discretion, to participate in the defense of said Action and the applicant shall reimburse the City for its reasonable legal costs and attorneys' fees.

b) Within ten (10) calendar days of the filing of any Action as specified in subsection A above, the applicant shall execute a Letter Agreement with the City, acceptable to the Office of the City Attorney, which memorializes the above obligations. These obligations and the Letter of Agreement shall survive termination, extinguishment or invalidation of the approval. Failure to timely execute the Letter Agreement does not relieve the applicant of any of the obligations contained in this condition or other requirements or conditions of approval that may be imposed by the City.

8. Compliance with Conditions of Approval

Ongoing

The project applicant shall be responsible for compliance with the recommendations in any submitted and approved technical report and all the Conditions of Approval set forth below at its sole cost and expense, and subject to review and approval of the City of Oakland.

9. Severability

Ongoing

Approval of the project would not have been granted but for the applicability and validity of each and every one of the specified conditions, and if one or more of such conditions is found to be invalid by a court of competent jurisdiction this Approval would not have been granted without requiring other valid conditions consistent with achieving the same purpose and intent of such Approval.

10. Job Site Plans

Ongoing throughout demolition, grading, and/or construction

At least one (1) copy of the stamped approved plans, along with the Approval Letter and Conditions of Approval, shall be available for review at the job site at all times.

11. Special Inspector/Inspections, Independent Technical Review, Project Coordination and Management

Prior to issuance of a demolition, grading, and/or construction permit

The project applicant may be required to pay for on-call third-party special inspector(s)/inspections as needed during the times of extensive or specialized plancheck review or construction. The project applicant may also be required to cover the full costs of independent technical review and other types of peer review, monitoring and inspection, including without limitation, third party plan check fees, including inspections of violations of Conditions of Approval. The project applicant shall establish a deposit with the Building Services Division, as directed by the Building Official, Director of City Planning or designee.

12. Required Landscape Plan for New Construction and Certain Additions to Residential Facilities

Prior to issuance of a building permit

Submittal and approval of a landscape plan for the entire site is required for the establishment of a new residential unit (excluding secondary units of five hundred (500) square feet or less), and for additions to Residential Facilities of over five hundred (500) square feet. The landscape plan and the plant materials installed pursuant to the approved plan shall conform with all provisions of Chapter 17.124 of the Oakland Planning Code, including the following:

a) Landscape plan shall include a detailed planting schedule showing the proposed location, sizes, quantities, and specific common botanical names of plant species.

b) Landscape plans for projects involving grading, rear walls on downslope lots requiring conformity with the screening requirements in Section 17.124.040, or vegetation management prescriptions in the S-11 zone, shall show proposed landscape treatments for all graded areas, rear wall treatments, and vegetation management prescriptions.

c) Landscape plan shall incorporate pest-resistant and drought-tolerant landscaping practices. Within the portions of Oakland northeast of the line formed by State Highway 13 and continued southerly by Interstate 580, south of its intersection with State Highway 13, all plant materials on submitted landscape plans shall be fire-resistant The City Planning and Zoning Division shall maintain lists of plant materials and landscaping practices considered pest-resistant, fire-resistant, and drought-tolerant.

d) All landscape plans shall show proposed methods of irrigation. The methods shall ensure adequate irrigation of all plant materials for at least one growing season.

13. Landscape Requirements for Street Frontages.

Prior to issuance of a final inspection of the building permit

a) All areas between a primary Residential Facility and abutting street lines shall be fully landscaped, plus any unpaved areas of abutting rights-of-way of improved streets or alleys, provided, however, on streets without sidewalks, an unplanted strip of land five (5) feet in width shall be provided within the right-of-way along the edge of the pavement or face of curb, whichever is applicable. Existing plant materials may be incorporated into the proposed landscaping if approved by the Director of City Planning.

b) In addition to the general landscaping requirements set forth in Chapter 17.124, a minimum of one (1) fifteen-gallon tree, or substantially equivalent landscaping consistent with city policy and as approved by the Director of City Planning, shall be provided for every twenty-five (25) feet of street frontage. On streets with sidewalks where the distance from the face of the curb to the outer edge of the sidewalk is at least six and one-half (6 ½) feet, the trees to be provided shall include street trees to the satisfaction of the Director of Parks and Recreation.

14. Assurance of Landscaping Completion.

Prior to issuance of a final inspection of the building permit

The trees, shrubs and landscape materials required by the conditions of approval attached to this project shall be planted before the certificate of occupancy will be issued; or a bond, cash, deposit, or letter of credit, acceptable to the City, shall be provided for the planting of the required landscaping. The amount of such bond, cash, deposit, or letter of credit shall equal the greater of two thousand five hundred dollars ($2,500.00) or the estimated cost of the required landscaping, based on a licensed contractor's bid.

15. Landscape Requirements for Street Frontages.

Prior to issuance of a final inspection of the building permit

On streets with sidewalks where the distance from the face of the curb to the outer edge of the sidewalk is at least six and one-half (6 ½) feet and does not interfere with access requirements, a minimum of one (1) twenty-four (24) inch box tree shall be provided for

every twenty-five (25) feet of street frontage, unless a smaller size is recommended by the City arborist. The trees to be provided shall include species acceptable to the Tree Services Division.

16. Landscape Maintenance.

Ongoing

All required planting shall be permanently maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable landscaping requirements. All required irrigation systems shall be permanently maintained in good condition and, whenever necessary, repaired or replaced.

17. Underground Utilities

Prior to issuance of a building permit

The project applicant shall submit plans for review and approval by the Building Services Division and the Public Works Agency, and other relevant agencies as appropriate, that show all new electric and telephone facilities; fire alarm conduits; street light wiring; and other wiring, conduits, and similar facilities placed underground. The new facilities shall be placed underground along the project applicant's street frontage and from the project applicant's structures to the point of service. The plans shall show all electric, telephone, water service, fire water service, cable, and fire alarm facilities installed in accordance with standard specifications of the serving utilities.

18. 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.

19. 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 may include the following components:

a) Remove and replace any existing driveway that will not be used for access to the property with new concrete sidewalk, curb and gutter.

b) Reconstruct drainage facility to current City standards.

c) Provide separation between sanitary sewer and water lines to comply with current City of Oakland and Alameda Health Department standards.

d) Construct wheelchair ramps that comply with Americans with Disability Act requirements and current City Standards.

e) Remove and replace deficient concrete sidewalk, curb and gutter within property frontage.

f) Provide adequate fire department access and water supply, including, but not limited to currently adopted fire codes and standards.

20. Payment for Public Improvements

Prior to issuance of a final inspection of the building permit.

The project applicant shall pay for and install public improvements made necessary by the project including damage caused by construction activity.

21. Compliance Matrix

Prior to issuance of a demolition, grading, or building permit

The project applicant shall submit to the Planning and Zoning Division and the Building Services Division a Conditions compliance matrix that lists each condition of approval, the City agency or division responsible for review, and how/when the project applicant has met or intends to meet the conditions. The applicant will sign the Conditions of Approval attached to the approval letter and submit that with the compliance matrix for review and approval. The compliance matrix shall be organized per step in the plancheck/construction process unless another format is acceptable to the Planning and Zoning Division and the Building Services Division. The project applicant shall update the compliance matrix and provide it with each item submittal.

22. Construction Management Plan

Prior to issuance of a demolition, grading, or building permit

The project applicant shall submit to the Planning and Zoning Division and the Building Services Division for review and approval a construction management plan that identifies the conditions of approval related to construction impacts of the project and explains how the project applicant will comply with these construction-related conditions of approval.

23. 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

24. 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 is 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 the 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 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.

x) Off-road heavy diesel engines shall meet the CARB's most recent certification standard.

25. Days/Hours of Construction Operation

Ongoing throughout demolition, grading, and/or construction

The project applicant shall require construction contractors to limit standard construction activities as follows:

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.

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.

c) Construction activity shall not occur on Saturdays, with the following possible exceptions:

   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.

   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.

d) No extreme noise generating activities (greater than 90 dBA) shall be allowed on Saturdays, with no exceptions.

e) No construction activity shall take place on Sundays or Federal holidays.

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.

g) Applicant shall use temporary power poles instead of generators where feasible.

26. Noise Control

Ongoing throughout demolition, grading, and/or construction

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:

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).

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.

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.

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.

27. <u>Noise Complaint Procedures</u>

Ongoing throughout demolition, grading, and/or construction

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 respond to and track complaints pertaining to construction noise. These measures shall include:

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.

28. Interior Noise

Prior to issuance of a building permit and Certificate of Occupancy

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. 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:

a) Quality control was exercised during construction to ensure all air-gaps and penetrations of the building shell are controlled and sealed; and

b) Demonstrates compliance with interior noise standards based upon performance testing of a sample unit.

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 and the single event noise occurrences. Potential features/measures to reduce interior noise could include, but are not limited to, the following:

   i. 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.

   ii. Prohibition of Z-duct construction.

29. 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.

30. 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.

31. <u>Hazards Best Management Practices</u>

Prior to commencement of demolition, grading, or construction

The project applicant and construction contractor shall ensure that construction of 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:

a) Follow manufacture's recommendations on use, storage, and disposal of chemical products used in construction;
b) Avoid overtopping construction equipment fuel gas tanks;
c) During routine maintenance of construction equipment, properly contain and remove grease and oils;
d) Properly dispose of discarded containers of fuels and other chemicals.
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.
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.

32. <u>Waste Reduction and Recycling</u>

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.

Prior to issuance of demolition, grading, or building permit

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.

Ongoing

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 in 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.

33. Pile Driving and Other Extreme Noise Generators

Ongoing throughout demolition, grading, and/or construction

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:

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 emission from the site;
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
e) Monitor the effectiveness of noise attenuation measures by taking noise measurements.

34. 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.

35. Archaeological Resources

Ongoing throughout demolition, grading, and/or construction

a) 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.

b) 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 resources is carried out.

c) 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.

36. Human Remains

Ongoing throughout demolition, grading, and/or construction

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.

37. Paleontological Resources

Ongoing throughout demolition, grading, and/or construction

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.

38. Erosion and Sedimentation Control Plan

Prior to any grading activities

a) The project applicant shall obtain a grading permit if required by the Oakland Grading Regulations pursuant to Section 15.04.660 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.

Ongoing throughout grading and construction activities

b) 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.

39. Post-Construction Stormwater Management Plan

Prior to issuance of building permit (or other construction-related permit)

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.

a) The post-construction stormwater management plan shall include and identify the following:
   i. All proposed impervious surface on the site;
   ii. Anticipated directional flows of on-site stormwater runoff; and
   iii. Site design measures to reduce the amount of impervious surface area and directly connected impervious surfaces; and
   iv. Source control measures to limit the potential for stormwater pollution;
   v. Stormwater treatment measures to remove pollutants from stormwater runoff; and
   vi. 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.
b) The following additional information shall be submitted with the post-construction stormwater management plan:
   i. Detailed hydraulic sizing calculations for each stormwater treatment measure proposed; and
   ii. 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 or 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.

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.

Prior to final permit inspection

The applicant shall implement the approved stormwater management plan.

40. <u>Maintenance Agreement for Stormwater Treatment Measures</u>

Prior to final zoning inspection

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:

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

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.

41. 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.

42. Exposure to Air Pollution (Toxic Air Contaminants: Particulate Matter)

Prior to issuance of a demolition, grading, or building permit

A. 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:

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 polluters 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.

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.
vii. 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.

B. Outdoor 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.

43. <u>Exposure to Air Pollution (Toxic Air Contaminants: Gaseous Emissions)</u>
Prior to issuance of a demolition, grading, or building permit

A. 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 polluters 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. 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.

44. Bird Collision Reduction

Prior to issuance of a building permit and ongoing

A. The project applicant, or his or her successor, including the building manager or homeowners' association, 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.

1. Mandatory measures include all of the following:
   i. Comply with federal aviation safety regulations for large buildings by installing minimum intensity white strobe lighting with three second flash instead of blinking red or rotating lights.
   ii. Minimize the number of and co-locate rooftop-antennas and other rooftop structures.
   iii. Monopole structures or antennas shall not include guy wires.
   iv. Avoid the use of mirrors in landscape design.
   v. Avoid placement of bird-friendly attractants (i.e. landscaped areas, vegetated roofs, water features) near glass.

2. Additional BMP strategies to consider include the following:
   i. Make clear or reflective glass visible to birds using visual noise techniques. Examples include:
      1. Use of opaque or transparent glass in window panes instead of reflective glass.
      2. 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).
      3. 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).
      4. Install paned glass with fenestration patterns with vertical and horizontal mullions of 10 cm or less.
      5. Place decorative grilles or louvers with spacing of 10 cm or less.
      6. Apply one-way transparent film laminates to outside glass surface to make the window appear opaque on the outside.

7. Install internal screens through non-reflective glass (as close to the glass as possible) for birds to perceive windows as solid objects.
8. Install windows which have the screen on the outside of the glass.
9. Use UV-reflective glass. Most birds can see ultraviolet light, which is invisible to humans.
10. 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.

ii. Mute reflections in glass. Examples include:
1. 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).
2. 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.

iii. Reduce Light Pollution. Examples include:
1. Turn off all unnecessary interior lights from 11 p.m. to sunrise.
2. 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.
3. Reduce perimeter lighting whenever possible.

iv. Institute a building operation and management manual that promotes bird safety. Example text in the manual includes:
1. 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.
2. Production of educational materials on bird-safe practices for the building occupants.
3. Asking employees to turn off task lighting at their work stations and draw office blinds or curtains at end of work day.
4. Schedule nightly maintenance during the day or to conclude before 11 p.m., if possible.

45. <u>Greenhouse Gas (GHG) Reduction Plan</u>

Prior to issuance of a construction-related permit and ongoing as specified

The project applicant shall retain a qualified air quality consultant to develop a Greenhouse Gas (GHG) Reduction Plan for City review and approval. The applicant shall implement the approved GHG Reduction Plan.

The goal of the GHG Reduction Plan shall be to increase energy efficiency and reduce GHG emissions to below 1,100 metric tons of CO_2e per year or 4.6 metric tons of CO_2e per year per service population to help achieve the City's goal of reducing GHG emissions. The GHG Reduction Plan shall include, at a minimum, (a) a detailed GHG emissions inventory for the project under a "business-as-usual" scenario with no consideration of project design features, or other energy efficiencies, (b) an "adjusted" baseline GHG emissions inventory for the project, taking into consideration energy efficiencies included as part of the project (including

the City's Standard Conditions of Approval, proposed mitigation measures, project design features, and other City requirements), (c) a comprehensive set of quantified additional GHG reduction measures available to further reduce GHG emissions beyond the adjusted GHG emissions, and (d) requirements for ongoing monitoring and reporting to demonstrate that the additional GHG reduction measures are being implemented. If the project is to be constructed in phases, the GHG Reduction Plan shall provide GHG emission scenarios by phase.

Specifically, the applicant/sponsor shall adhere to the following:

a) ***GHG Reduction Measures Program.*** Prepare and submit to the City Planning Director or his/her designee for review and approval a GHG Reduction Plan that specifies and quantifies GHG reduction measures that the project will implement by phase.

Potential GHG reduction measures to be considered include, but are not be limited to, measures recommended in BAAQMD's latest CEQA Air Quality Guidelines, the California Air Resources Board Scoping Plan (December 2008, as may be revised), the California Air Pollution Control Officers Association (CAPCOA) Quantifying Greenhouse Gas Mitigation Measures Document (August 2010, as may be revised), the California Attorney General's website, and Reference Guides on Leadership in Energy and Environmental Design (LEED) published by the U.S. Green Building Council.

The proposed GHG reduction measures must be reviewed and approved by the City Planning Director or his/her designee. The types of allowable GHG reduction measures include the following (listed in order of City preference): (1) physical design features; (2) operational features; and (3) the payment of fees to fund GHG-reducing programs (i.e., the purchase of "offset carbon credits," pursuant to item "b" below).

The allowable locations of the GHG reduction measures include the following (listed in order of City preference): (1) the project site; (2) off-site within the City of Oakland; (3) off-site within the San Francisco Bay Area Air Basin; (4) off-site within the State of California; then (5) elsewhere in the United States.

b) ***Offset Carbon Credits Guidelines.*** For GHG reduction measures involving the purchase of offset carbon credits, evidence of the payment/purchase shall be submitted to the City Planning Director or his/her designee for review and approval prior to completion of the project (or prior to completion of the project phase, if the project includes more one phase).

As with preferred locations for the implementation of all GHG reductions measures, the preference for offset carbon credit purchases include those that can be achieved as follows (listed in order of City preference): (1) within the City of Oakland; (2) within the San Francisco Bay Area Air Basin; (3) within the State of California; then (4) elsewhere in the United States. The cost of offset carbon credit purchases shall be based on current market value at the time purchased and shall be based on the Project's operational emissions estimated in the GHG Reduction Plan or subsequent approved emissions

inventory, which may result in emissions that are higher or lower than those estimated in the GHG Reduction Plan.

c) ***Plan Implementation and Documentation.*** For physical GHG reduction measures to be incorporated into the design of the project, the measures shall be included on the drawings submitted for construction-related permits. For operational GHG reduction measures to be incorporated into the project, the measures shall be implemented on an indefinite and ongoing basis beginning at the time of project completion (or at the completion of the project phase for phased projects).

For physical GHG reduction measures to be incorporated into off-site projects, the measures shall be included on drawings and submitted to the City Planning Director or his/her designee for review and approval and then installed prior to completion of the subject project (or prior to completion of the project phase for phased projects). For operational GHG reduction measures to be incorporated into off-site projects, the measures shall be implemented on an indefinite and ongoing basis beginning at the time of completion of the subject project (or at the completion of the project phase for phased projects).

d) ***Compliance, Monitoring and Reporting.*** Upon City review and approval of the GHG Reduction Plan program by phase, the applicant/sponsor shall satisfy the following requirements for ongoing monitoring and reporting to demonstrate that the additional GHG reduction measures are being implemented. The GHG Reduction Plan requires regular periodic evaluation over the life of the Project (generally estimated to be at least 40 years) to determine how the Plan is achieving required GHG emissions reductions over time, as well as the efficacy of the specific additional GHG reduction measures identified in the Plan.

Implementation of the GHG reduction measures and related requirements shall be ensured through the project applicant/sponsor's compliance with Conditions of Approval adopted for the project. Generally, starting two years after the City issues the first Certificate of Occupancy for the project, the project applicant/sponsor shall prepare each year of the useful life of the project an Annual GHG Emissions Reduction Report (Annual Report), subject to the City Planning Director or his/her designee for review and approval. The Annual Report shall be submitted to an independent reviewer of the City Planning Director's or his/her designee's choosing, to be paid for by the project applicant/sponsor (see *Funding*, below), within two months of the anniversary of the Certificate of Occupancy.

The Annual Report shall summarize the project's implementation of GHG reduction measures over the preceding year, intended upcoming changes, compliance with the conditions of the Plan, and include a brief summary of the previous year's Annual Report results (starting the second year). The Annual Report shall include a comparison of annual project emissions to the baseline emissions reported in the GHG Plan.

The GHG Reduction Plan shall be considered fully attained when project emissions are less than either applicable numeric BAAQMD CEQA Thresholds, as confirmed by the City Planning Director or his/her designee through an established monitoring program. Monitoring and reporting activities will continue at the City's discretion, as discussed below.

e) ***Funding.*** Within two months after the Certificate of Occupancy, the project applicant/sponsor shall fund an escrow-type account or endowment fund to be used exclusively for preparation of Annual Reports and review and evaluation by the City Planning Director or his/her designee, or its selected peer reviewers. The escrow-type account shall be initially funded by the project applicant/sponsor in an amount determined by the City Planning Director or his/her designee and shall be replenished by the project applicant/sponsor so that the amount does not fall below an amount determined by the City Planning Director or his/her designee. The mechanism of this account shall be mutually agreed upon by the project applicant/sponsor and the City Planning Director or his/her designee, including the ability of the City to access the funds if the project applicant/sponsor is not complying with the GHG Reduction Plan requirements, and/or to reimburse the City for its monitoring and enforcement costs.

f) ***Corrective Procedure.*** If the third Annual Report, or any report thereafter, indicates that, in spite of the implementation of the GHG Reduction Plan, the project is not achieving the GHG reduction goal, the project applicant/sponsor shall prepare a report for City review and approval, which proposes additional or revised GHG measures to better achieve the GHG emissions reduction goals, including without limitation, a discussion on the feasibility and effectiveness of the menu of other additional measures (Corrective GHG Action Plan). The project applicant/sponsor shall then implement the approved Corrective GHG Action Plan.

If, one year after the Corrective GHG Action Plan is implemented, the required GHG emissions reduction target is still not being achieved, or if the project applicant/owner fails to submit a report at the times described above, or if the reports do not meet City requirements outlined above, the City Planning Director or his/her designee may, in addition to its other remedies, (a) assess the project applicant/sponsor a financial penalty based upon actual percentage reduction in GHG emissions as compared to the percent reduction in GHG emissions established in the GHG Reduction Plan; or (b) refer the matter to the City Planning Commission for scheduling of a compliance hearing to determine whether the project's approvals should be revoked, altered or additional conditions of approval imposed.

The penalty as described in (a) above shall be determined by the City Planning Director or his/her designee and be commensurate with the percentage GHG emissions reduction not achieved (compared to the applicable numeric significance thresholds) or required percentage reduction from the "adjusted" baseline.

In determining whether a financial penalty or other remedy is appropriate, the City shall not impose a penalty if the project applicant/sponsor has made a good faith effort to comply with the GHG Reduction Plan.

The City would only have the ability to impose a monetary penalty after a reasonable cure period and in accordance with the enforcement process outlined in Planning Code Chapter 17.152. If a financial penalty is imposed, such penalty sums shall be used by the City solely toward the implementation of the GHG Reduction Plan.

g) ***Timeline Discretion and Summary.*** The City Planning Director or his/her designee shall have the discretion to reasonably modify the timing of reporting, with reasonable notice and opportunity to comment by the applicant, to coincide with other related monitoring and reporting required for the project.

- *Fund Escrow-type Account for City Review*: Certificate of Occupancy plus 2 months
- *Submit Baseline Inventory of "Actual Adjusted Emissions"*: Certificate of Occupancy plus 1 year
- *Submit Annual Report #1*: Certificate of Occupancy plus 2 years
- *Submit Corrective GHG Action Plan* (if needed): Certificate of Occupancy plus 4 years (based on findings of Annual Report #3)
- *Post Attainment Annual Reports*: Minimum every 3 years and at the City Planning Director's or his/her designee's reasonable discretion

46. <u>Bird Collision Reduction</u>

Prior to issuance of a building permit and ongoing

The project applicant, or his or her successor, including the building manager or homeowners' association, 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.

a) Mandatory measures include **<u>all</u>** of the following:

vi. Comply with federal aviation safety regulations for large buildings by installing minimum intensity white strobe lighting with three second flash instead of blinking red or rotating lights.
vii. Minimize the number of and co-locate rooftop-antennas and other rooftop structures.
viii. Monopole structures or antennas shall not include guy wires.
ix. Avoid the use of mirrors in landscape design.
x. Avoid placement of bird-friendly attractants (i.e. landscaped areas, vegetated roofs, water features) near glass.

b) Additional BMP strategies to consider include the following:

ii. Make clear or reflective glass visible to birds using visual noise techniques. Examples include:
1. Use of opaque or transparent glass in window panes instead of reflective glass.

2. 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).
3. Apply striping on glass surface.

47. Bike Parking

Prior to issuance of a Building Permit

Plans shall be submitted for review and approval of the Bureau of Planning that shown at least 14 short-term parking spaces. These spaces shall be consistent with the standards described in Chapter 17.117 of the Planning Code.

48. Car Parking

Ongoing

a) Off-street parking spaces shall be leased or sold separately from the rental or purchase of dwelling units for the life of the dwelling units, such that potential renters or buyers shall have the option of renting or buying a residential unit at a price lower than would be the case if there were a single price for both the residential unit and the parking space(s). It is acceptable to accomplish this by the developer marketing the units with rents that include on parking space per unit and if the resident does not desire to use the space, the rent amount will reduced accordingly.

b) Parking spaces shall be offered only to residents of the dwelling units served by the off-street parking, except that any surplus spaces that are not rented or sold may be rented to non-residents with the provision that such spaces must be vacated on 30 days notice if requested by residents to be made available to them.

Prior to Issuance of Building Permit

c) A parking in-lieu fee shall be paid to the City as set forth in the Master Fee Schedule. A parking in-lieu fee may be refunded, without interest, to the person who made such payment, or his assignee or designee, if additional off-street parking spaces are provided for such building or use by others than the City so as to satisfy the parking requirement for which the in-lieu payment was made. To obtain a refund, the required off-street parking spaces must be in place prior to issuance of a certificate of occupancy and before funds are spent or committed by the City.

PROJECT TEAM

PROJECT SPONSOR

URBAN CORE DEVELOPMENT, LLC
457 10TH STREET
SAN FRANCISCO, CA 94103
CONTACT Michael Johnson, President, CEO
PHONE (415) 593-4011
EMAIL mjohnson@urbancorellc.com

ARCHITECT

PYATOK ARCHITECTS, INC
1611 TELEGRAPH AVE, SUITE 200
OAKLAND, CA 94612
CONTACT Michael Pyatok, Principal
PHONE (510) 465-7010
EMAIL mpyatok@pyatok.com

AVRP STUDIOS
700 16TH STREET, SUITE 200
SAN DIEGO, CA 92101
CONTACT Douglas Austin
PHONE (619) 704-2700
EMAIL daustin@avrpstudios.com

LANDSCAPE

PGAdesign LANDSCAPE ARCHITECTS
444 17th Street
OAKLAND, CA 94612
CONTACT Christopher Kent
PHONE (510) 550-8851
EMAIL kent@pgadesign.com

LIGHTING

ILLUMINOSA
531 PARDEE STREET
BERKELEY, CA 94710
CONTACT Alice Prussin
PHONE (510) 525-3673
EMAIL alice@illuminosa.com

PROJECT DESCRIPTION AND DATA

The project sponsor, UrbanCore, proposes to construct a 24-story residential tower that is approximately 249' to the roof above the average grade of the site which is 21' above sea level. The site (.92 acres) is on the west side of East 12th Street, between Second Avenue and Lake Merritt Boulevard (address to be determined).

The proposed project will include:

298 dwelling units (including flats 258 flats in the tower, 24 flats in a lower west wing and lower south wing, 8 two-story penthouses at the top of the tower, and 7 two-story townhomes on the first floor
a 3-level parking garage (one level below grade, two above grade) with 209 parking stalls, using mechanical stackers and self-parked stalls,
a café (approx. 1,750 sf) with terrace at the corner of East 12th St. and Lake Merritt Blvd.
a Lobby and Lounge area, (approx. 3,000sf)
a recreation room and exercise room on the third floor (approx. 2000 sf)
a garden and plaza at the third floor (approx. 15,400 sf, above the garage)
a roof terrace for the residents on the 5th floor (approx. 3500 sf)
a green roof on the 5th floor (approx. 3400 sf)
50' striped curb for on-street loading along East 12th Street in front of service entrance to elevator core
Off-site improvements include enhancement of a City park (.81 acres) with natural landscaping to the north and northwest of the site
The street frontage along East 12th St will receive vine pockets and planting along a seat wall below an elevated terrace, and street trees
The East 12th St edge of the project is activated by four 2-story townhomes and the double-height lobby/lounge area
The park side of the development will be activated by the corner café and three 2-story townhomes

Lot Area: 0.92 acres

Residential:	251,600 sf
Circulation:	66,350 sf
Parking:	87,824 sf
Amenities:	7,358 sf

Total Building Area: 413,109 sf

Dwelling Units	298
Parking Spaces	209
Bike Parking	Approx. 100

ZONNING SUMMARY

This project has been designed to conform with the recommendations of the Lake Merritt Station Area Plan:

Land Use Character: according to the Plan, the site is in an area called Urban Residential Zone, "appropriate ... for high-rise residential structures" and "allows a variety of ground floor uses compatible with a residential area". The project fits this definition.

Active Ground floor uses: the Plan calls for activating the park side and East 12th frontage. This development activates East 12th St with a café, townhomes and a residential lobby with lounges; the park side is activated by town homes and a café with its public terrace.

Height and Massing Concepts: the site is located in an area designated by the Plan to have a Base Height of 45'-85' and a Tower Height of 275' total with the base. The development proposes a Base Height along East 12th Street that varies between 58' to 85', varying with the slope of the street. A wing facing onto the park along the north side of the property has a height of about 85' above grade. Since this is facing onto a large open space, that blends with the larger open space along the lake, the height of the base element was considered appropriate at about 85'. The Tower extends 22 floors (228') beyond the podium plaza, which is about 28' above the average grade. So the Tower extends about 257' above the average grade, well within the overall Tower plus Base Height of 275' recommended in the Plan.

DRAWING INDEX

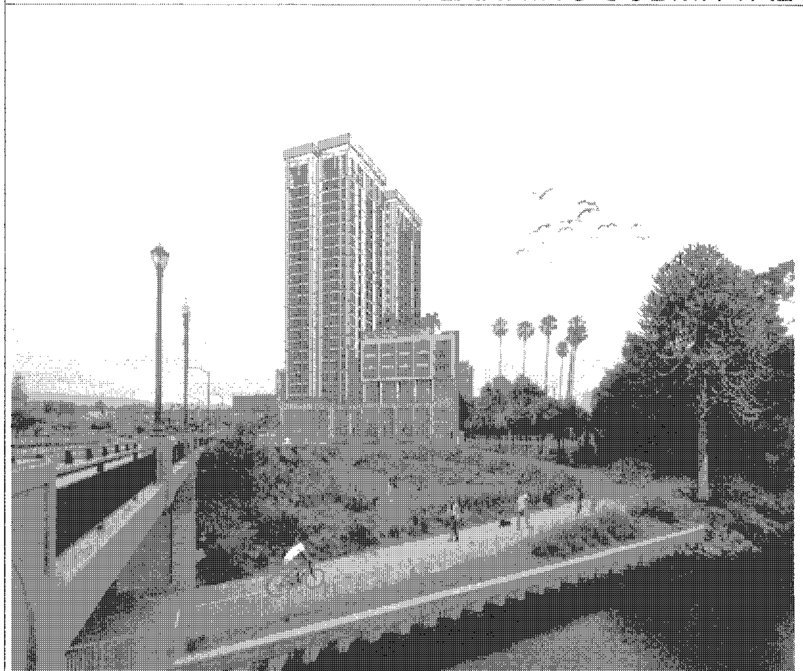
Unit Mix Matrix

Level	W	Studio	1 Bed	2 Bed	PH	Total
1	7					7
2						6
3		7	6	5		18
4		7	7	5		19
5		10	8	3		21
6		7	7	3		17
7		7	3	3		13
8		5	5	3		13
9		5	5	3		13
10		5	5	3		13
11		5	5	3		13
12		5	5	3		13
13		5	5	3		13
14		5	5	3		13
15		5	5	3		13
16		5	5	3		13
17		5	5	3		13
18		5	5	3		13
19		5	5	3		13
20		5	5	3		13
21		5	5	3		13
22		5	5	3		13
23					8	8
	7	115	130	60	8	298

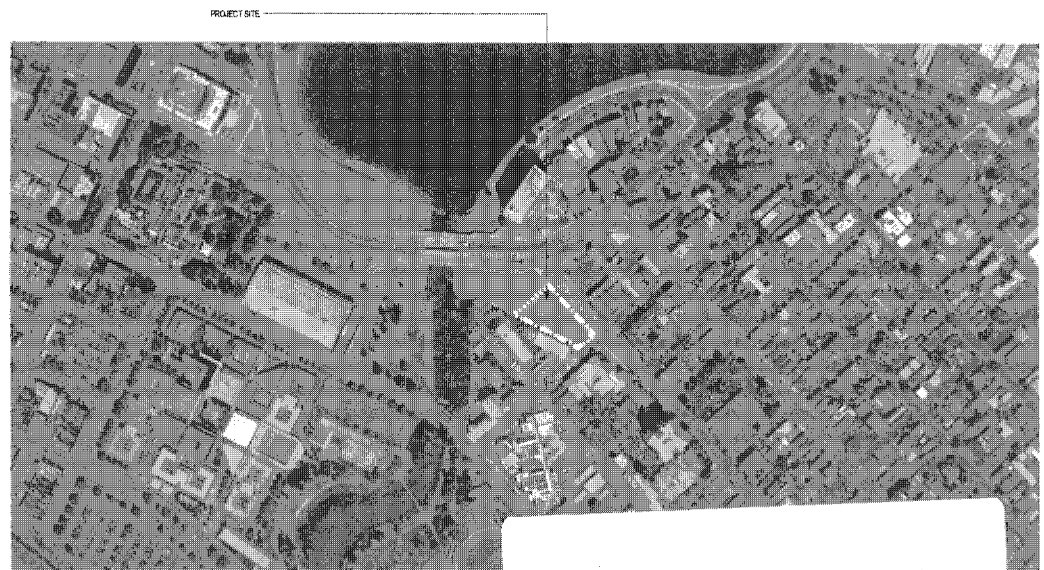
PARKING

LEVEL	SINGLE	PALLET	STACKED	TOTAL
P1	44	47	-	91
L1 (G)	44	-	-	44
L2	14	-	60	74
TOTAL	102	47	60	209

LAKE MERRITT BLVD. TOWER
PLANNING SUBMITTAL



VICINITY MAP



ATTACHMENT A

UrbanCore

Developer
UrbanCore Development, LLC
457 10th Street
San Francisco, CA 94103

avrpstudios
700 16th Street, Suite 200
San Diego, CA 92101
T:619-704-2700

PYATOK
1611 TELEGRAPH AVE, SUITE 200
OAKLAND, CA 94612
510.465.7010 p | 510.465.8575 f
www.pyatok.com

Lake Merritt Blvd. Tower

Address: TBD

STAMP:

JOB NUMBER	Project Number
DRAWN BY	Author
CHECKED BY	Checker
DATE	07.16.2014
SCALE	

TITLE
Title Sheet

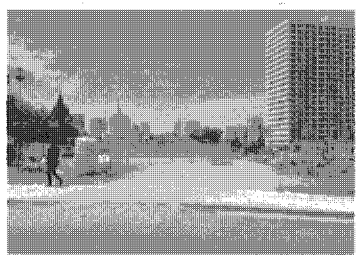
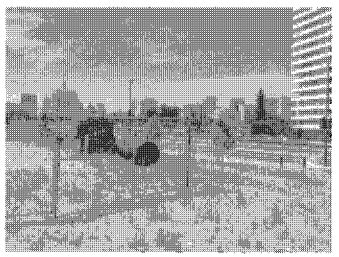
SHEET
G-001

- PRELIMINARY - Not for Construction -
8/8/2014 11:50:26 AM

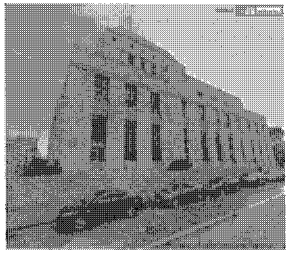
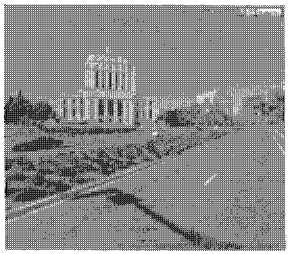
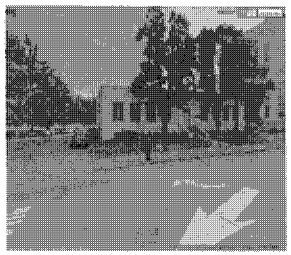
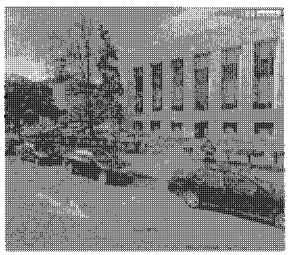
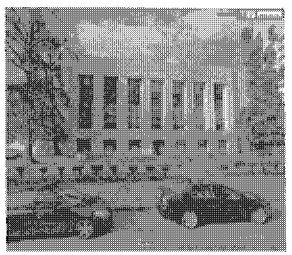


AJACENT SITES / CONTEXT



EXISTING SITE

HISTORICAL REFERENCE

UrbanCore

Developer:
UrbanCore Development, LLC
457 16th Street
San Francisco, CA 94103

avrp studios
703 16th Street, Suite 200
San Diego, CA 92101
T 619-704-2700

PYATOK
1611 TELEGRAPH AVE, SUITE 200
OAKLAND, CA 94612
510.465.7510 p | 510.465.8575 f
www.pyatok.com

Lake Merritt Blvd. Tower

Address: TBD

STAMP:

JOB NUMBER: Project Number
DRAWN BY: Author
CHECKED BY: Checker
DATE: 07.16.2014
SCALE:

TITLE
Site Context

SHEET
A-001

- PRELIMINARY - Not for Construction -

8/4/2014 5:52:23 PM

UrbanCore

Developer:
UrbanCore Development, LLC
457 10th Street
San Francisco, CA 94103

avrpstudios
703 10th Street, Suite 200
San Diego, CA 92101
T 619-704-2700

PYATOK
1611 TELEGRAPH AVE, SUITE 205
OAKLAND, CA 94612
510.465.7010 p | 510.465.8575 f
www.pyatok.com

Lake Merritt Blvd. Tower

Address: TBD

STAMP:

JOB NUMBER: Project Number
DRAWN BY: Author
CHECKED BY: Checker
DATE: 8/4/2014
SCALE:
TITLE:

Street View - A

SHEET

A-011

- PRELIMINARY - Not for Construction -

8/4/2014 5:52:25 PM

UrbanCore

Developer:
UrbanCore Development, LLC
457 10th Street
San Francisco, CA 94103

avrpstudios
703 10th Street, Suite 200
San Diego, CA 92101
T 619-704-2700

PYATOK
1611 TELEGRAPH AVE. SUITE 200
OAKLAND, CA 94612
510 465 7019 p | 510.465.8575 f
www.pyatok.com

Lake Merritt Blvd. Tower

Address: TBD

STAMP:

JOB NUMBER: Project Number
DRAWN BY: Author
CHECKED BY: Checker
DATE: 07.10.2014
SCALE:
TITLE: **Street View - B**

SHEET: A-012

- PRELIMINARY - Not for Construction -

8/4/2014 5:52:29 PM

UrbanCore

Developer:
UrbanCore Development, LLC
457 10th Street
San Francisco, CA 94103

avrp studios
703 16th Street, Suite 209
San Diego, CA 92101
T 619-704-2700

PYATOK
1611 TELEGRAPH AVE, SUITE 200
OAKLAND, CA 94612
510.465.7010 p | 510.465.8575 f
www.pyatok.com

Lake Merritt Blvd. Tower

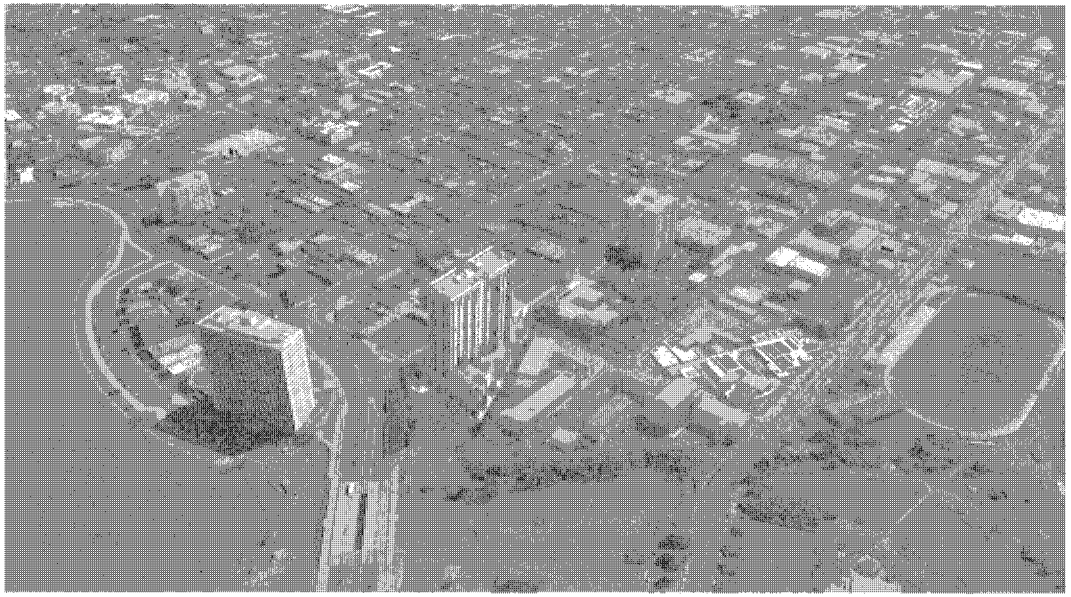
Address: TBD

STAMP:

JOB NUMBER: Project Number
DRAWN BY: Author
CHECKED BY: Checker
DATE: 07.31.2014
SCALE:
TITLE: **Street View - C**

SHEET
A-013

- PRELIMINARY - Not for Construction -
8/4/2014 5:52:33 PM



UrbanCore

Developer:
UrbanCore Development, LLC
457 16th Street
San Francisco, CA 94103

avrp studios
703 16th Street, Suite 200
San Diego, CA 92101
T 619-704-2700

PYATOK
1911 TELEGRAPH AVE. SUITE 200
OAKLAND, CA 94612
510.465.7010 p | 510.465.6575 f
www.pyatok.com

Lake Merritt Blvd. Tower

Address: TBD

STAMP:

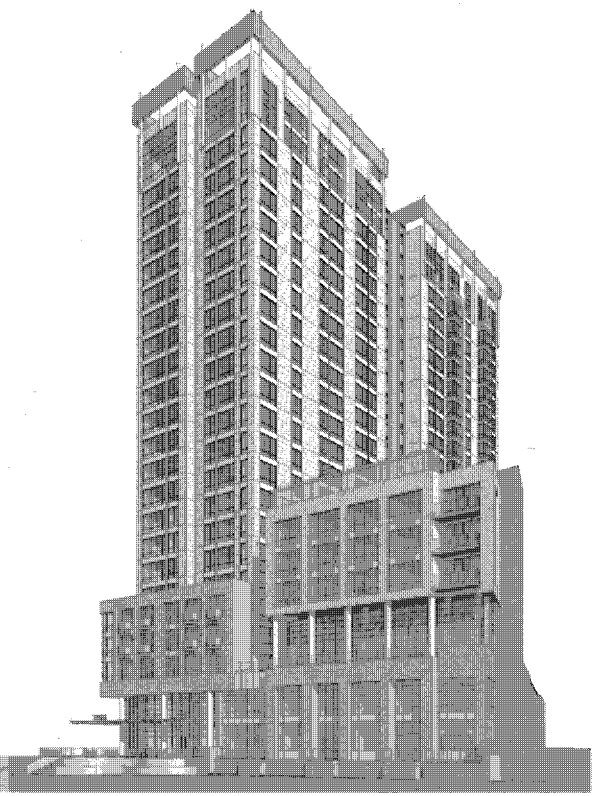
JOB NUMBER: Project Number
DRAWN BY: Author
CHECKED BY: Checker
DATE: 07.16.2014
SCALE:

TITLE
Aerial Views in Context

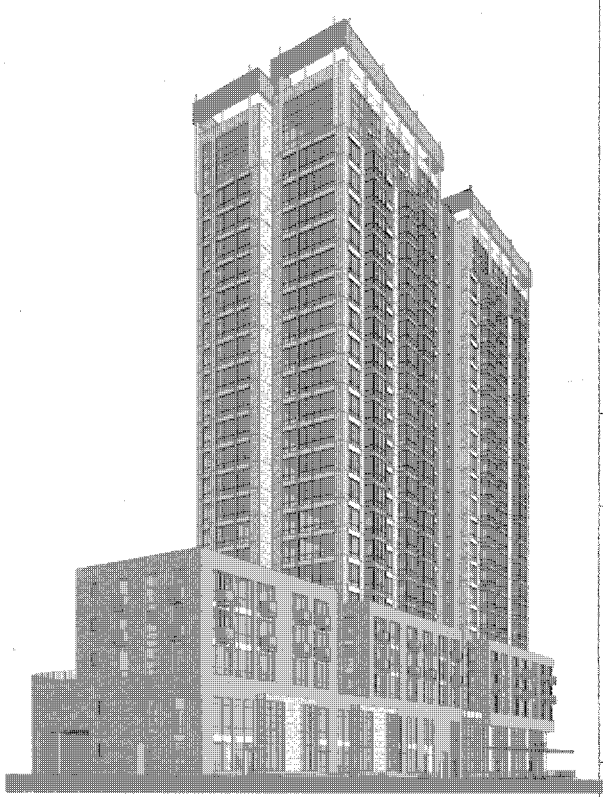
SHEET
A-015

- PRELIMINARY - Not for Construction -
8/8/2014 3:02:01 PM

3D View 2 (3)



3D View 3 (2)



3D View 1 (1)

UrbanCore

Developer:
UrbanCore Development, LLC
457 10th Street
San Francisco, CA 94103

avrpstudios
703 10th Street, Suite 200
San Diego, CA 92101
T: 619-704-2700

PYATOK
7011 TELEGRAPH AVE. SUITE 200
OAKLAND, CA 94612
510.465.7010 p | 510.465.8575 f
www.pyatok.com

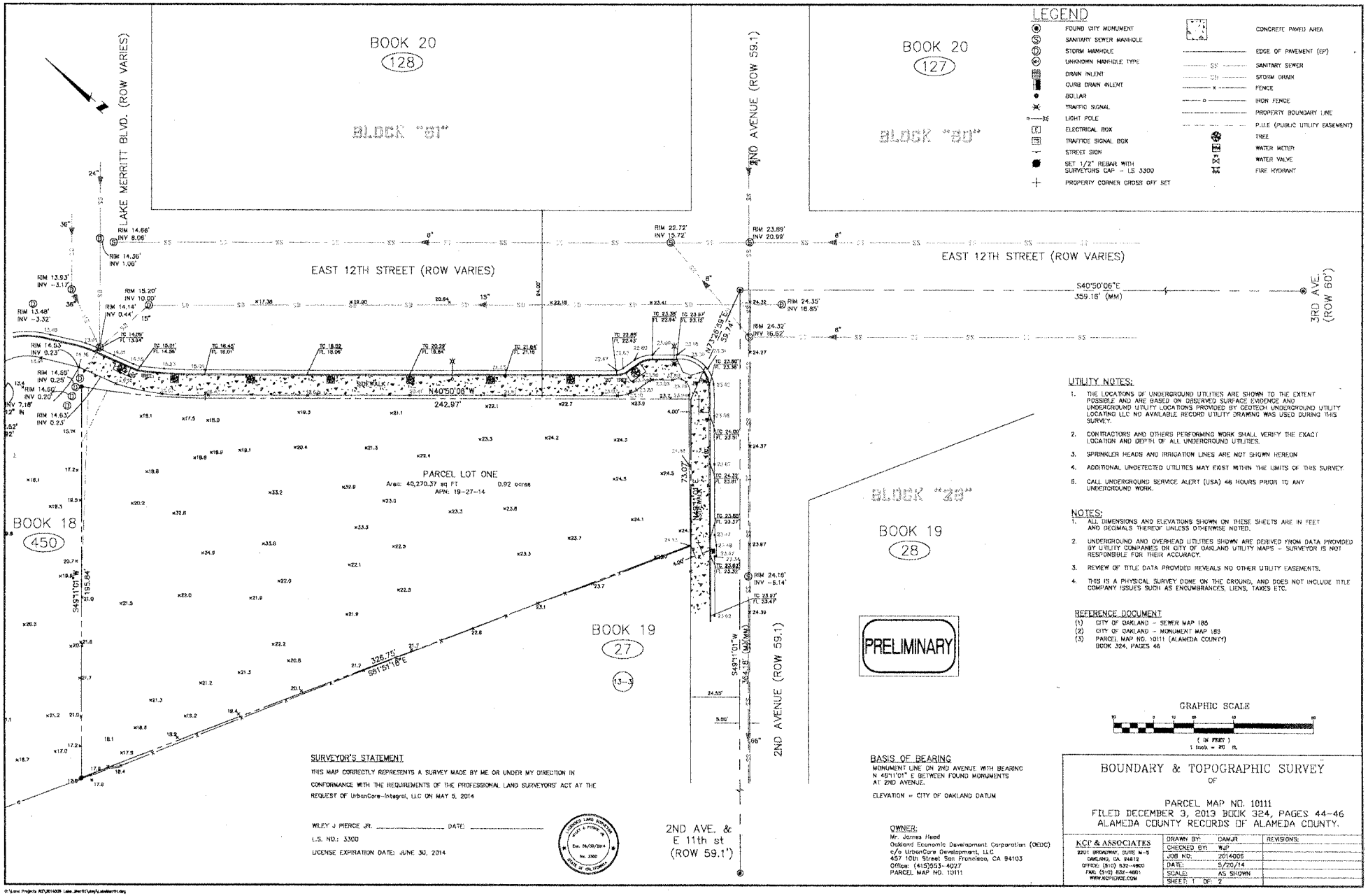
Lake Merritt Blvd. Tower

Address: TBD

STAMP:

JOB NUMBER: Project Number
Author: Author
CHECKED BY: Checker
DATE: 07.16.2014
SCALE:
TITLE: Perspective Views
SHEET: A-020

- PRELIMINARY - Not for Construction -
3/10/2015 9:17:57 AM



UTILITY NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE SHOWN TO THE EXTENT POSSIBLE AND ARE BASED ON OBSERVED SURFACE EVIDENCE AND UNDERGROUND UTILITY LOCATIONS PROVIDED BY GEOTECH UNDERGROUND UTILITY LOCATING LLC NO AVAILABLE RECORD UTILITY DRAWING WAS USED DURING THIS SURVEY.
2. CONTRACTORS AND OTHERS PERFORMING WORK SHALL VERIFY THE EXACT LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES.
3. SPRINKLER HEADS AND IRRIGATION LINES ARE NOT SHOWN HEREON
4. ADDITIONAL UNDETECTED UTILITIES MAY EXIST WITHIN THE LIMITS OF THIS SURVEY.
5. CALL UNDERGROUND SERVICE ALERT (USA) 48 HOURS PRIOR TO ANY UNDERGROUND WORK.

NOTES:

1. ALL DIMENSIONS AND ELEVATIONS SHOWN ON THESE SHEETS ARE IN FEET AND DECIMALS THEREOF UNLESS OTHERWISE NOTED.
2. UNDERGROUND AND OVERHEAD UTILITIES SHOWN ARE DERIVED FROM DATA PROVIDED BY UTILITY COMPANIES OR CITY OF OAKLAND UTILITY MAPS - SURVEYOR IS NOT RESPONSIBLE FOR THEIR ACCURACY.
3. REVIEW OF TITLE DATA PROVIDED REVEALS NO OTHER UTILITY EASEMENTS.
4. THIS IS A PHYSICAL SURVEY DONE ON THE GROUND, AND DOES NOT INCLUDE TITLE COMPANY ISSUES SUCH AS ENCUMBRANCES, LIENS, TAXES ETC.

REFERENCE DOCUMENT

(1) CITY OF OAKLAND - SEWER MAP 188
(2) CITY OF OAKLAND - MONUMENT MAP 185
(3) PARCEL MAP NO. 10111 (ALAMEDA COUNTY) BOOK 324, PAGES 44

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT AT THE REQUEST OF UrbanCore-Integral, LLC ON MAY 5, 2014

WILEY J PIERCE JR. _____ DATE: _____

L.S. NO.: 3300

LICENSE EXPIRATION DATE: JUNE 30, 2014

BASIS OF BEARING

MONUMENT LINE ON 2ND AVENUE WITH BEARING N 49°11'01" E BETWEEN FOUND MONUMENTS AT 2ND AVENUE.

ELEVATION = CITY OF OAKLAND DATUM

OWNER:

Mr. James Head
Oakland Economic Development Corporation (OEDC)
c/o UrbanCore Development, LLC
457 10th Street San Francisco, CA 94103
Office: (415)553-4027
PARCEL MAP NO. 10111

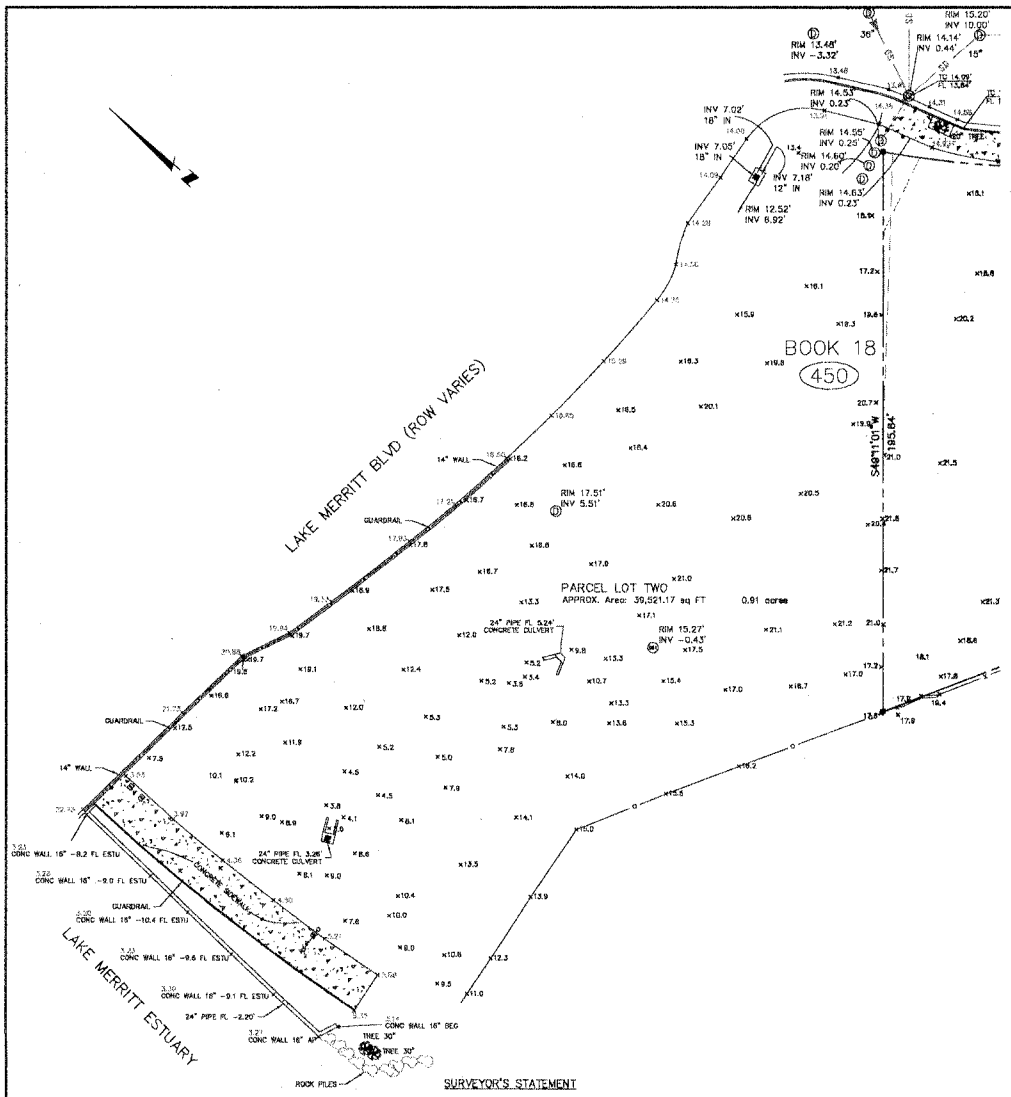
BOUNDARY & TOPOGRAPHIC SURVEY

OF

PARCEL MAP NO. 10111
FILED DECEMBER 3, 2013 BOOK 324, PAGES 44-46
ALAMEDA COUNTY RECORDS OF ALAMEDA COUNTY.

KCI & ASSOCIATES	DRAWN BY:	CAM/JR	REVISIONS:
2201 BROADWAY, SUITE N-5 OAKLAND, CA. 94612 OFFICE: (510) 832-4900 FAX: (510) 832-4661 WWW.KCISCIENCE.COM	CHECKED BY:	WJP	
	JOB NO:	20140205	
	DATE:	5/20/14	
	SCALE:	AS SHOWN	
	SHEET: 1 OF: 2		

O:\Land Projects\20140205 Lake Merritt\dwg\LakeMerritt.dwg



LEGEND

- FOUND CITY MONUMENT
- SANITARY SEWER MANHOLE
- STORM MANHOLE
- UNKNOWN MANHOLE TYPE
- DRAIN INLET
- CURB DRAIN INLET
- BOLLAR
- TRAFFIC SIGNAL
- LIGHT POLE
- ELECTRICAL BOX
- TRAFFICE SIGNAL BOX
- STREET SIGN
- SET 1/2" REBAR WITH SURVEYORS CAP – LS 3300
- PROPERTY CORNER GROSS OFF SET
- CONCRETE PAVED AREA
- EDGE OF PAVEMENT (EP)
- SANITARY SEWER
- STORM DRAIN
- FENCE
- IRON FENCE
- PROPERTY BOUNDARY LINE
- P.U.E (PUBLIC UTILITY EASEMENT)
- TREE
- WATER METER
- WATER VALVE
- FIRE HYDRANT

UTILITY NOTES:

1. THE LOCATIONS OF UNDERGROUND UTILITIES ARE SHOWN TO THE EXTENT POSSIBLE AND ARE BASED ON OBSERVED SURFACE EVIDENCE AND UNDERGROUND UTILITY LOCATIONS PROVIDED BY GEOTECH UNDERGROUND UTILITY LOCATING LLC NO AVAILABLE RECORD UTILITY DRAWING WAS USED DURING THIS SURVEY.
2. CONTRACTORS AND OTHERS PERFORMING WORK SHALL VERIFY THE EXACT LOCATION AND DEPTH OF ALL UNDERGROUND UTILITIES.
3. SPRINKLER HEADS AND IRRIGATION LINES ARE NOT SHOWN HEREON
4. ADDITIONAL UNDETECTED UTILITIES MAY EXIST WITHIN THE LIMITS OF THIS SURVEY.
5. CALL UNDERGROUND SERVICE ALERT (USA) 48 HOURS PRIOR TO ANY UNDERGROUND WORK.

NOTES:

1. ALL DIMENSIONS AND ELEVATIONS SHOWN ON THESE SHEETS ARE IN FEET AND DECIMALS THEREOF UNLESS OTHERWISE NOTED.
2. UNDERGROUND AND OVERHEAD UTILITIES SHOWN ARE DERIVED FROM DATA PROVIDED BY UTILITY COMPANIES OR CITY OF OAKLAND UTILITY MAPS – SURVEYOR IS NOT RESPONSIBLE FOR THEIR ACCURACY.
3. REVIEW OF TITLE DATA PROVIDED REVEALS NO OTHER UTILITY EASEMENTS.
4. THIS IS A PHYSICAL SURVEY DONE ON THE GROUND, AND DOES NOT INCLUDE TITLE COMPANY ISSUES SUCH AS ENCUMBRANCES, LIENS, TAXES ETC.

REFERENCE DOCUMENT

(1) CITY OF OAKLAND – SEWER MAP 185
(2) CITY OF OAKLAND – MONUMENT MAP 185
(3) PARCEL MAP NO. 10111 (ALAMEDA COUNTY) BOOK 324, PAGES 45

PRELIMINARY

GRAPHIC SCALE

(IN FEET)
1 inch = 20 ft.

SURVEYOR'S STATEMENT

THIS MAP CORRECTLY REPRESENTS A SURVEY MADE BY ME OR UNDER MY DIRECTION IN CONFORMANCE WITH THE REQUIREMENTS OF THE PROFESSIONAL LAND SURVEYORS' ACT AT THE REQUEST OF UrbanCore-Integral, LLC ON MAY 5, 2014

WILEY J PIERCE JR. _____ DATE: _____

L.S. NO.: 3300

LICENSE EXPIRATION DATE: JUNE 30, 2014

LICENSED LAND SURVEYOR WILEY J. PIERCE Exp. 06/30/2014 No. 3300 STATE OF CALIFORNIA

BASIS OF BEARING

MONUMENT LINE ON 2ND AVENUE WITH BEARING N 40°11'01" E BETWEEN FOUND MONUMENTS AT 2ND AVENUE.

ELEVATION = CITY OF OAKLAND DATUM

OWNER:

Mr. James Head
Oakland Economic Development Corporation (OEDC)
c/o UrbanCore Development, LLC
457 10th Street San Francisco, CA 94103
Office: (415)553-4027
PARCEL MAP NO. 10111

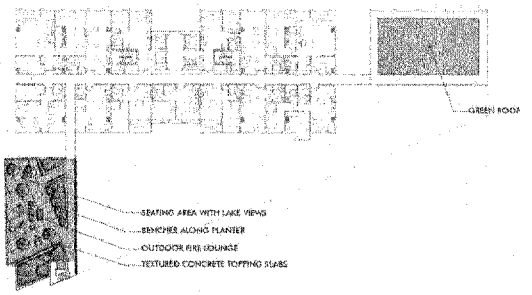
BOUNDARY & TOPOGRAPHIC SURVEY

OF

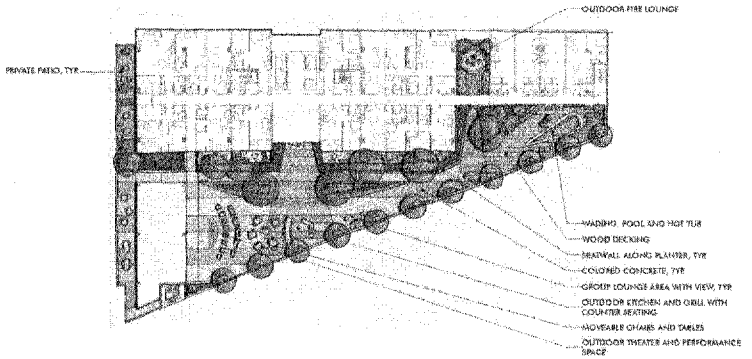
PARCEL MAP NO. 10111
FILED DECEMBER 3, 2013 BOOK 324, PAGES 44-46
ALAMEDA COUNTY RECORDS OF ALAMEDA COUNTY.

KCP & ASSOCIATES			
2201 BROADWAY, SUITE N-5	DRAWN BY:	CAMJR	REVISIONS:
OAKLAND, CA. 94612	CHECKED BY:	WJP	
OFFICE: (510) 832-4900	JOB NO:	2014009	
FAX: (510) 832-4901	DATE:	5/20/14	
WWW.KCPSCIENCE.COM	SCALE:	AS SHOWN	
	SHEET:	2 OF: 2	

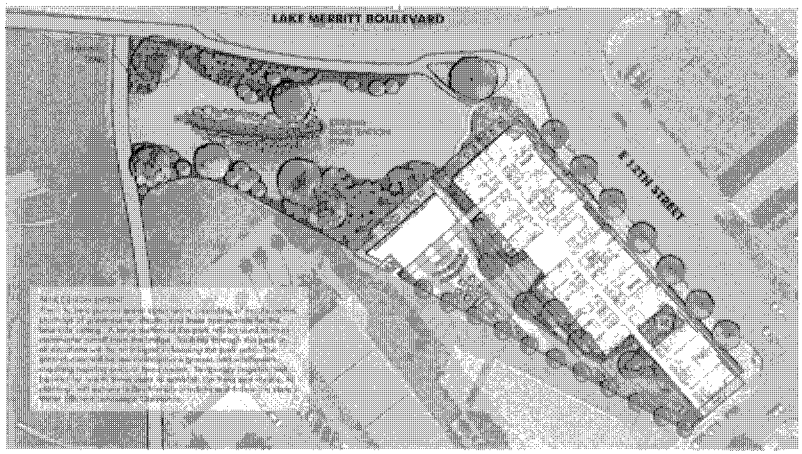
LAKE MERRITT TOWER LEVEL 6 PLAN



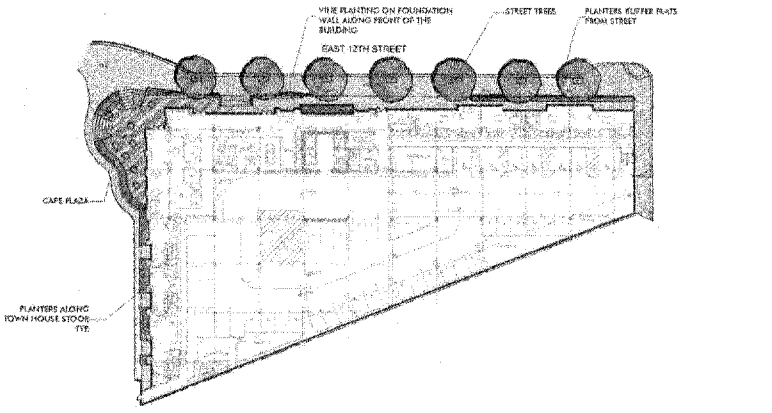
LAKE MERRITT TOWER LEVEL 3 (PODIUM) PLAN



LAKE MERRITT TOWER & PARK SITE PLAN



LAKE MERRITT TOWER GROUND LEVEL PLAN



1" = 30'

UrbanCore

Developer:
UrbanCore Development, LLC
457 16th Street
San Francisco, CA 94103

avrpstudios
703 16th Street, Suite 200
San Diego, CA 92101
T 619-704-2700

PYATOK
1611 TELEGRAPH AVE, SUITE 200
OAKLAND, CA 94612
510.465.7010 p | 510.465.6575 f
www.pyatok.com

Lake Merritt Blvd. Tower

Address: TBD

STAMP:

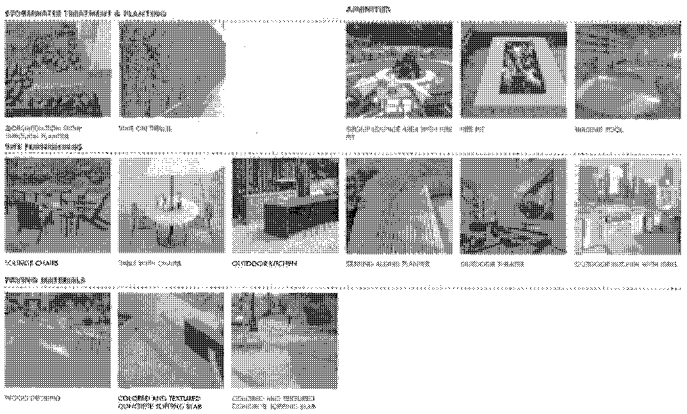
JOB NUMBER: Project Number
DRAWN BY: Author
CHECKED BY: Checker
DATE: 8/1/2014
SCALE:
TITLE: Landscape

SHEET: L-030

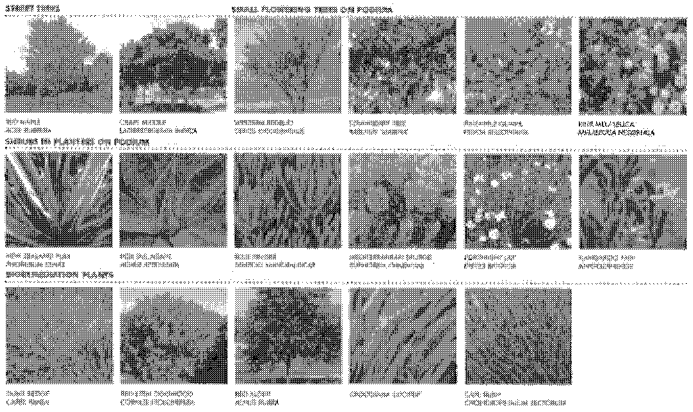
- PRELIMINARY - Not for Construction -

8/4/2014 5:58:21 PM

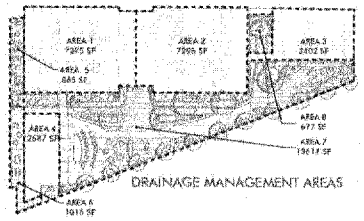
LANDSCAPE MATERIALS // SITE FURNISHINGS



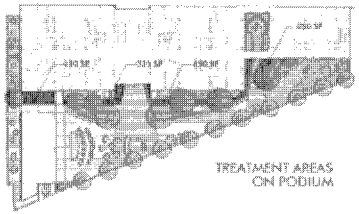
LANDSCAPE MATERIALS // INITIAL PLANTING LIST



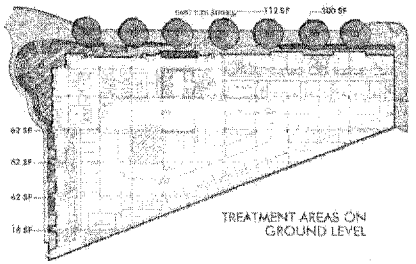
STORMWATER TREATMENT



DRAINAGE MANAGEMENT AREAS



TREATMENT AREAS ON PODIUM



TREATMENT AREAS ON GROUND LEVEL

UrbanCore

Developer:
UrbanCore Development, LLC
457 16th Street
San Francisco, CA 94103

avrpstudios
703 10th Street, Suite 200
San Diego, CA 92101
T 619-704-2700

PYATOK
1611 TELEGRAPH AVE. SUITE 200
OAKLAND, CA 94612
510.465.7010 p | 510.465.8575 f
www.pyatok.com

Lake Merritt Blvd. Tower

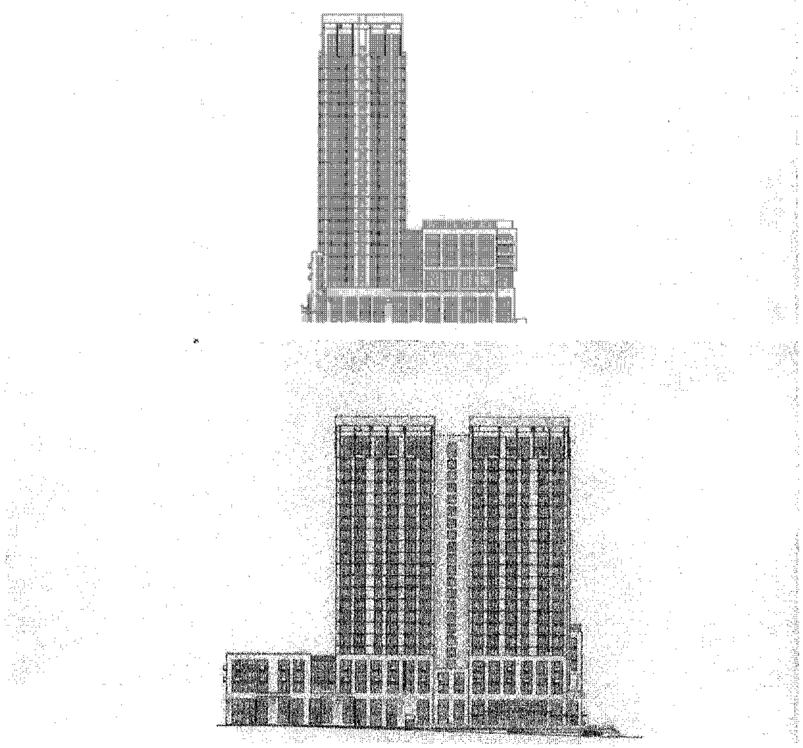
Address: TBD

STAMP:

JOB NUMBER: Project Number
DRAWN BY: Author
CHECKED BY: Checker
DATE: 8/19/2014
SCALE:
TITLE: Landscape

SHEET
L-031

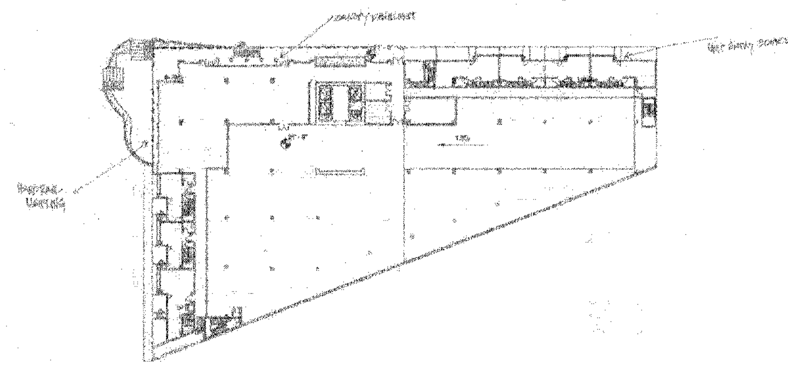
- PRELIMINARY - Not for Construction -
8/19/2014 5:58:24 PM



West Elevation

Lake Merritt Blvd. Tower 08/01/14

illuminosa
931 Parker Street Berkeley, CA 94710 | 510.525.3670 | illuminosa.com



Level 1 Plan

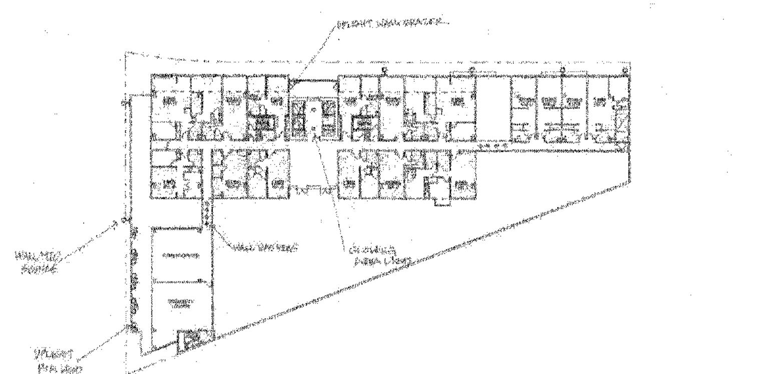
Lake Merritt Blvd. Tower 08/01/14 1" = 30'0"

illuminosa
931 Parker Street Berkeley, CA 94710 | 510.525.3670 | illuminosa.com

3D Perspectives

Lake Merritt Blvd. Tower 08/01/14

illuminosa
931 Parker Street Berkeley, CA 94710 | 510.525.3670 | illuminosa.com



Level 3 Plan

Lake Merritt Blvd. Tower 08/01/14 Scale: 1" = 30'0"

illuminosa
931 Parker Street Berkeley, CA 94710 | 510.525.3670 | illuminosa.com

UrbanCore

Developer:
UrbanCore Development, LLC
457 10th Street
San Francisco, CA 94103

avrpstudios
703 16th Street, Suite 200
San Diego, CA 92101
T 619-704-2700

PYATOK
1611 TELEGRAPH AVE. SUITE 200
OAKLAND, CA 94612
510.465.7010 p | 510.465.8575 f
www.pyatok.com

Lake Merritt Blvd. Tower

Address: TBD

STAMP:

REVISION SCHEDULE

NO.	ISSUE	DATE

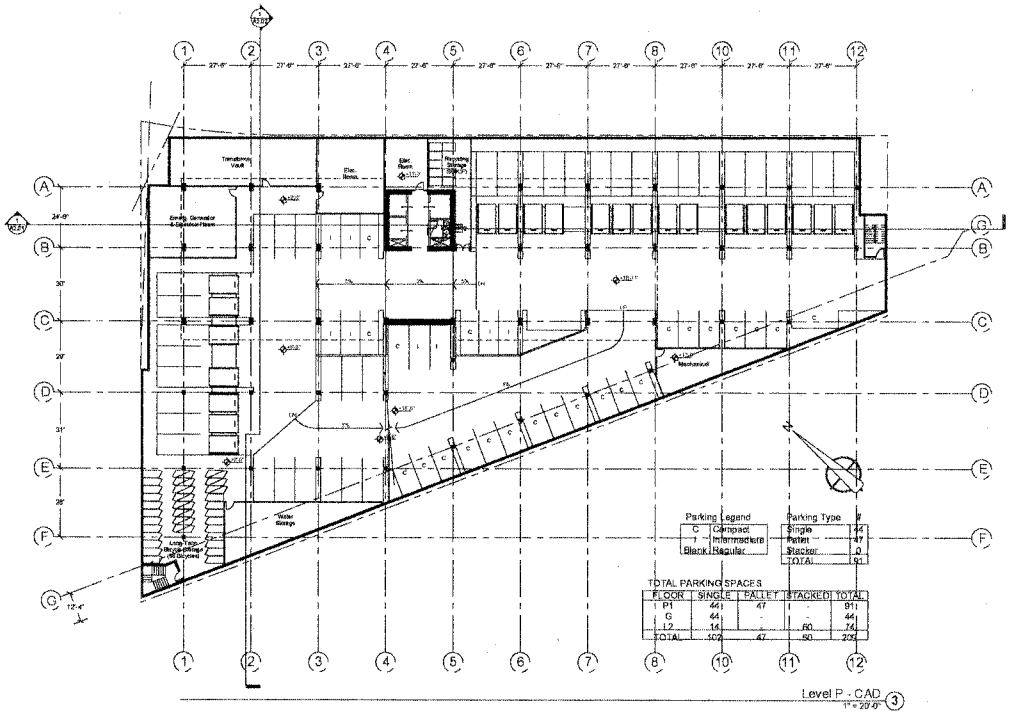
Lighting

SHEET

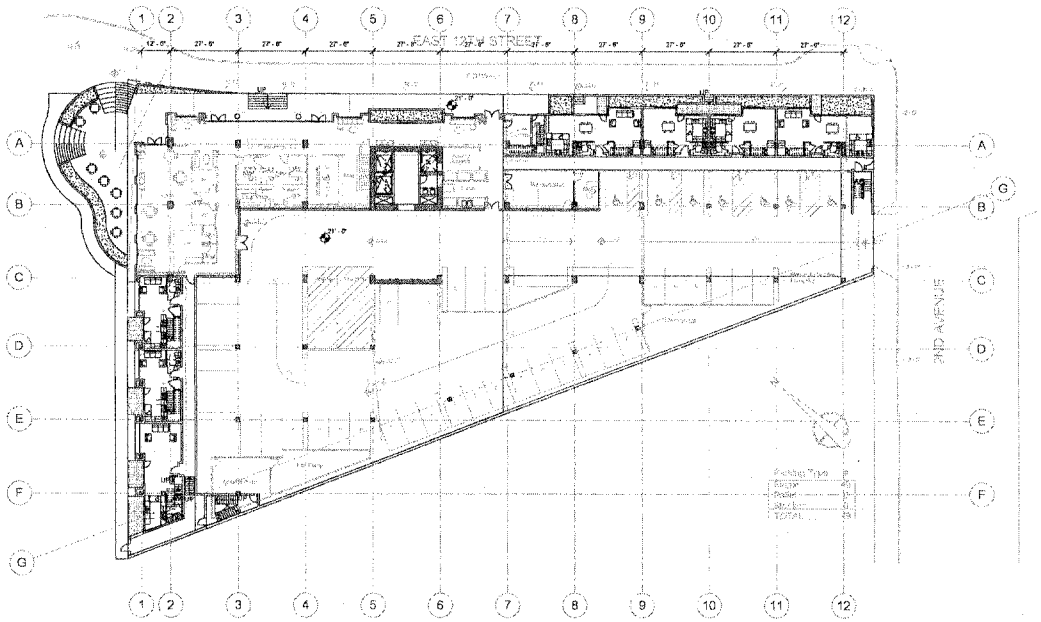
LI-032

- PRELIMINARY - Not for Construction -

8/4/2014 5:58:30 PM



Level P - CAD
1" = 20'-0" (3)



Level 1 (Lobby)
1" = 20'-0" (1)

UrbanCore
Developer:
UrbanCore Development, LLC
457 10th Street
San Francisco, CA 94103

avrpstudios
763 10th Street, Suite 200
San Diego, CA 92101
T 619-704-2700

PYATOK
1611 TELEGRAPH AVE SUITE 200
OAKLAND, CA 94612
510.465.7010 p | 510.465.8575 f
www.pyatok.com

Lake Merritt Blvd. Tower

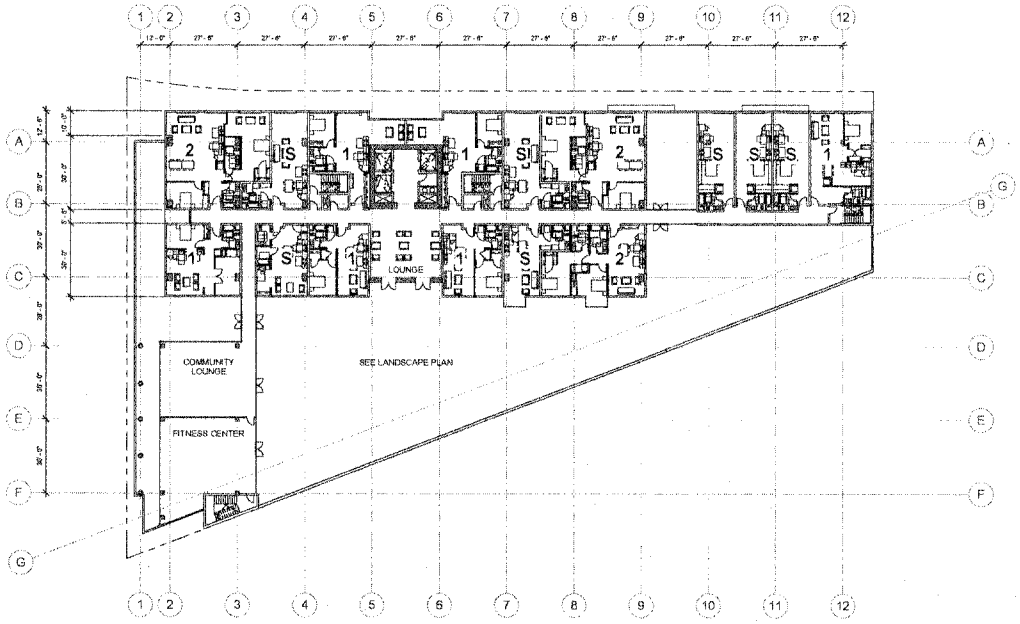
Address: TBD

STAMP:

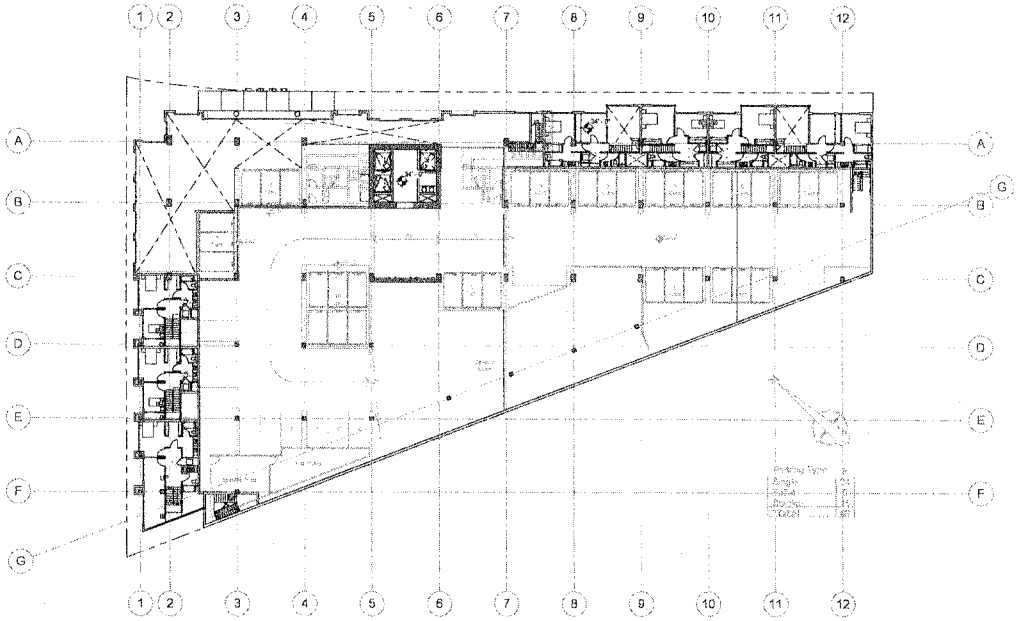
PRELIMINARY
DRAWN BY: DH
CHECKED BY: MP
DATE: 07.16.14
SCALE: 1" = 20'-0"
TITLE:
Floor Plans

SHEET
A-101

- PRELIMINARY - Not for Construction -
8/5/2014 9:16:00 AM



Level 3 (Podium)
1" = 20'-0" (2)



Level 2
1" = 20'-0" (1)

UrbanCore

Developer:
UrbanCore Development, LLC
457 10th Street
San Francisco, CA 94103

avrpstudios
Architecture + Interiors
703 10th Street, Suite 200
San Diego, CA 92101
T 619-704-2760

PYATOK
1611 TELEGRAPH AVE. SUITE 200
OAKLAND, CA 94612
510.465.7010 p | 510.465.8575 f
www.pyatok.com

Lake Merritt Blvd. Tower

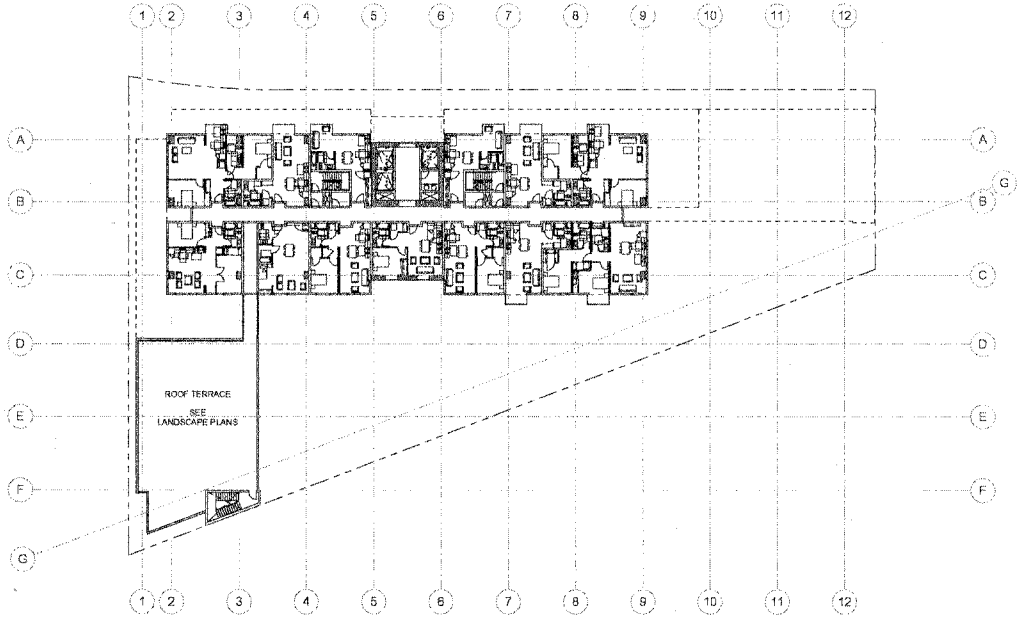
Address: TBD

STAMP:

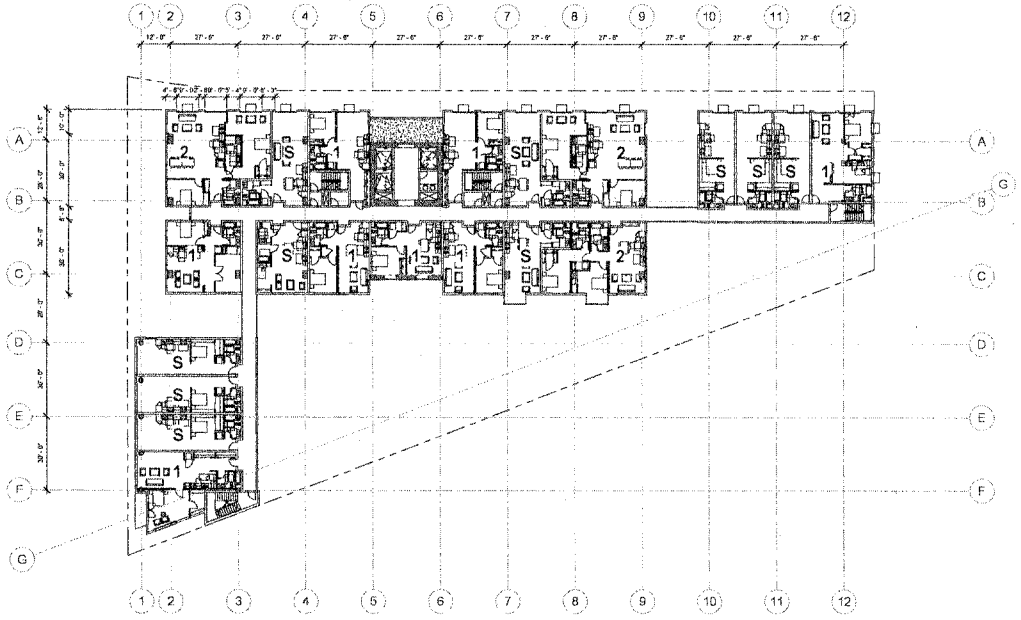
JOB NUMBER: Project Number
DRAWN BY: Author
CHECKED BY: Checker
DATE: 07.10.14
SCALE: 1" = 20'-0"
TITLE: Floor Plans

SHEET
A-102

- PRELIMINARY - Not for Construction -
8/4/2014 5:54:13 PM



Level 6
1" = 20'-0" (2)



Level 5
1" = 20'-0" (1)

UrbanCore

Developer:
UrbanCore Development, LLC
457 10th Street
San Francisco, CA 94103

avrp studios
703 16th Street, Suite 209
San Diego, CA 92101
T: 619-704-2700

PYATOK
1611 TELEGRAPH AVE. SUITE 200
OAKLAND, CA 94612
510.465.7010 p | 510.465.0575 f
www.pyatok.com

Lake Merritt Blvd. Tower

Address: TBD

STAMP:

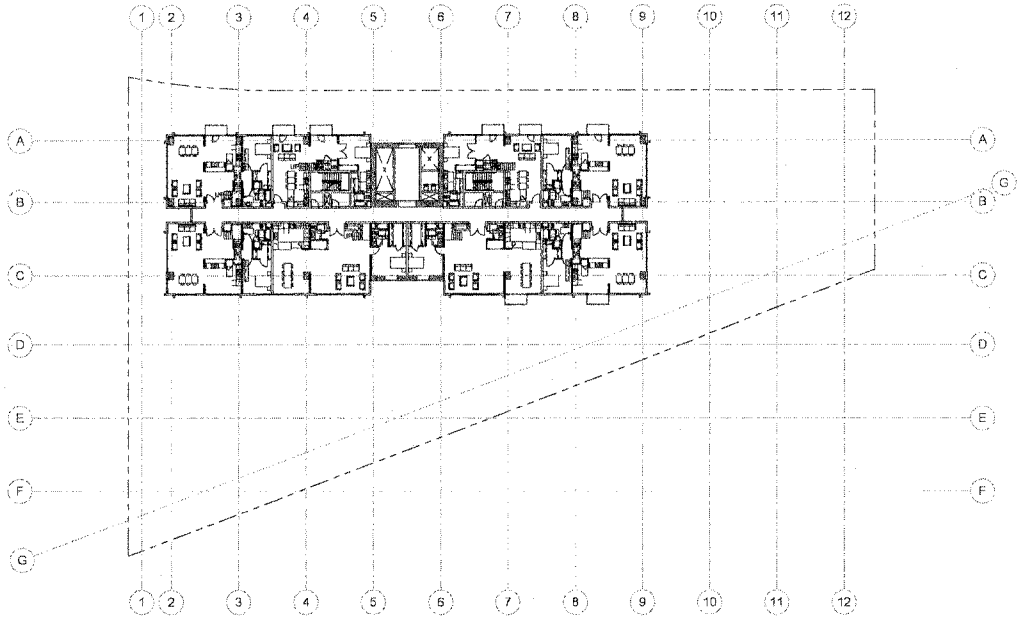
JOB NUMBER: Project Number
DRAWN BY: Author
CHECKED BY: Checked
DATE: 07.18.2014
SCALE: 1" = 20'-0"

Floor Plans

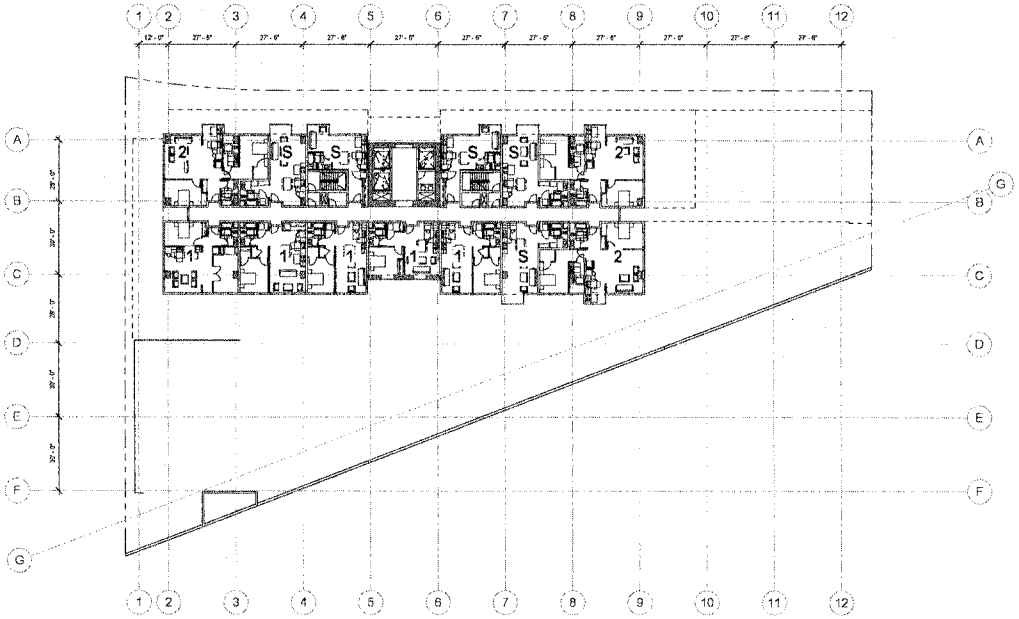
SHEET
A-103

- PRELIMINARY - Not for Construction -

7/4/2014 5:54:18 PM



Level 23
1" = 20'-0" (2)



Level 9
1" = 20'-0" (1)

UrbanCore

Developer:
UrbanCore Development, LLC
457 10th Street
San Francisco, CA 94103

avrp studios
703 16th Street, Suite 250
San Diego, CA 92101
T: 619-704-2700

PYATOK
1611 TELEGRAPH AVE SUITE 200
OAKLAND, CA 94612
510.465.7010 p | 510.465.8570 f
www.pyatok.com

Lake Merritt Blvd. Tower

Address: TBD

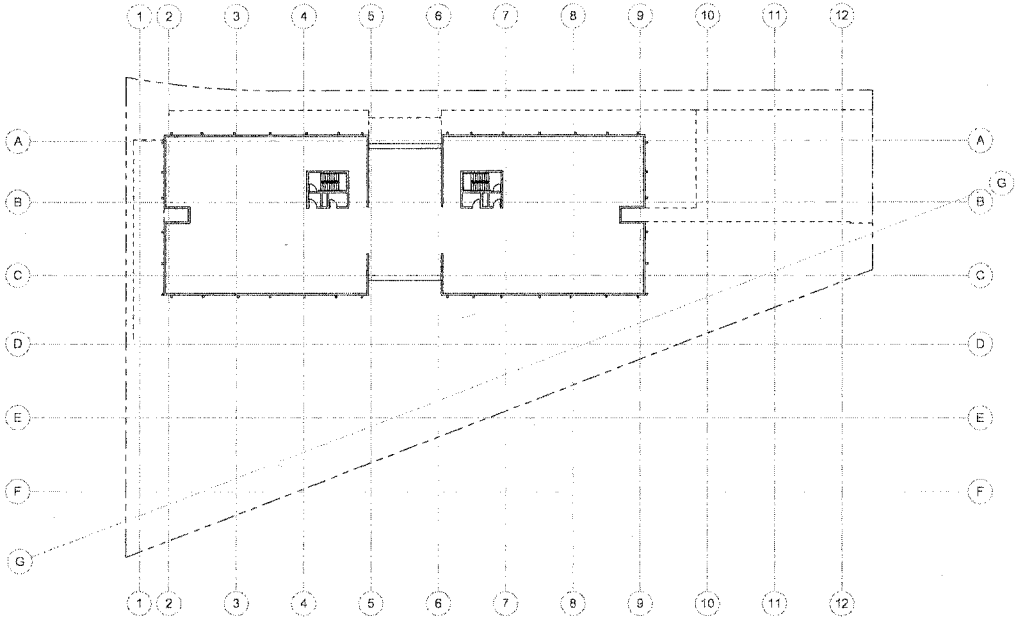
STAMP:

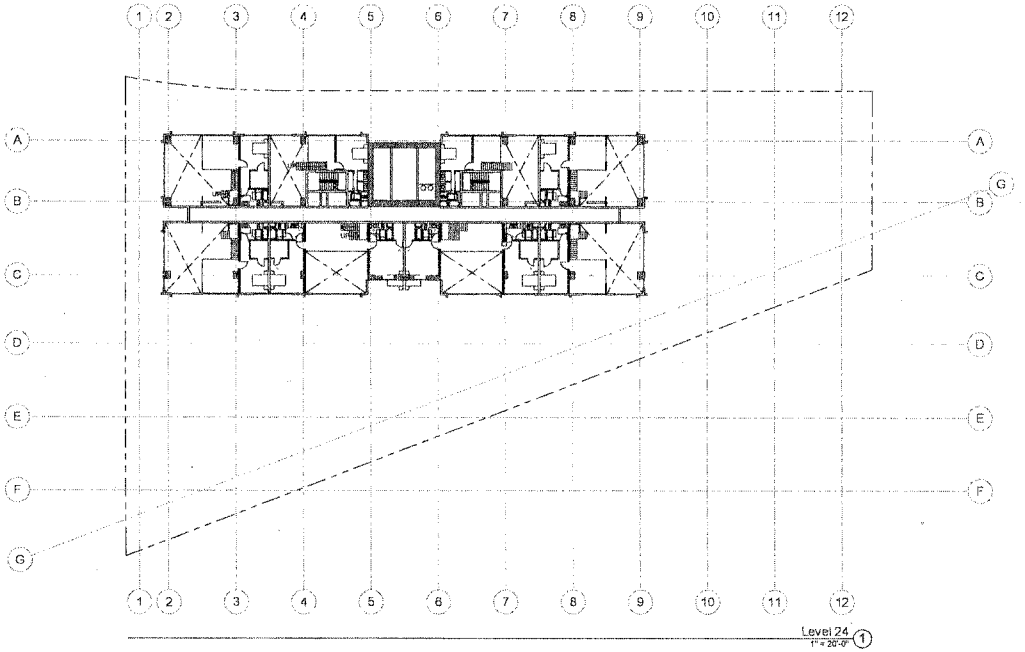
JOB NUMBER: Project Number
DRAWN BY: Author
CHECKED BY: Checker
DATE: 07/17/2014
SCALE: 1" = 20'-0"

Floor Plans

SHEET
A-104

- PRELIMINARY - Not for Construction -
8/4/2014 5:54:23 PM





UrbanCore

Developer:
UrbanCore Development, LLC
457 16th Street
San Francisco, CA 94103

avrp studios
703 16th Street, Suite 200
San Diego, CA 92101
T: 619-704-2760

PYATOK
1611 TELEGRAPH AVE. SUITE 200
OAKLAND, CA 94612
510.465.7010 p | 510.465.8575 f
www.pyatok.com

Lake Merritt Blvd. Tower

Address: TBD

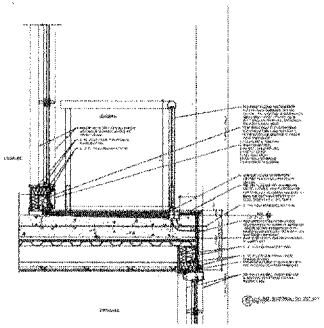
STAMP:

JOB NUMBER:	Project Number
DRAWN BY:	CH
CHECKED BY:	MP
DATE:	08.18.2014
SCALE:	1" = 20'-0"

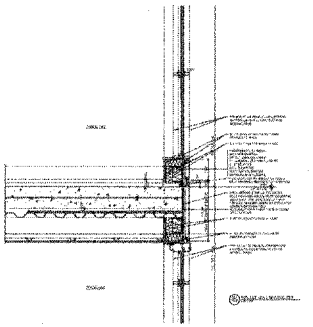
TITLE:
Floor Plans

SHEET:
A-105

- PRELIMINARY - Not for Construction -
8/5/2014 9:18:04 AM

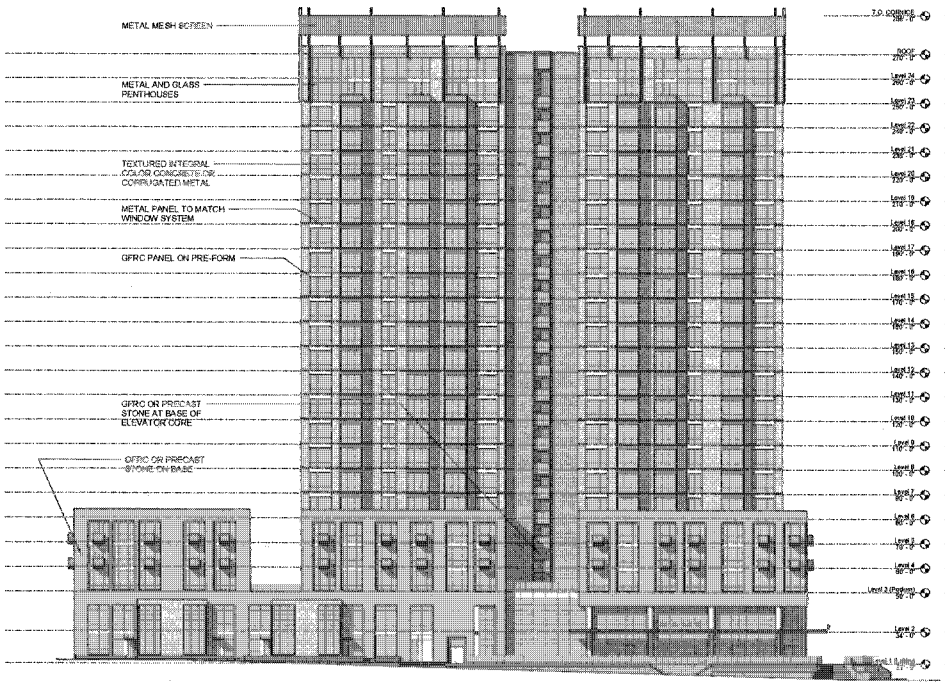


Typical Window at Head

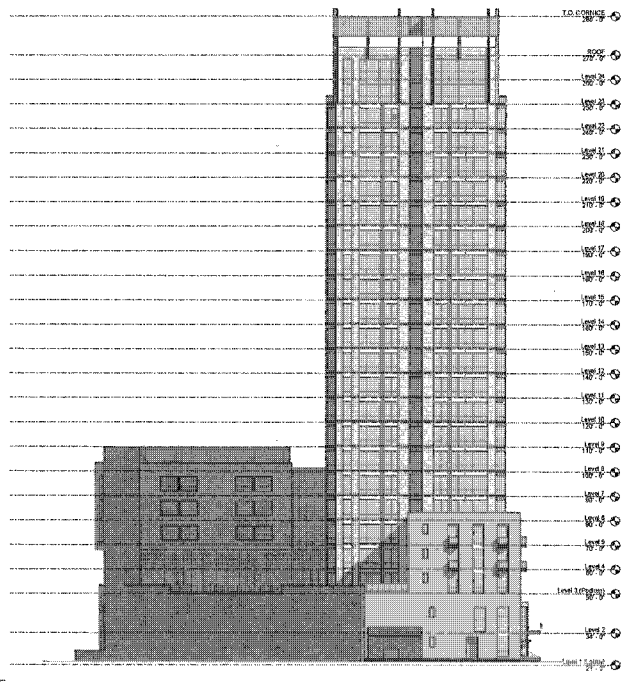


Typical Window at Sill

East Elevation - Enlarged
1/8" = 1'-0" (3)



East Elevation
1" = 20'-0" (2)



South Elevation
1" = 20'-0" (1)

UrbanCore

Developer:
UrbanCore Development, LLC
457 10th Street
San Francisco, CA 94103

avrp studios
703 10th Street, Suite 200
San Diego, CA 92101
T 619-704-2700

PYATOK
1611 TELEGRAPH AVE. SUITE 200
OAKLAND, CA 94612
510.465.7010 p | 510.465.8575 f
www.pyatok.com

Lake Merritt Blvd. Tower

Address: TBD

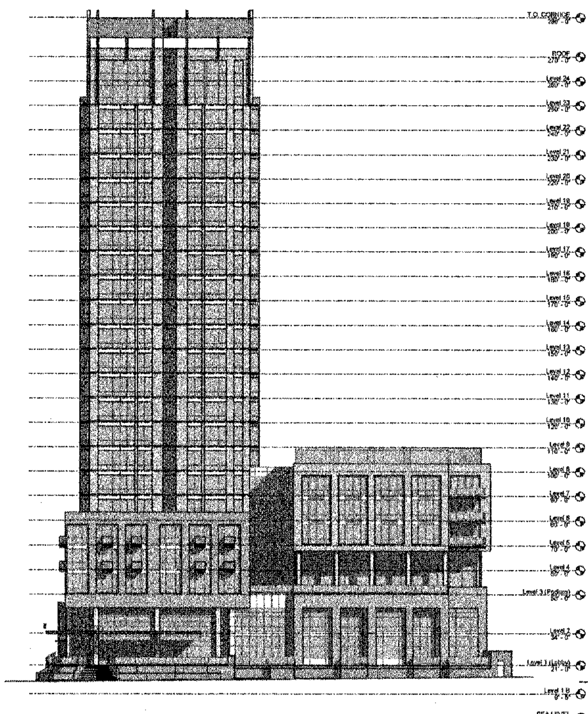
STAMP:

JOB NUMBER: Project Number
DRAWN BY: Author
CHECKED BY: Checker
DATE: 03.19.2015
SCALE: As indicated

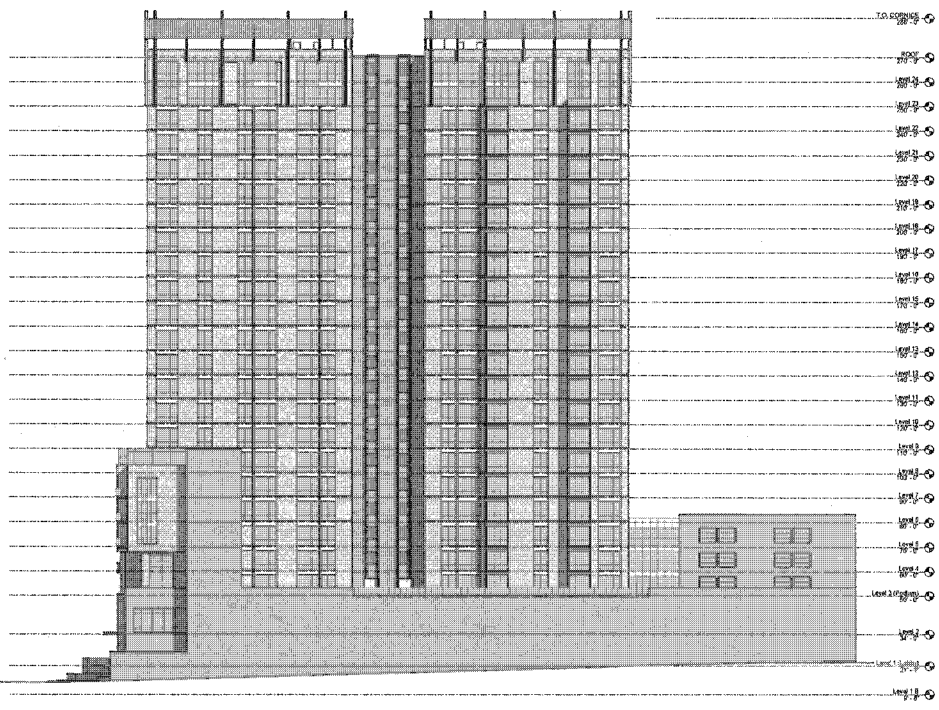
TITLE:
Building Elevations

SHEET
A-201

- PRELIMINARY - Not for Construction -
3/19/2015 9:19:03 AM



North Elevation (2)
1" = 20'-0"



West Elevation (1)
1" = 20'-0"

UrbanCore

Developer:
UrbanCore Development, LLC
457 10th Street
San Francisco, CA 94103

avrpstudios

703 16th Street, Suite 200
San Diego, CA 92101

T:619-704-2700

PYATOK

1611 TELEGRAPH AVE. SUITE 200
OAKLAND, CA 94612

510.465.7010 p | 510.465.8575 f
www.pyatok.com

Lake Merritt Blvd. Tower

Address: TBD

STAMP:

TITLE

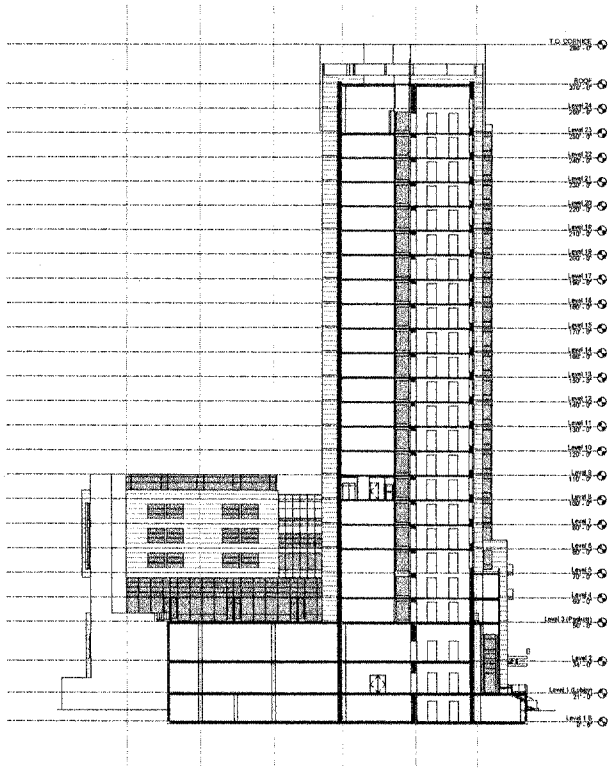
Building Elevations

SHEET

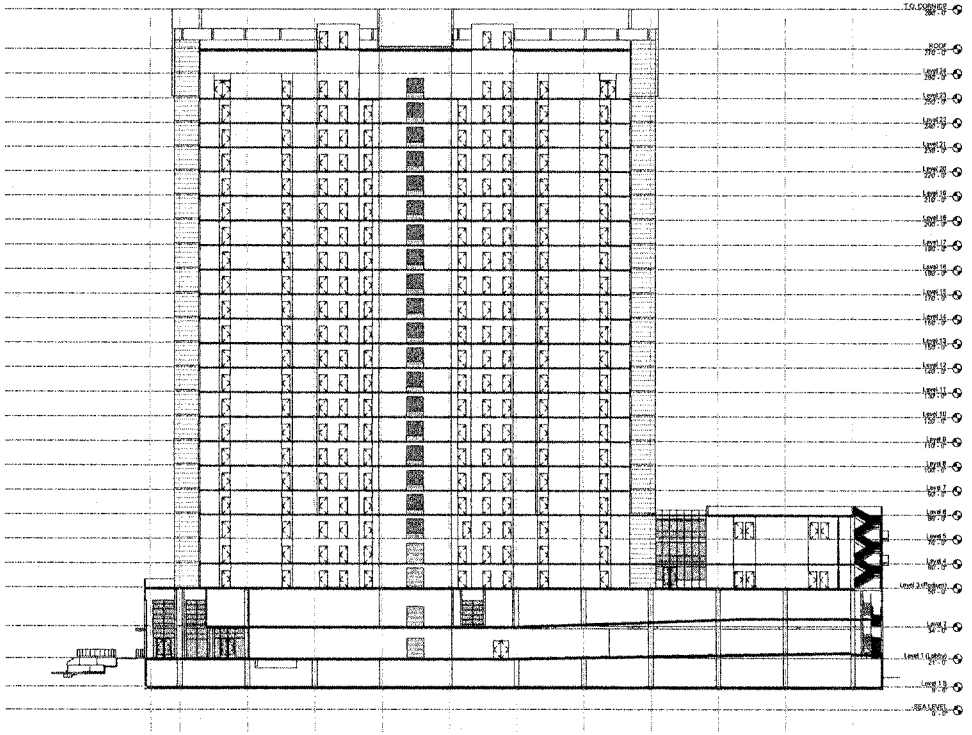
A-202

- PRELIMINARY - Not for Construction -

3/10/2015 9:19:57 AM



Section 2
1" = 20'-0" (2)



Section 4
1" = 20'-0" (1)

UrbanCore

Developer:
UrbanCore Development, LLC
457 10th Street
San Francisco, CA 94103

avrpstudios
703 19th Street, Suite 200
San Diego, CA 92101
T 619-704-2700

PYATOK
1611 TELEGRAPH AVE. SUITE 200
OAKLAND, CA 94612
510.463.7010 p | 510.466.8575 f
www.pyatok.com

Lake Merritt Blvd. Tower

Address: TBD

STAMP:

JOB NUMBER	Project Number
DRAWN BY	Author
CHECKED BY	Checker
DATE	2015.2014
SCALE	1" = 20'-0"

TITLE:
Building Sections

SHEET
A-301

- PRELIMINARY - Not for Construction -

8/4/2014 5:58:08 PM

LSA ASSOCIATES, INC.
2215 FIFTH STREET
BERKELEY, CALIFORNIA 94710
510.540.7331 TEL
510.540.7344 FAX
CARLSBAD
FRESNO
IRVINE
PALM SPRINGS
PT. RICHMOND
RIVERSIDE
ROCKLIN
SAN LUIS OBISPO

MEMORANDUM

DATE: February 12, 2015

TO: Neil D. Gray, Planner III, City of Oakland

FROM: Judith H. Malamut, AICP, Principal
Theresa Wallace, Project Manager

SUBJECT: Lake Merritt Boulevard Apartments Project Environmental Review

A. INTRODUCTION

This document provides a description of the proposed Lake Merritt Boulevard Apartments (project) and provides environmental review for the proposed project pursuant to the requirements of the California Environmental Quality Act (CEQA).

As discussed in more detail below, UrbanCore Development (project applicant) proposes to construct a 298-unit, 24-story residential apartment building with a 2,000-square-foot ground level café in the Lake Merritt area of Oakland, California. The City of Oakland is therefore the Lead Agency under CEQA. As supported by the discussion below, the proposed project would qualify for an exemption under Section 15182: Residential Projects Pursuant to a Specific Plan, in Article 12 of the *CEQA Guidelines* titled Special Situations. The proposed project is encompassed by the Lake Merritt Station Area Specific Plan[1] (Station Area Plan) and the environmental effects of development anticipated to occur within the Plan Area are evaluated in the Lake Merritt Station Area Plan Final Environmental Impact Report (Final EIR),[2,3] which was certified by the City of Oakland in November 2014. The Final EIR assumes the development of a residential building on the proposed site that includes up to 357 residential units and 20,000 square feet of retail space. The Final EIR also anticipates that the environmental review of specific development projects assumed as part of the Specific Plan would be streamlined in accordance with CEQA and the *CEQA Guidelines*: "The City intends to use the streamlining/tiering provisions of CEQA to the maximum feasible extent, so that future environmental review of specific projects are expeditiously undertaken without the need for repetition and redundancy, as provided in *CEQA Guidelines* section 15152 and elsewhere [i.e., section 15162]."

Section 15162 of the *CEQA Guidelines* outlines the requirements for preparation of a Subsequent EIR. As discussed in this document, a Subsequent EIR pursuant to *CEQA Guidelines* Section 15162 is not required to evaluate the environmental effects of the proposed project because: 1) the proposed project does not include substantial changes to the development assumptions evaluated in the Final

[1] Oakland, City of, 2014. *Lake Merritt Station Area Plan: A Specific Plan for the Area Around the Lake Merritt BART Station, Public Review Draft*. July.

[2] Oakland, City of, 2013. *Lake Merritt Station Area Plan Draft Environmental Impact Report*. November.

[3] Oakland, City of, 2014. *Lake Merritt Station Area Plan Final Environmental Impact Report*. July.

ATTACHMENT B

EIR; 2) the project circumstances have not changed; and 3) no new information of substantial importance has been identified which could change the conclusions of the Final EIR.

The proposed project also qualifies for exemptions per section 15332 (Infill Development Projects) and sections 15183 (Projects Consistent with a Community Plan, General Plan, or Zoning) and 15183.3 (Streamlining for Infill Projects). Several technical reports have been prepared for the project and project site to support the exemptions under CEQA and are referenced in this report.

This memorandum consists of the following: an overview of the project, which discusses the project purpose, project description, and existing conditions; a detailed description of potential environmental impacts; a list of project-specific and standard conditions of approval to be incorporated into the project to reduce potential environmental effects; and the project's eligibility for exemptions from further environmental review under CEQA. Figures of the project location and select plan sheets are attached to this memorandum (Attachment A).

B. PROJECT OVERVIEW

The following provides an overview of the proposed project, including a description of existing conditions within and in the vicinity of the project site and description of the project background.

1. Project Site and Vicinity

The approximately 0.92-acre project site is located on the southeastern edge of the Lake Merritt district in the City of Oakland, Alameda County. Regional access to the project site is provided by Interstate 880 (I-880), which is located approximately 0.5 miles south of the site; I-580, which is located just over 1 mile northeast of the site; and I-980, which is located about 1.3 miles northwest of the site. The Lake Merritt Bay Area Rapid Transit (BART) Station is also located about 0.75 miles to the west. The triangular parcel is generally bounded by Lake Merritt Boulevard to the north, East 12th Street to the east, 2nd Avenue and a vacant building formerly occupied by the Oakland Unified School District (OUSD) to the south, and a recently re-vegetated 0.91-acre City park/water treatment basin installed as part of the East 12th Street Reconstruction Project and Lake Merritt Channel to the west. Lake Merritt is located immediately to the north of the site across Lake Merritt Boulevard .Figure 1 depicts the site's regional and local context. Figure 2 depicts an aerial view of the project site and vicinity.

The project site is generally level and consists of a vacant lot that was previously bisected by a portion of East 12th Street. This roadway was realigned as part of the East 12th Street Reconstruction Project[4] and all pavements have been removed. Current uses on the site include soil stockpiling and staging for nearby construction projects. Vegetation on the site is limited to a few scattered shrubs along the perimeter of the site and a few trees that border the site. The site is approximately 21 feet above sea level.

The site vicinity is characterized as urban and consists of public, institutional, residential, and commercial uses. Public and institutional uses are among the most prominent land uses in the area

[4] Oakland, City of, 2014. Lake Merritt Park Improvements, East 12th Street Project. Website: www2.oaklandnet.com/Government/o/PWA/o/EC/s/MeasureDD/OAK025946. August.

and are largely concentrated along the Lake Merritt Channel and along 13th Street. As shown in Figure 2, these uses include the Dewey High School campus and the former OUSD administrative offices,[5,6] the Laney College campus and sports fields, the Peralta Community College District Administration buildings, the Oakland Museum of California, the Kaiser Auditorium, the County Court and Offices, and the Public Library. Multi-unit apartment buildings ranging from 2 to 23 stories in height also exist in the area including the 18-story Merritt on 3rd residential building located southeast of the site on the corner of 3rd and East 12th Streets and the 23-story 1200 Lakeshore Apartments located immediately north of the site across Lake Merritt Boulevard.

2. Project Background

In 2012, the City of Oakland began developing the Lake Merritt Station Area Plan, which focuses on the area within a half-mile radius of the Lake Merritt BART Station, in order to improve the area's vitality and to accommodate and promote future growth over a 25-year period. The Station Area Plan aims to foster new, high-quality transit-oriented development that supports and helps connect existing neighborhood assets and provides enhanced neighborhood amenities. The Station Area Plan identifies 47 opportunity sites with development potential which comprise vacant or underutilized land. In total, the Station Area Plan and Final EIR assume development of 4,900 new housing units, 4,100 new jobs, 404,000 square feet of retail, and 1,229,000 square feet of office uses within the 286-acre Plan area.

As previously discussed, and as shown in Figures 1 and 2, the project site is located within the boundaries of the Station Area Plan. The site is identified as Opportunity Site #44 (Draft EIR Figure 2.5-1) and is within the Eastlake Gateway Plan District. The Station Area Plan changed the land use designation for the site from Institutional to Urban Residential and rezoned the site from Urban Residential Zone-3 (RU-3) to Lake Merritt Station Area Plan District Urban Residential (D-LM-1). Appendix B of the Station Area Plan indicates that the project site is assumed to have the potential for the development of an apartment building containing 357 residential units, 20,000 square feet of retail space and 0.13 acres of open space. The assumed height is approximately 20 stories.[7]

The Final EIR for the Station Area Plan evaluated the level of development assumed under the Station Area Plan, including development of the project site. The Final EIR anticipates that environmental review of specific development projects assumed as part of the Station Area Plan would be streamlined in accordance with CEQA and the *CEQA Guidelines*.

3. Proposed Project

The proposed project would develop the site with a 24-story residential apartment tower with a 3-level podium base, including 298 residential units, 2,000 square feet of ground level commercial space, 209 parking spaces, and associated amenities and improvements. The proposed building would

---

[5] The existing Dewey High School campus and former OUSD administrative offices are surplus OUSD property and are currently proposed to be redeveloped with a 275-foot residential tower..

[6] Oakland Unified School District, 2014. Request for Developer Qualifications for New Development of Oakland Unified School District Properties, Including the Parcels Housing the Pail Robeson Administration Building, and Dewey High School. Website: www.ousd.k12.ca.us/cms/lib07/CA01001176/Centricity/Domain/95/RFQ%201025%202ND%20Ave.%20Jun%2024.pdf. June 24

[7] Oakland, City of, 2013. *Lake Merritt Station Area Plan Draft Environmental Impact Report, Appendix B.* November.

be 249 feet in height at the roof above the natural grade and would not exceed an overall height of 265 feet, including architectural and mechanical features that extend above the roofline. Conceptual site plans for the below ground garage level and first two levels of the podium, which also include parking, are shown in Figures 3a, 3b, and 3c. Conceptual building elevations and sections are shown in Figures 4a and 4b and building cross sections are shown in Figure 5. Conceptual ground- and podium-level landscaping and common open space areas are shown in Figures 6 and 7, respectively. The proposed project is described in more detail below.

a. Building Program. The proposed project would construct a total of 413,829 gross square feet of residential and commercial building area with associated amenities and infrastructure. A total of 298 residential units would be located within the new building, for a total residential floor area of 249,939 square feet. A total of 7 2-story lofts would be located at the ground level (the first and second podium levels shown in Figures 3b and 3c), 24 residential units would be located within 8-story west and south wings that would border the adjacent open space area and development to the south, 259 residential units would be located within a 21-story tower divided into two connected volumes (north/south and east/west wings), and 8 2-story penthouses would be located at the top of the tower. There would be a mix of unit types including 7 lofts, 8 penthouse units, 113 studios, 110 one-bedroom units, and 60 two-bedroom units. Units would range from approximately 550 to 1,595 square feet in size.

The proposed project would include a variety of amenities throughout the residential areas of the building for shared use by project residents. The ground level would include the building entrance, lobby, and a lounge area (approximately 3,000 square feet). The third level would include an indoor recreation and exercise room (approximately 2,600 square feet) and a 15,400-square-foot outdoor area that would include a fire lounge, a wood deck with a wading pool and hot tub, a kitchen and grilling space, a theater and performance space, and several movable outdoor chairs and tables in addition to seating along planters (Figure 7). The third level would also include a 3,400 square-foot green roof. In addition, the sixth level would include a 3,500 square-foot outdoor roof terrace for residents.

A 2,000-square-foot café would also be located at the ground level. The café would include an outdoor terrace and plaza with views towards Lake Merritt and the Lake Merritt Channel.

b. Landscaping. As shown in Figures 6 and 7, a number of landscape features would be incorporated into the design of the proposed project. Street trees and other plantings would be located at the ground level where the site borders East 12th Street and the existing water treatment basin, at the third podium level within the outdoor open space area, and at the sixth level roof terrace.

In addition, off-site improvements are proposed to the existing water treatment basin/park located adjacent to the site (0.91 acres). These improvements would include the installation of natural landscaping to the area north and northwest of the project site. This park is owned by the City and with the proposed improvements would function as a passive open green space consisting mostly of native plantings, groundcover, shrubs and trees. The groundcover would be low maintenance grasses and wildflowers requiring mowing once or twice a year. Temporary irrigation would be used for two or three years to establish the trees and shrubs. All plantings would adhere to Bay friendly practices and adhere to the State's Water Efficient Landscape Ordinance.

c. Access, Circulation and Parking. Vehicular access to the three-level parking garage would be provided by a single entrance on 2nd Avenue. The parking garage would include a total of 209 parking spaces, including mechanical stackers. Long term storage for a total of 86 bicycles would be available at the below-grade level. Fifty feet of the curb along East 12th Street, from approximately the service entrance to the elevator core, would be striped for on-street loading.

Pedestrian access to the proposed apartments and common areas would be provided by a secured entrance located on East 12th Street. Access would also be available through the café that would be located at the corner of East 12th Street and Lake Merritt Boulevard. There would be an elevator to provide access from the sub-surface garage level and all levels of the building. Internal pathways and stairwells would provide access to various levels within the building.

d. Construction and Grading. Subsurface excavation for the subsurface parking garage, foundations, and utilities would likely occur to a depth of approximately 21 feet below grade. Approximately 30,000 cubic yards of soil would also be off-hauled as part of site excavation for the subsurface parking garage and grading. The construction period is expected to begin in early 2015 and would occur over an approximately two-year period. Occupancy of the units could occur as early as January 2017.

C. ENVIRONMENTAL IMPACT ANALYSIS

This section evaluates the potential for environmental impacts to occur as a result of project development. This section has been included in this categorical exemption memorandum to provide evidence that with implementation of the City of Oakland's Standard Conditions of Approval (SCA), specified recommendations, and best practices, the proposed project would result in no significant impact beyond that identified in the Station Area Plan Final EIR and would not require mitigation measures to reduce impacts to a less-than-significant level.

As part of the technical documentation for the proposed project, and to assist in the evaluation of potential environmental impacts, the following reports or studies were prepared (and are listed in the order in which they are referenced in and attached to this memorandum):

- Attachment B: Rowan Williams Davies & Irwin, Inc., 2014. *Lake Merritt Boulevard Apartments, Sun and Shadow Study*. August 22.
- Attachment C: CPP Wind Engineering and Air Quality Consultants, 2014. *Pedestrian Wind Assessment for the Lake Merritt Apartments*. September.
- Attachment D: Fehr & Peers, 2014. Lake Merritt Boulevard Apartments Transportation Assessment. October 9.

1. Aesthetics

On September 27, 2013, and after completion of the Draft EIR for the Station Area Plan, Governor Brown signed Senate Bill (SB) 743, which became effective on January 1, 2014 and added Section 21099 to the California Public Resources Code. Among other provisions, Public Resources Code Section 21099(d)(1) changed the typical analysis of aesthetics and parking impacts for urban infill projects, meeting certain criteria pursuant to CEQA. The proposed project meets the definition of a mixed-use residential project on an infill site within a transit priority area as specified by Section

21099(a). Accordingly, the topic of aesthetics does not need to be considered in determining the significance of the proposed project's physical environmental effects under CEQA. Nonetheless, for informational purposes, the discussion below provides an overview of the conclusions made in the Final EIR and the change in visual conditions in and around the project site that would occur with implementation of the proposed project.

The Final EIR determined that with implementation of SCAs, impacts related to aesthetics would be less than significant with development occurring under the Station Area Plan. Specifically, implementation of the Station Area Plan would not result in adverse effects to scenic resources within view of a scenic route; would not result in a substantially adverse effect on a scenic vista, would not substantially degrade the visual character or quality of the Plan area and its surroundings, and would not create a new source of substantial light or glare affecting day or nighttime views in the area. Individual projects would be subject to the design guidelines outlined in the Station Area Plan and would be required to comply with the height limits identified in the plan.

The project site is located within Height Area 4 as evaluated in the Draft EIR (Figure 2.4-5). Building heights of up to 275 feet, with a 45-foot base were considered for these areas. However, subsequent to publication of the Draft EIR and as part of the Final EIR, the Station Area Plan was revised to permit a maximum building height of 85 feet within Height Area 4, including at the project site (Final EIR Figure 2.3-2). However, exceptions to proposed total and base buildings heights may be granted with a Conditional Use Permit. According to the Final EIR, a maximum of two buildings could be up to 175 feet in height and one building would be allowed up to 275 feet.

As previously discussed, from the ground level, the building would be up to 249 feet at the roof and rooftop elements would not exceed 265 feet in height (see Figures 4a and 4b). The podium level would have a base height along East 12th Street varying with the slope of the street from between 55 and 65 feet. The 8-story wing facing towards the channel along the north side of the property would have a height of about 85 feet above grade. The tower would extend 21 levels (about 221 feet) beyond the podium plaza, which is about 28 feet above the average grade. The proposed project would be required to obtain a Conditional Use Permit to exceed the height requirements specified in the Station Area Plan. Although the proposed project would exceed the height limits allowed in the Station Area Plan, the proposed height limit was evaluated in the Draft EIR and impacts related to building heights and massing were determined to be less than significant.

The proposed project would not result in any new or more significant impacts related to aesthetics than those identified in the Final EIR. Implementation of SCA-12, SCA-13, SCA-15, SCA-17, SCA-18, SCA-19, SCA-20, SCA-21, and SCA-40 would be applicable to and would be implemented by the proposed project and would further ensure that aesthetics-related impacts would be less than significant. No mitigation measures are required.

2. Shadow

The Final EIR determined that impacts related to increased shadows would be less than significant with development occurring under the Station Area Plan. Specifically, new development would not cast shadows that would impair the beneficial use of any public or quasi-public parks or other open spaces or require an exception to existing policies and regulations that address the provision of adequate light. The Final EIR did not include an evaluation of shadow impacts on solar heat

collection or historic resources and assumed that more detailed analysis would be required as individual projects are proposed.

The proposed project has the potential to cast new shadows in and around the vicinity of the site, which could affect public spaces, solar collectors, or historic resources. Therefore, a project-specific shadow study was prepared (Attachment B). Shadow simulations were prepared for March 21, June 21, September 21, and December 21, for 9:00 a.m. (morning), 12:00 p.m. (noon), and 3:00 p.m. (afternoon). A shadow simulation for June 21, at 6:00 p.m. (early evening) was also prepared. A brief summary of the results of this analysis is provided below.

- *March 21.* On March 21, the proposed project would cast a shadow on the adjacent City park/water quality basin and portions of the Lake Merritt Channel and adjacent pedestrian paths in the morning hours and on adjacent buildings in the afternoon.
- *June 21.* On June 21, the proposed project would cast a shadow on portions of the adjacent City park/water quality basin during the morning hours and on adjacent development (primarily a surface parking lot) in the early evening hours.
- *September 21.* On September 21, the proposed project would cast a shadow on the adjacent City park/water quality basin and portions of the Lake Merritt Channel and adjacent pedestrian paths in the morning hours and on adjacent development (primarily a surface parking lot) in the afternoon.
- *December 21.* On December 21, the proposed project would cast a shadow on the adjacent City park/water quality basin and portions of the Lake Merritt and adjacent pedestrian paths in the morning hours and on adjacent buildings in the noon and afternoon hours.

Peralta Park is located directly west across the channel from the project site, but shadows cast by the project would not reach the park. The proposed project would cast shadows on existing open space areas, including Lake Merritt, Lake Merritt Channel, and the adjacent open space throughout the year during the morning hours. Because the shadow would fall only during the morning hours and not during the afternoon, when open space areas are most in use, the proposed project would not substantially impair the beneficial use these areas, or of any other public or quasi-public park, lawn, garden, or open space. In addition, the proposed project would be subject to the City's Design Review process and would be subject to further evaluation of the building height and mass, including consideration of the design guidelines set forth in the Station Area Plan.

Within the project vicinity, the existing 4-story apartment building located at the intersection of East 12th Street and 2nd Street, directly across from the project site, includes solar collectors at the building rooftop. The proposed project would only cast shadows on these solar facilities during the early evening hours (after 3:00 p.m.) in the summer months. The proposed project would not substantially impair the use of these solar collectors.

Within the vicinity of the project site, the Lake Merritt Historic District is located immediately west of the project site and encompasses parts of the adjacent City-owned open space and the Lake Merritt Channel. In addition, buildings rated "A" or "B" on the Oakland Cultural Heritage Survey are located south and west of the site, across Lake Merritt Channel (Final EIR Figure 3.8-1). The proposed project would however not cast new shadows on any historic structures, as none are located within the immediate vicinity of the site.

Given the above, the proposed project would not result in significant impacts related to shade and shadows. No mitigation measures are required.

3. Wind

Potential wind impacts were not analyzed at a project-specific level of detail in the Final EIR because it is not feasible to reasonably evaluate such impacts until individual development projects are proposed. A building's exposure, massing, and orientation can affect nearby ground-level wind accelerations, which can in turn affect the comfort of pedestrians. Under the City of Oakland's thresholds of significance, wind analysis is performed if the project's height is 100 feet or greater (measured to the roof) and one of the following conditions exists: the project is located adjacent to a substantial water body (i.e., Oakland Estuary, Lake Merritt, or San Francisco Bay) or the project is located in Downtown. The purpose of these thresholds is to ensure pedestrian comfort levels are maintained in areas that are subject to windy conditions. The City has determined that a building of over 100 feet in height in any of these locations could generate winds in excess of 36 miles per hour, which are well above typical wind conditions in the area and could in turn affect the comfort level of the pedestrian environment. The proposed project both exceeds 100 feet in height and is near Lake Merritt. Therefore, a project-level wind study was conducted (see Attachment C).

Three testing configurations were evaluated for potential wind impacts at 41 testing locations as part of the wind study. Configuration A includes existing conditions, which include the currently under-construction 5-story Lakeside Senior Apartments located at 116 15th Street; Configuration B includes existing conditions plus the proposed project (without landscaping elements); and Configuration C includes cumulative conditions, including future development of the OUSD property just south of the site with a 275-story residential tower, plus the proposed project.[8] The analysis showed that there are no existing wind exceedances within the project area.

For existing plus project conditions (Configuration B), two points would exceed the pedestrian comfort criterion of 36 miles per hour for more than one daylight hour per year without implementation of design modifications or installation of landscaping. Of these locations (Location 7) is located on the podium (rooftop) of the proposed project. Location 6 is at the south corner of the project site. The threshold is expected to be exceeded by about 6 and 1.5 daylight hours per year, respectively. Both locations are affected by westerly winds. Because Location 7 is not in a public area, no modifications are necessary to reduce wind speeds. At Location 6, westerly winds would result in a gusty wake at the southeast corner of the podium without the installation of landscaping. Higher wind speeds are not uncommon at building corners. However, SCA-12 and SCA-13 require installation of landscaping for residential projects. In particular, trees are required to be planted for every 25 feet of street frontage. With installation of landscape trees at this location and compliance with SCA-12 and SCA-13, wind speeds would be effectively reduced. In addition, the following design modifications could be implemented in lieu of landscape treatments at this location.

> Recommendation 1: To reduce potential high wind speeds at the southeast corner of the podium, porous screens or trees should be installed at this location. If porous screens are used, open areas of 30 percent are recommended. Implementation of this recommendation would also effectively reduce wind speeds at the northeast corner of the building.

[8] It should be noted that the massing for this project is generic as no plans are currently available for this future cumulative project.

Under cumulative assumptions (Configuration C), four additional locations are estimated to exceed the pedestrian comfort criterion (Locations 5, 24, 31, and 36). Location 31 is on top of the rooftop structure on the podium of the proposed project, which is not a public area. Location 5 is on the sidewalk at the northeast corner of the project, where implementation of Recommendation 1 would effectively reduce wind speeds at this location. For Locations 24 and 36, it is clear that the generic massing assumed for the future redevelopment of the OUSD site is responsible for the exceedances, and not the project itself. Because the project itself would not contribute to these exceedances, no mitigation is recommended. The design of the future tower at the OUSD site will be subject to the pedestrian comfort criterion and will also take into account the design of the proposed project.

Given the above, and with implementation of Recommendation 1 which fulfills the requirements of SCA-12 and SCA-13, the proposed project would not result in significant impacts related to wind.

4. Agriculture and Forestry

The project site is located in an urbanized area of the City and is zoned Urban Residential. The site is surrounded by roadways, residential buildings, commercial uses, schools, public parks, civic centers and other development. No agricultural or forested land exists within the vicinity of the project site. In addition, the Final EIR considered potential impacts of Plan implementation on agriculture and forest resources and determined that development within the Plan area would have no impact on agriculture and forest resources.

5. Air Quality

The Final EIR considered potential impacts of Station Area Plan implementation on local and regional air quality. The applicable air quality plan is the Bay Area Air Quality Management District's (BAAQMD) Bay Area 2010 Clean Air Plan (Clean Air Plan), which was adopted on September 15, 2010. Potential impacts related to consistency with the Clean Air Plan were identified as less than significant in the Final EIR with implementation of SCA-A (Construction-Related Air Pollution Controls, Dust and Equipment Emissions), SCA-B (Exposure to Air Pollution, Toxic Air Contaminants), and SCA 25 (Parking and Transportation Demand Management). Because the proposed project would develop the site with fewer residential uses and less commercial space than that anticipated by the Station Area Plan (and thus generate fewer vehicle trips), the proposed project would also be consistent with and further implement the goals of the Clean Air Plan.

The Station Area Plan identified impacts associated with potential exposure of sensitive receptors to substantial health risks from toxic air contaminants (TACs) from sources including both diesel particulate matter (DPM) and gaseous emissions. The project site is located within 1,000 feet of at least three identified TAC stationary sources, including those that exceed the Risk Threshold (refer to Figure 3.3-1 in the Station Area Plan).[9] Compliance with SCA B (Exposure to Air Pollution, Toxic Air Contaminants) would ensure that exposure to DPM would be reduced; however, the risk from gaseous tasks may not be reduced with certainty and this impact is identified as both a Plan-level and cumulative-level significant and unavoidable impact in the Final EIR. The project site is not located within the vicinity of a site that emits gaseous TACs however, and this impact would not apply to development of the project site.

[9] TACs that exceed the Risk Threshold present an increased cancer risk of 10 in a million or exceed the ambient $PM_{2.5}$ increase of 0.3 $\mu g/m^3$ annual average.

The Final EIR also identifies potential impacts associated with the installation of back-up generators and implementation of Mitigation Measure AIR-1 (Risk Reduction Plan) is required for all projects that would include back-up generators as part of the development (or that would include other stationary sources of TACs). The proposed project would not include a back-up generator that would emit TACs; therefore, this impact does not apply to the proposed project and implementation of Mitigation Measure AIR-1 is not required.

The project site is located within the 1-mile buffer zone for food processing facilities and within the 1-mile buffer zone for green waste/recycling facilities (Final EIR Figure 3.3-2). The Final EIR identified the development of sensitive receptors (residential uses) within these buffer areas and resulting exposure to objectionable odors as a significant and unavoidable Plan-level and cumulative-level impact of Plan implementation. Because the proposed project is located within these buffer areas project residents may occasionally be exposed to objectionable odors associated with these uses and this project-specific impact would also be significant and unavoidable.

The proposed project would not result in any new or more significant impacts related to air quality than those identified in the Final EIR. In some instances, the already less-than-significant impacts identified in the Final EIR would be less with development of the proposed project given that the intensity of development assumed for the project site would be reduced with the proposed project. The significant and unavoidable impacts related to TAC and odor exposure would apply to the proposed project and these impacts have been adequately evaluated and identified in the Final EIR. SCA-A, SCA-B, and SCA-25 would be applicable to and would be implemented by the proposed project to further ensure that, to the extent feasible, air quality impacts associated with the proposed project are less than significant. No mitigation measures are required

6. Biological Resources

The Final EIR determined that with implementation of SCAs, impacts related to biological resources would be less than significant with development occurring under the Station Area Plan. Specifically, impacts to special-status animal and plant species, riparian habitats, protected wetlands, and movement of migratory species would all be less than significant. In addition, new development is not anticipated to fundamentally conflict with the Oakland Tree Protection Ordinance or the Oakland Creek Protection Ordinance.

The project site is located within the vicinity of Lake Merritt and the Lake Merritt Channel, which are particularly sensitive areas with regard to biological resources. The Final EIR identified 12 special status species that are known or have the potential to occur within the Plan area. However the project site itself is used for soil stockpiling and staging for nearby construction projects and therefore provides very little suitable habitat for special status species. Implementation of SCAs that ensure Low Impact Development (LID) to improve water quality (SCA-82 through SCA-88) would ensure that impacts to special status species that occur within the vicinity of the project site would be less than significant. Implementation of SCA-D (Bird Collision Reduction) would reduce incidents of bird and bat collision as a result of new building development adjacent to Lake Merritt and the Lake Merritt Channel.

Lake Merritt Channel is not considered a riparian corridor; however, the Station Area Plan requires a 100-foot setback from the eastern edge of the channel given that nesting habitat for native bird species exist in this area. The proposed project would be set back over 100 feet from the channel.

Lake Merritt and Lake Merritt Channel are "waters of the U.S." and are subject to the Clean Water Act. A small portion of Lake Merritt Channel is classified as wetlands and recent improvements in the area will likely add new wetlands. Any development along Lake Merritt Channel must comply with the Creek Protection Ordinance under SCAs 82 through 88. All properties in the Plan area are subject to the Creek Protection Ordinance's provisions for limiting non-stormwater discharges and eliminating pollutants from stormwater.

The project site includes very little vegetation, although some mature trees border the southern site boundary. It is not anticipated that these trees would be affected by the proposed project; however, SCA-43, SCA-44, and SCA-46 may be required if construction activities have the potential to permanently or temporarily impact existing trees, including their root systems.

The proposed project would not result in any new or more significant impacts related to biological resources than those identified in the Final EIR. Implementation of SCA-43 SCA-44, SCA-46, SCA-82, SCA-83, SCA-84, SCA-85, SCA-86, SCA-87, SCA-88, and SCA-D would ensure that potential impacts associated with biological resources would be less than significant. No mitigation measures are required.

7. Cultural Resources

The Final EIR determined that with implementation of SCAs impacts to archaeological resources, paleontological resources, and human remains would be less than significant with development occurring under the Station Area Plan. There are no known archeological sites within any of the opportunity sites identified in the Station Area Plan. However, construction activities occurring within the Plan area, including the project site, have the potential to impact unknown archeological resources. Implementation of SCA-52 (Archaeological Resources) would ensure any subsurface archaeological materials that are inadvertently discovered are dealt with according to regulatory guidance and result in a less than significant impact. Implementation of SCA-53 (Human Remains) would ensure that inadvertent discoveries of any human remains are dealt with according to regulatory guidance and result in a less-than-significant impact. Paleontological sensitivity of the geologic units underlying the Plan area is considered to be low to moderate and implementation of SCA-54 (Paleontological Resources) would ensure that the potential impact to fossils discovered during excavation would be less than significant.

The project site consists of a vacant site and does not include a historic structure. Historic buildings near the project site include OUSD's Paul Robeson Administration Building, located at 1025 2nd Avenue, and the Ethel Moore Building, located at 121 East 11th Street. The Final EIR determined that demolition of these and other historic buildings within the Plan area would be a significant and unavoidable impact of Plan implementation. Although these buildings are in close proximity to the project site, construction of the project would not directly affect these resources, and this significant unavoidable impact would not apply to the proposed project.

The proposed project would not result in any new or more significant impacts related to cultural resources than those identified in the Final EIR. Implementation of SCA-52, SCA-53, and SCA-54, would ensure that potential impacts associated with cultural resources would be less than significant. No mitigation measures are required.

8. Geology and Soils

The Final EIR determined that with implementation of SCAs, impacts related to seismic hazards and unstable soils would be less than significant with development occurring under the Station Area Plan. Although much of the Plan area, particularly area along the Lake Merritt Channel, is located in the most severe shaking intensity zones in the Bay Area, the project site itself is located outside of a seismic hazard zone and is in an area of low liquefaction susceptibility (Draft EIR Figure 3.12-1). The site is generally level and is not located in a landslide area and or in an area of known unstable soil conditions. SCA-58 (Soils Report) and SCA-60 (Geotechnical Study within Seismic Hazard Zone) require all project applicants to prepare a soils report and geotechnical report to ensure that individual development projects do not expose people or structures to an unacceptable level of risk during a large regional earthquake. The proposed project would be required to comply with the California Building Code's current seismic standards, which require specific design parameters for construction in various seismic environments, and the project applicant would be required to complete a soils report and geotechnical study per SCA-58 and SCA-60. It is also possible that unknown groundwater wells and abandoned structures (pits, mounts, septic tank vaults, sewer lines, etc.) could be present and disturbed during grading and construction activities. However, SCA-35 and SCA-55 would ensure that potential impacts associated accidental discovery of such infrastructure would be less than significant.

The proposed project would not result in any new or more significant impacts related to geology and soils than those identified in the Final EIR. Implementation of SCA-35, SCA-55, SCA-58, SCA-60, and SCA-93 would ensure that potential impacts associated with hazardous geologic and soils conditions would be less than significant. No mitigation measures are required.

9. Greenhouse Gas Emissions

The Final EIR determined that development occurring under the Station Area Plan would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment. Development within the Plan Area would generate a total of approximately 3.05 CO_2e[10] per service population annually, which is below the threshold of 4.6 metric tons of CO_2e. The intensity of development assumed for the project site in the Station Area Plan would be less with development of the proposed project; therefore, the proposed project's impacts related to greenhouse gas emissions would also be less than significant. In addition, implementation of the Station Area Plan would not fundamentally conflict with an applicable plan, policy, or regulation adopted for the purposes of reducing greenhouse gas emissions and this impact would also be less than significant. Implementation of the Station Area Plan, and projects developed under the Plan would be subject to all applicable regulatory requirements adopted for the purpose of reducing greenhouse gas emissions. The proposed project is consistent with the Station Area Plan and would also be required to implement applicable requirements adopted for the purpose of reducing greenhouse gas emissions.

The proposed project would not result in any new or more significant impacts related to greenhouse gas emissions than those identified in the Final EIR. The already less-than-significant impacts related to greenhouse gas emissions identified in the Final EIR would be less with development of the proposed project given that the intensity of development assumed for the project site would be reduced with the proposed project. Implementation of SCA-A, SCA-F, SCA-H, SCA-1, SCA-12,

[10] CO_2e refers to "carbon dioxide equivalents."

SCA-13, SCA-15, SCA-17, SCA-18, SCA-24, SCA-25, SCA-36, and SCA-46 would further ensure that impacts associated with greenhouse gas emissions would be less than significant. No mitigation measures are required.

10. Hazards and Hazardous Materials

The Final EIR determined that with implementation of SCAs impacts related to hazardous materials would be less than significant with development occurring under the Station Area Plan. Specifically, impacts related to the routine transport, use, or disposal of hazardous materials; accidental release of hazardous materials to the environment; use of hazardous materials near sensitive receptors; emission of hazardous materials near schools; emergency access; and impaired use of an emergency response plan would all be less than significant.

Petroleum hydrocarbon, lead, and/or other heavy metal contamination is known to occur within properties located within one-quarter of a mile from the Lake Merritt Channel, potentially including the proposed project site. Similarly, the northern portion of Lake Merritt Channel and the southern margin of Lake Merritt near the East 12th Street Reconstruction project are also known to contain hazardous materials, such as metals, as a result of past industrial activities. The East 12th Street improvement area has been found to contain soluble lead above California hazardous waste thresholds and excavated soil may therefore constitute a California hazardous waste, once excavated.

In compliance with SCA-62 (Phase I Site Assessment Report), a Phase I Environmental Site Assessment[11] was prepared for the project site. Based on the findings of the Phase I, it is recommended that a soil vapor survey be conducted in the northern portion of the property to ascertain if a former gasoline service station located at the site affected soil or groundwater in such a way that vapor intrusion into the new development could occur. In addition, near surface soil samples should be collected to ascertain if the long-term use of the property as a roadway resulted in soil contamination.

The City of Oakland's SCAs include a requirement for all construction sites to take all appropriate measures to protect human health and the environment if potential contamination is identified prior to construction or is accidently discovered during construction activities. Implementation of SCA-35 (Hazards Best Management Practices), SCA-62 (Phase I Site Assessment Report), SCA-64 (Identification of Needed Remedial Actions) and SCA-61 (Site Review and Best Management Practices for Soil or Groundwater) and SCA-69 (Remediation) would ensure that impacts are reduced to a less-than-significant level. Because the site is undeveloped, demolition activities which may result in the release of lead and asbestos-containing building materials would not occur with the proposed project.

In addition, the project site is not located on a site which includes a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 (i.e., the Cortese List), although the nearby Dewey School site is listed as a contaminated site on the Leaking Underground Storage Tank List. The school site was determined to not have affected soil and groundwater and the California State Department of Toxics Substance Control (DTSC) determined that no further action is required at this time.

[11] Adanta, Inc., 2014. *Phase I Environmental Site Assessment, 12th Street West of 2nd Avenue, Oakland, California.* September 1.

The potential impacts of hazardous materials on sensitive receptors and schools was determined to be less than significant with implementation of existing regulations, including the California Accidental Release Program and the City of Oakland's requirements for all businesses that handle any regulated substance within 1,000 feet of a sensitive receptor, as well as SCA-74. The proposed project is located on a site that is close to sensitive receptors including residential areas, schools, public gathering places and parks, and civil facilities. As such, the proposed project would be required to comply with federal, State and local hazardous materials regulations and would be required to submit a Hazardous Materials Management Plan (HMMP) and Hazardous Materials Business Plan (HMBP) as required by Alameda County and the City's SCA-74.

The proposed project would not result in any new or more significant impacts related to hazardous materials than those identified in the Final EIR. Potential impacts associated with exposure to hazards and hazardous materials would be less than significant with implementation of SCA-35, SCA-61, SCA-62, SCA-64, SCA-66, SCA-68, SCA-69, SCA-74, and SCA-82. No mitigation measures are required.

11. Hydrology and Water Quality

The Final EIR determined that with implementation of SCAs impacts related to hydrology and water quality would be less than significant with development occurring under the Station Area Plan. Specifically, development occurring under the Station Area Plan would not violate water quality standards or waste discharge requirements, deplete groundwater supplies, result in substantial erosion or siltation, result in substantial flooding, create or contribute substantial runoff exceeding the capacity of the storm drainage system or contributing to polluted runoff, expose people or structures to hazards associated with flooding, seiche, tsunami, or mudflows, substantially alter existing drainage patterns, or conflict with the regulations of the Creek Protection Ordinance that protect hydrological resources.

Construction activities occurring at the site have the potential to impact water quality for receiving water bodies by generating polluted runoff or soils, particularly the nearby Lake Merritt Channel. However, these potential effects are addressed by existing regulations. Development projects that would disturb one acre or more are required to prepare and implement a Storm Water Pollution Prevention Plan (SWPPP), in accordance with the State Water Resources Control Board's (State Water Board) General Construction Permit. However, the project site is 0.92 acres and therefore a SWPPP is not required. For those project components that would disturb less than one acre of land, City of Oakland Municipal Code section 13.16.100 (City Of Oakland Creek Protection, Storm Water Management and Discharge Control Ordinance) would still be required. The ordinance requires the use of standard Best Management Practices to prevent pollution or erosion to creeks and/or storm drains. In addition, the City of Oakland has numerous SCAs relating to stormwater runoff from construction. These include SCA-34 (Erosion and Sedimentation Control) and SCA-35 (Hazards Best Management Practices), which apply to all construction projects; SCA-55 (Erosion and Sedimentation Control Plan); SCA-64 (Environmental Site Assessment Reports Remediation); and SCA-68 (Best Management Practices for Soil and Groundwater Hazards), which apply to all projects that require a Grading Permit except for those on steep slopes.

Operation period impacts to water quality may also result with development occurring under the Station Area Plan, including the proposed project. The project site is located on vacant land that is currently entirely covered with exposed, permeable soils; no permanent structures are located on the

site. The proposed project would introduce approximately 30,552 square feet of impermeable surfaces to the site. Water quality in stormwater runoff is regulated locally by the Alameda Countywide Clean Water Program and the municipal stormwater requirements set by the Regional Water Quality Control Board (Water Board). Adherence to these requirements would result in incorporation of treatment measures and other appropriate source control and site design features that reduce pollutants in runoff to the maximum extent practicable. Approximately 1,528 square feet of treatment area is required to treat runoff from the site before it is released to the storm drain system. The proposed project intends to provide 911 square feet of treatment areas at the podium level and 617 square feet of treatment areas at the ground level. Implementation of source control measures proposed by the project and compliance with existing regulations would ensure that impacts to operation period water quality would be less than significant.

The proposed project would not utilize groundwater resources and would not substantially affect groundwater recharge. The project would also not substantially alter existing drainage patterns. In addition, the project site is not located within a flood hazard zone or tsunami-inundation zone (Draft EIR Figure 3.14-1).

The proposed project would not result in any new or more significant impacts related to hydrology and water quality than those identified in the Final EIR. The Final EIR determined that implementation of SCA-34, SCA-35, SCA-55, SCA-64, SCA-68, SCA-69, SCA-78, SCA-79, SCA-80, SCA -81, SCA-82, and SCA-91 would ensure that potential impacts to hydrology and water quality would be less than significant. No mitigation measures are required.

12. Land Use and Planning

The Final EIR determined that impacts related to land use and planning would be less than significant with development occurring under the Station Area Plan. Specifically, the Station Area Plan includes provisions to connect the community, rather than divide it, and impacts related to division of an established community would be less than significant. Implementation of General Plan Land Use and Transportation Element (LUTE) Policies D10.2, N5.2 and N8.2 would ensure that development under the Station Area Plan would not conflict with surrounding land uses. With implementation of these and other policies recommended in the Station Area Plan, development occurring under the Station Area Plan would not fundamentally conflict with existing plans, policies and regulations (including the City's General Plan and the Estuary Policy Plan) adopted for the purpose of mitigating an environmental effect. No mitigation measures or SCAs would be required.

The Station Area Plan changed the land use designation for the site from Institutional to Urban Residential and rezoned the site from Urban Residential Zone-3 (RU-3) to Lake Merritt Station Area Plan District Urban Residential (D-LM-1). The intent of the D-LM-1 zone is to create, maintain, and enhance certain areas appropriate for high-density residential development with small-scaled compatible ground-level commercial uses. As previously discussed, the project site is identified as Opportunity Site #44 in the Station Area Plan. The Station Area Plan assumed that the project site would be developed with a 20-story apartment building including up to 357 residential units and 20,000 square feet of retail space. The proposed project would develop the site with up to 289 residential units and a 2,000-square-foot ground level café, which is consistent with the type of development assumed for the project site in the Station Area Plan and slightly less intense. The project would redevelop a vacant site and would not change the existing street grid or otherwise introduce incompatible uses to the project area or create land use conflicts. Therefore, the proposed

project would not result in any new or more significant impacts related to land use and planning than those identified in the Station Area Plan EIR. The already less-than-significant land use and planning impacts identified in the Station Area EIR would actually be somewhat less with development of the proposed project given that the intensity of development assumed for the project site would be reduced with the proposed project.

13. Mineral Resources

According to the Final EIR, the Plan area does not contain any mineral resources of value either to the region or residents of the State of California. The Plan area has also not been delineated as a locally important mineral recovery site. As such, any development proposed in the Plan area would have no impact on mineral resources. Therefore, the proposed project would have no impact on mineral resources.

14. Noise

The Final EIR determined that with implementation of SCAs impacts related to construction and operation period noise would be less than significant with development occurring under the Station Area Plan. The Final EIR determined that construction activities occurring under the Station Area Plan could expose residential uses at 50 feet from construction sites to estimated temporary noise levels as high as 89 dB for typical machinery, or as high as 101 dB for pile drivers. This noise would exceed the General Plan standard of 80 and 85 dBA for short-term construction noise at receiving residential uses and commercial or industrial uses, respectively, for some distance around the construction sites. However, the Final EIR determined that construction-period noise associated with construction of individual development projects implemented under the Station Area Plan would be temporary in nature and that associated impacts would be less than significant with implementation of standard conditions of approval. The proposed project is consistent with the level of development anticipated for the project site under the Station Area Plan and would comply with applicable regulations in the Noise Ordinance, including applicable SCAs which regulate construction-period noise.

The Final EIR also determined that operation-period noise associated with projects developed under the Station Area Plan would be less than significant. Operation of new buildings, including the proposed project, would include noise from mechanical equipment. However, this equipment would be standardized for noise reduction, and would not be expected to exceed Noise Ordinance thresholds. In addition, enforcement of SCA-32 (Operational Noise) would ensure that operation noise is reduced to a less-than-significant level.

New development, including the proposed project, would generate additional traffic that would affect ambient noise levels. Noise analysis conducted for the Final EIR found that the increase in traffic noise resulting from reasonably foreseeable maximum development under the Station Area Plan would be less than 5 dB on all roadway segments studied. The threshold of significance is considered to be 5dB or above; therefore, this impact would be less than significant.

Residential uses such as the proposed project are required to have interior noise levels no greater than 45 dBA, City of Oakland standards. To achieve these indoor noise standards, the Final EIR determined that many new buildings with residential uses will need to achieve substantial noise reduction from exterior noise levels. The City's SCA-31 mandates incorporation of noise reduction measures into project design to achieve an acceptable interior noise level for residential uses. Compliance with

existing City SCAs will reduce potential impacts related to interior noise to a less-than-significant level.

Some locations within the Plan area would have community noise levels that would exceed General Plan guidelines for residential uses. According to Oakland's land use compatibility guidelines, residential uses are compatible with noise levels up to 60 dBA and conditionally compatible with noise levels up to 70 dBA. As shown in Table 3.10-8 of the Final EIR, noise levels above 70 dBA would occur on area roadways, including on Lake Merritt Boulevard, within the vicinity of the site. However, the Final EIR determined that these exceedances would occur in the context of a community noise environment that currently exceeds standards in much of the Plan area. Implementation of SCA-31, which requires installation of noise reduction design features, would ensure that these impacts are less than significant.

The proposed project would not result in any new or more significant noise-related impacts than those identified in the Final EIR. The less-than-significant construction-period noise impacts identified in the Final EIR would be similar with development of the proposed project. The operation-period impacts would be similar to or slightly less with development of the proposed project given that the intensity of development assumed for the project site would be reduced with the proposed project (thus, traffic noise would be slightly less than that assumed for the site in the Final EIR). Implementation of SCA-28, SCA-29, SCA-30, SCA-31, SCA-32, SCA-38, and SCA-39 would be applicable to and would be implemented by the proposed project and would further ensure that noise-related impacts associated with the proposed project would be less than significant.

15. Population and Housing

The Final EIR determined that impacts related to population and housing would be less than significant with development occurring under the Station Area Plan. No mitigation measures or SCA would be required. Implementation of the Station Area Plan is intended to increase growth within an urban area and the Final EIR assumes that approximately 4,900 new housing units would be added to the Plan area by 2035, with an associated household and population growth of 4,700 and 9,870, respectively. This projected growth is in line with regional growth projections including ABAG's 2009 growth forecast for 2035. Development at opportunity sites would largely occur as infill, in an urbanized and built-out city. The Plan would include a variety of changes to public infrastructure, but none that would increase the capacity of infrastructure outside the Plan area resulting in unplanned population growth.

The project site is identified as an opportunity site in the Station Area Plan and up to 357 residential units are assumed for the site. The project would result in slightly less growth than planned for in the Station Area Plan, with development of up to 298 residential units. In addition, the Final EIR assumed that up to 20,000 square feet of commercial uses could be located at the project site. The project site would include a 2,000-square-foot café, which would be substantially less than that previously assumed. The site is vacant and would not displace housing or people. Therefore, the proposed project would not result in any new or more significant impacts related population and housing than those identified in the Station Area Plan EIR.

16. Public Services

The Final EIR determined that due to increased population and employment within the Plan area, there would be an increase in demand for public services such as fire, police, and schools with

implementation of the Station Area Plan. However, these impacts would be less than significant with the implementation of the City's SCAs.

The Oakland Police Department and Fire Department would adjust service capacity as needed and the City is responsible for coordinating service provisions to adjust to the expected increase in demand for these services. New development, including the proposed project, is required to adhere to appropriate building and fire code requirements that would be incorporated into project construction. The proposed project would be subject to plan review by the Oakland Fire Department to ensure proper life safety standards and compliance with the California State Fire Code, and adequate emergency response especially for onsite access, exits, and any necessary special equipment to assist firefighters on-site.

The Final EIR determined that schools within the Plan area are currently over-enrolled by 380 students; however, impacts related to the provision of school services and capacity would be less than significant. If development under the Plan generates more students than the closest schools have a capacity for, these students should be accommodated by existing charter schools in the area, and/or schools outside the Plan area, which do have excess capacity.

The Plan area is exceptionally well-served by libraries which was determined to have a less-than-significant impact as a result of the increase in population under the Plan.

The proposed project site would not result in any new or more significant impacts related to police, fire, school, or other public services than those identified in the Station Area Plan EIR. In addition, the already less-than-significant impacts identified in the Station Area Plan EIR would be less with development of the proposed project given that the intensity of development assumed for the project site would be reduced. Implementation of SCA-4, SCA-20, SCA-21, SCA-61, and SCA-71 would ensure that impacts would be less than significant. No mitigation measures are required.

17. Parks and Recreation

The Final EIR determined that due to increased population and employment within the Plan area, there would be an increase in demand for park and recreation services with implementation of the Station Area Plan. However, these impacts would be less than significant because the Plan includes the creation of new parks and open spaces, and improved access to the regional parks system. As such, no mitigation measures or SCAs are required.

The City's open space standards require new residential development in the Plan area including the proposed project, to provide usable open space for project residents. The proposed project would provide on-site open space for use by residents in the form of roof decks and terraces and would meet the City's open space requirements. Specifically, an approximately 15,400-square-foot garden and plaza would be provided at the third level and a 3,500-square-foot rooftop deck would be provided at the sixth level. The proposed project would also complete off-site improvements to the adjacent City park, which is being developed under the Station Area Plan and as part of the East 12th Street Reconstruction Project. The park would be a passive open green space consisting mostly of native plantings of groundcover, shrubs and trees.

The proposed project would not result in any new or more significant impacts related to parks and recreation services than those identified in the Station Area Plan EIR. In addition, the already less-

than-significant impacts identified in the Station Area Plan EIR would be less with development of the proposed project given that the intensity of development assumed for the project site would be reduced.

18. Transportation and Traffic

This section evaluates the potential transportation and circulation-related impacts associated with the proposed project. The impacts and mitigation measures identified in the Final EIR are discussed first, followed by analysis of the proposed project.

a. Station Area Plan Final EIR. The Final EIR evaluated the potential impacts of the Station Area Plan on transportation, circulation, and parking conditions, including transit services and pedestrian and bicycle facilities. The Final EIR evaluated 45 intersections and 10 freeway segments within and in the vicinity of the Plan Area (including within the City of Alameda) for potential level of service (LOS) impacts.

Under Existing Plus Project conditions, impacts to a total of seven intersections were identified during either or both peak hours. Impacts to three of these intersections would be reduced to a less-than-significant level with implementation of the recommended mitigation measures. However, impacts to the 1st Avenue and International Boulevard, Oak Street and 10th Street, Oak Street and 6th Street, and Jackson Street and 5th Street intersections would be significant and unavoidable. Under Existing Plus Project conditions, impacts to the I-880 freeway segment between Oak Street and 5th Street would be significant and unavoidable. In addition, under Existing Plus Project conditions, impacts related to pedestrian circulation at the Constitution Way and Marina Village Parkway and Constitution Way and Atlantic Avenue intersections would be significant and unavoidable because these intersections are located in the City of Alameda and the City of Oakland does not have the authority to construct recommended improvements.

Under Interim 2020 Plus Project conditions, significant unavoidable impacts were identified at a total of three intersections, including the Jackson Street and 6th Street; Oak Street and 6th Street; and Oak Street and 5th Street.

Under Cumulative 2035 Plus Project conditions, significant unavoidable impacts were identified at a total 14 intersections, including: Grand Avenue and Broadway; Madison Street and 14th Street; Madison Street and 11th Street; Madison Street and 10th Street; Oak Street and 10th Street; Harrison Street and 8th Street; Jackson Street and 8th Street; Oak Street and 8th Street; Jackson Street and 7th Street; Oak Street and 7th Street; 5th Avenue and 7th Street/8th Street; Jackson Street and 6th Street; Oak Street and 6th Street; and Oak Street and 5th Street. In addition, under Cumulative 2035 Plus Project conditions impacts to the segment of Oak Street between 2nd Street and Embarcadero would also be significant and unavoidable.

Standard Conditions of Approval related to transportation and circulation are required to be implemented for projects developed under the Station Area Plan, including SCA-20, SCA-21, SCA-25, SCA-33, and SCA-G.

b. Project Impacts. A focused Transportation Assessment[12] was prepared for the proposed project to evaluate potential impacts associated with traffic and circulation (see Attachment D). The analysis evaluated the project's consistency with the Final EIR, assessed the proposed access and circulation plan for potential safety impacts, and evaluated project impacts at two intersections that were not analyzed in the Final EIR. The discussion below summarizes the project's potential impacts related to transportation and circulation. As summarized below, the proposed project would not conflict with any applicable measures of effectiveness for the performance of the circulation system; conflict with an applicable congestion management program; or substantially increase hazards due to a design feature. In addition, similar to the analysis presented in the Final EIR, development of the proposed project would result in less-than-significant impacts related to construction-period traffic and circulation, changes to air traffic patterns, and inadequate emergency access. Standard Conditions of Approval related to transportation and circulation identified in the Final EIR would also be required for the proposed project and include SCA 20, SCA 21, SCA 25, SCA 33, and SCA G.

The Final EIR identified up to 1,024 daily vehicle trips, including 55 AM peak hour trips and 78 PM peak hour trips, associated with development of the project site. Trip generation for the proposed project was calculated using the same methodology developed for the Final EIR. As shown in Table 1 in Attachment D, the proposed project is estimated to generate 685 daily vehicle trips, with 51 trips occurring during the AM peak hour and 54 trips occurring during the PM peak hour, which is less than the trip generation assumed for the project site in the Final EIR. Given that there would be fewer vehicle trips generated at the project site, the proposed project would not result in impacts on traffic operations at the intersections beyond those identified in the Final EIR.

The proposed project would add more than 20 peak hour trips to two intersections that were not evaluated in the Final EIR. Therefore, operations at the following two intersections were evaluated under Existing and Cumulative 2035 conditions for the proposed project:

1. Lake Merritt Boulevard/East 12th Street
2. East 12th Street/2nd Avenue

Potential impacts associated with intersection operations under Existing Plus Project and Cumulative Plus Project conditions, site circulation and safety, bicycle access and parking, pedestrian access and circulation, transit access, and vehicle parking are described in this subsection. As discussed below, the proposed project would not result in any new or more significant impacts related to traffic or transportation than those identified in the Station Area Plan EIR.

(1) Existing and Existing Plus Project Conditions. Traffic data for Existing conditions was collected for the two study area intersections from 7:00 a.m. to 9:00 a.m. (AM peak) and from 4:00 p.m. to 6:00 p.m. (PM peak) on September 16, 2014. As shown in Table 1, below, both of the study area intersections currently operate at an acceptable LOS B during both the AM and PM peak hours and would continue to operate at LOS B under Existing Plus Project conditions; therefore, the project would not result in a significant impact. Level of service calculation sheets are provided in Attachment D.

[12] Fehr & Peers, 2014. *Lake Merritt Boulevard Apartments – Transportation Assessment*. October 9.

Table 1: Intersection LOS Summary – Existing and Existing Plus Project Conditions

Intersection	Traffic Control [a]	Peak Hour	Existing Conditions		Existing Plus Project Conditions		Significant Impact?
			Delay [b] (seconds)	LOS	Delay [b] (seconds)	LOS	
Lake Merritt Boulevard/ East 12th Street	Signal	AM	15.8	B	15.9	B	No
		PM	13.1	B	13.7	B	No
East 12th Street/ 2nd Avenue	Signal	AM	11.4	B	13.0	B	No
		PM	15.5	B	16.7	B	No

Bold indicates intersections operating at an unacceptable level. All intersection located in Downtown or on arterials that provide direct access to Downtown where LOS E (not LOS D) is the threshold.

[a] Signal = intersection is controlled by a traffic signal

[b] For signalized intersections, average intersection delay and LOS based on the 2000 HCM method is shown.

Source: Fehr & Peers, 2014.

(2) Cumulative 2035 and Cumulative 2035 Plus Project Conditions. Cumulative 2035 conditions are based on the most recent Alameda County Transportation Commission (ACTC) Model, which uses land use data consistent with the Association of Bay Area Governments (ABAG) Projections 2009. The 2035 Plus Project volumes are forecast by adding the project traffic to the 2035 Plus Project scenarios.

Cumulative 2035 conditions assume that the East Bay Bus Rapid Transit (BRT) Project would be completed. Adjacent to the project, BRT would operate along southbound East 12th Street, and convert the two southbound mixed-flow lanes to one bus-only lane and one mixed-flow lane. The BRT Project would also prohibit left-turns on East 12th Street at 2nd Avenue.

Table 2, below summarizes intersection LOS calculations for Cumulative 2035 and 2035 Plus Project conditions. Both study intersections would operate at LOS C or better during both AM and PM peak hours under with and without project conditions. Therefore, the project would not result in a significant impact at either of these intersections.

Table 2: Intersection LOS Summary – 2035 Conditions

Intersection	Traffic Control [a]	Peak Hour	Existing Conditions		Existing Plus Project Conditions		Significant Impact?
			Delay [b] (seconds)	LOS	Delay [b] (seconds)	LOS	
Lake Merritt Boulevard/ East 12th Street	Signal	AM	20.9	C	20.8	C	No
		PM	19.6	B	20.3	C	No
East 12th Street/ 2nd Avenue	Signal	AM	16.0	B	19.0	B	No
		PM	21.7	C	22.5	C	No

Bold indicates intersections operating at an unacceptable level. All intersection located in Downtown or on arterials that provide direct access to Downtown where LOS E (not LOS D) is the threshold.

[a] Signal = intersection is controlled by a traffic signal

[b] For signalized intersections, average intersection delay and LOS based on the 2000 HCM method is shown.

Source: Fehr & Peers, 2014.

(3) Vehicle Access and Circulation. The project would provide a three-level parking garage which would be accessed through a full-access gated driveway on 2nd Avenue approximately 70 feet west of East 12th Street. The garage would accommodate 209 parking spaces through a combination of standard parking spaces and parking lifts.

Considering the proximity of the driveway on 2nd Avenue to East 12th Street, motorists exiting the garage may not have adequate sight distance of vehicles turning from East 12th Street onto 2nd Avenue. In addition, based on preliminary review of the site plan, motorists exiting the garage may not have adequate sight distance of pedestrians on the adjacent sidewalk. Therefore, although not required to address a CEQA-related impact, the proposed project should consider incorporating the following Recommendation into the proposed project design:

> Recommendation 2: The following should be considered as part of the final design for the project:
>
> - To ensure adequate sight distance for vehicles existing the garage, prohibit on-street parking along project frontage on 2nd Avenue between the project driveway and East 12th Street and within 20 feet on the west side of the driveway.
> - Redesign project driveway on 2nd Avenue to provide adequate sight distance between motorists exiting the driveway and pedestrians on the sidewalk. Since the recommendation above would prohibit on-street parking adjacent to the project site on 2nd Avenue, one potential design may be to widen the sidewalk along project frontage and install planter wells adjacent to the project driveway to move pedestrians away from the driveway and ensure adequate sight distance and maintain sidewalk width.

As described above, the driveway for the proposed project would be on 2nd Avenue, about 70 feet west of East 12th Street. Based on the analysis above under the level of service analysis, the 95th percentile queues on eastbound 2nd Avenue at East 12th Street are expected to spill back beyond the project driveway during both AM and PM peak hours. However, these queues would clear at the end of each signal cycle and allow vehicles to turn into and out of the driveway.

Given the above, the proposed project would not result in any new or more significant impacts related to vehicle access and circulation than those identified in the Station Area Plan EIR.

(4) Bicycle Access and Bicycle Parking. Chapter 17.117 of the Oakland Municipal Code requires long-term and short-term bicycle parking for new buildings. Long-term bicycle parking includes lockers or locked enclosures and short-term bicycle parking includes bicycle racks. The Code requires one long-term space for every four multi-family dwelling units and one short-term space for every 20 multi-family dwelling units. The Code also requires the minimum level of bicycle parking, two long and short-term spaces, for the commercial component of the project.

The project is required to provide 77 long-term and 17 short-term parking spaces. The site plan shows long-term bicycle parking for 86 bicycles on the basement level of the garage and does not identify short-term bicycle parking. The long-term bicycle parking on the basement level of the garage can be accessed by stairs or biking through the garage. Using stairs to access bicycle parking on the basement level maybe inconvenient for bicyclists, and riding through the garage may result in potential conflicts between motorists and bicyclists. Therefore, while not required to address a

CEQA-related impact, it is recommended that the proposed project incorporate the following Recommendation into the proposed project design:

> Recommendation 3: The following should be considered as part of the final design for the project:
>
> - Consider relocating the long-term bicycle parking from the basement level to a more convenient location on the ground level.
> - Identify location and amount of short-term bicycle parking, consistent with the City of Oakland Bicycle Parking Ordinance. Short-term bicycle parking should be near the entrance to both the commercial and residential components of the project.

Given the above, the proposed project would not result in any new or more significant impacts related to bicycle access and circulation than those identified in the Station Area Plan EIR.

(5) Pedestrian Access and Circulation. Primary access to the residential tower would be through a lobby on East 12th Street that includes elevators and a stairwell. Additional stairwells would be provided on Lake Merritt Boulevard and at the corner of East 12th Street and 2nd Avenue. The proposed project would also provide lofts along the East 12th Street and Lake Merritt Boulevard frontages that would be directly accessed from those streets.

The sidewalks along the project frontage were recently constructed as part of the 12th Street Bridge Reconstruction Project and the two signalized intersections adjacent to the project at Lake Merritt Boulevard and East 12th Street and East 12th Street and 2nd Avenue provide striped crosswalks with countdown pedestrian signal heads, adequate crossing time, and directional curb ramps adjacent to the project site. The project would not alter the existing 12-foot sidewalk along East 12th Street and 10-foot sidewalk along 2nd Avenue. In addition, the proposed building would also have a 10-foot setback along East 12th Street.

Given the above, the proposed project would not result in any new or more significant impacts related to pedestrian access and circulation than those identified in the Station Area Plan EIR.

(6) Transit Access. Transit service providers in the project vicinity include Bay Area Rapid Transit (BART) and Alameda-Contra Costa (AC) Transit. BART provides regional rail service throughout the East Bay and across the Bay. The nearest BART station to the project site is the Lake Merritt BART Station, about 0.5 miles west of the project site (and encompassed within the Station Area Plan). The proposed project would not modify access between the project site and the Lake Merritt BART Station.

AC Transit is the primary bus service provider in the City of Oakland. AC Transit operates the following routes in the vicinity of the project:

- Routes 1 and 1R operate along International Boulevard with the nearest stop at 2nd Avenue, about 350 feet east of the project site.
- Routes 11 and 62 operate along 10th Street with the nearest stop at 2nd Avenue, about 600 feet west of the project site.
- Routes 14, 18, 26, and 40 operate on Lake Merritt Boulevard with the nearest stop between International Boulevard and East 15th Street, about 600 feet east of the project site.

AC Transit is currently designing the BRT Project along the International Boulevard corridor, which would replace Routes 1 and 1R. The project would generally dedicate one travel lane in each direction to bus operations only in order to provide a quicker and more reliable bus service. Adjacent to the project, BRT would operate along southbound East 12th Street, and convert the two southbound mixed-flow lanes to one bus-only lane and one mixed-flow lane. The BRT project would continue to maintain the existing Class 2 bicycle lanes and parking along East 12th Street adjacent to the project site.

The nearest BRT stop to the project site would be on southbound East 12th Street, just south of 2nd Avenue. The corresponding northbound stop would be on International Boulevard just south of 2nd Avenue, about 350 feet east of the project site. Both stops can be accessed from the project site by crossing at protected signalized intersections.

No changes to the other bus routes operating in the vicinity of the project are planned and access between these bus stops and the proposed project would not modify access between the project site and these bus stops.

Given the above, the proposed project would not result in any new or more significant impacts related to transit access than those identified in the Station Area Plan EIR.

(7) **Parking.** The proposed project would provide 209 parking spaces to serve the proposed development. The project would be required to comply with City regulations that apply to the provision of parking spaces to serve new development. The provision of parking is not considered to be an impact under CEQA.

19. Utilities and Service Systems

The Final EIR determined that impacts associated with utilities and service systems would be less than significant with development occurring under the Station Area Plan. Specifically, wastewater generated by proposed development would not exceed wastewater treatment requirements or capacity, surface water runoff would not exceed the capacity of the storm drain system, water demand would not exceed available water supplies, and solid waste generated would not exceed landfill capacity. The proposed project would develop the site with residential uses, as planned for in the Station Area Plan and evaluated in the Final EIR. However, the proposed project would provide fewer residential units and less commercial space than that assumed in the Final EIR.

The capacity of existing service systems – wastewater, stormwater, water, solid waste, sewer, landfill and energy- were all determined to meet increased service demand as a result of development under the Station Area Plan. No new infrastructure would be required to be constructed. In the cases in which it is deemed necessary, SCA-19 requires that draft project plans be submitted to the City's Building Services and Public Works Agency to demonstrate that all proposed utilities would be underground. SCA-36 requires the proposed project to submit a Construction & Demolition (C&D) Waste Reduction and Recycling Plan (WRRP) and an Operational Diversion Plan (ODP) for review and approval by the Public Works Agency. The WRRP must specify the methods by which the project would divert C&D debris waste from landfill disposal in accordance with current City requirements.

Under CALGreen, the project would be required to achieve at least a 15-percent reduction in energy usage when compared to Title 24. The proposed project would also be required to undergo review by PG&E.

The proposed project would be served by existing utilities and would not result in any new or more significant impacts than those already identified in the Final EIR. In some instances, the already less-than-significant impacts identified in the Final EIR would be less with development of the proposed project given that the intensity of development assumed for the project site would be reduced. As such, implementation of SCA-19, SCA-36, SCA-75, SCA-78, and SCA-80, as well as compliance with Title 24 and CALGreen requirements would ensure that impacts to utilities and services would be less than significant.

D. EXEMPTIONS FROM ENVIRONMENTAL REVIEW

The proposed project qualifies for CEQA exemptions pursuant to *CEQA Guidelines* Section 15182 (Residential Projects Pursuant to a Specific Plan), as further described below. In addition, the project qualifies for exemptions pursuant to *CEQA Guidelines* Sections 15332 (Infill Development Projects) and Section 15183.3 (Streamlining for Infill Projects). The project's compliance with these exemptions is also briefly described.

a. CEQA Guidelines Section 15182. Section 15182 of the *CEQA Guidelines* (Residential Projects Pursuant to a Specific Plan) states that no environmental review is required for a residential project for which a Specific Plan has been prepared as long as certain requirements are met. The specific requirements are presented below in italics, followed by a discussion about how the project meets each requirement. As discussed below, the proposed project is consistent with the Station Area Plan and meets the requirements for exemption from environmental review pursuant to *CEQA Guidelines* Section 15182.

(a) Exemption. Where a public agency has prepared an EIR on a specific plan after January 1, 1980, no EIR or negative declaration need be prepared for a residential project undertaken pursuant to and in conformity to that specific plan if the project meets the requirements of this section.

As previously discussed, the proposed project is encompassed by the Lake Merritt Station Area Plan, which is a Specific Plan developed for an area within an approximately ½-mile radius of the Lake Merritt BART Station. The environmental effects of the of development anticipated to occur within the Plan Area are evaluated in the Lake Merritt Station Area Plan Final Environmental Impact Report (Final EIR),[13, 14] which was certified by the City of Oakland in November 2014. The Final EIR assumes the development of a residential building on the proposed site that includes up to 357 residential units and 20,000 square feet of retail space. The Final EIR also anticipates that the environmental review of specific development projects assumed as part of the Specific Plan would be streamlined in accordance with CEQA and the *CEQA Guidelines*: "The City intends to use the streamlining/tiering provisions of CEQA to the maximum feasible extent, so that future environmental review of specific

[13] Oakland, City of, 2013. *Lake Merritt Station Area Plan Draft Environmental Impact Report*. November.

[14] Oakland, City of, 2014. *Lake Merritt Station Area Plan Final Environmental Impact Report*. July.

projects are expeditiously undertaken without the need for repetition and redundancy, as provided in *CEQA Guidelines* section 15152 and elsewhere."

The proposed project would develop the site with up to 289 residential units and a 2,000-square-foot ground level café, which is consistent with the intensity and type of development assumed for the project site in the Station Area Plan and slightly less than the intensity assumed in the Plan. In addition, although the project includes commercial uses, the primary use would be residential. Individual projects are required to comply with the height limits identified in the plan. The project site is located within Height Area 4 as evaluated in the Draft EIR (Figure 2.4-5). Building heights of up to 275 feet, with a 45-foot base were considered for these areas. However, subsequent to publication of the Draft EIR and as part of the Final EIR, the Station Area Plan was revised to permit a maximum building height of 85 feet within Height Area 4, including at the project site (Final EIR Figure 2.3-2). However, exceptions to proposed total and base buildings heights may be granted with a Conditional Use Permit. According to the Final EIR, a maximum of two buildings could be up to 175 feet in height and one building would be allowed up to 275 feet. From the ground level, the proposed building would be up to 249 feet at the roof and rooftop elements would not exceed 265 feet in height. The podium level would have a base height along East 12th Street varying with the slope of the street from between 55 and 65 feet. The proposed project would be required to obtain a Conditional Use Permit to exceed the height requirements specified in the Station Area Plan. However, although the proposed project would exceed the height limits allowed in the Station Area Plan, the proposed height limit was evaluated in the Draft EIR and impacts related to building heights and massing were determined to be less than significant.

As discussed in Section C, above, the proposed project would be in substantial conformity with the Station Area Plan and no new or more severe impacts would result from the proposed project than those identified in the Final EIR prepared for the Specific Plan. Therefore, the proposed project qualifies for an exemption from environmental review pursuant to *CEQA Guidelines* Section 15182(a) and as further discussed below.

(b) Scope. Residential projects covered by this section include but are not limited to land subdivisions, zoning changes, and residential planned unit developments.

The proposed project is a primarily residential project that would provide 298 units of housing on a site that is designated as Urban Residential. The proposed project is in alignment with the Station Area Plan, General Plan, Housing Element and respective zoning and land use designations.

(c) Limitation. This section is subject to the limitation that if after the adoption of the specific plan, an event described in Section 15162 should occur, this exemption shall not apply until the city or county which adopted the specific plan completes a subsequent EIR or a supplement to an EIR on the specific plan. The exemption provided by this section shall again be available to residential projects after the Lead Agency has filed a Notice of Determination on the specific plan as reconsidered by the subsequent EIR or supplement to the EIR.

As previously discussed, the Final EIR for the Station Area Plan was certified by the City of Oakland in November 2014. Section 15162 of the *CEQA Guidelines* outlines the requirements for preparation of a Subsequent EIR. The following discussion summarizes the reasons that a subsequent EIR, pursuant to *CEQA Guidelines* Section 15162, is not required to evaluate the environmental effects of the proposed project (also refer to more detailed discussion under 15182.a, above).

- **Substantial Changes to the Project.** The proposed uses for the site, square footage, and height of the new structure would be consistent with the level of development evaluated in the Final EIR; therefore, the proposed project would be in substantial conformity with the Station Area Plan EIR. In addition, implementation of the proposed project would not result in significant environmental impacts beyond those identified in the Final EIR, would not increase the severity of impacts already identified in the Final EIR (and thus would not require the implementation of new or significantly changed mitigation measures). Therefore, substantial changes to the Final EIR are not required.
- **Project Circumstances.** Since certification of the Final EIR, conditions in and around the project site have not changed such that implementation of the proposed project would result in new significant environmental effects or a substantial increase in the severity of environmental effects already identified in the Final EIR. Therefore, the physical conditions of the project site in the future are not expected to result in substantial adverse physical environmental impacts not addressed in the Final EIR.
- **New Information.** No new information of substantial importance has been identified in regard to the proposed project or the project site such that the proposed project would be expected to result in: 1) significant environmental effects not identified in the Final EIR or 2) more severe environmental effects than shown in the Final EIR. Likewise, the proposed project would not require new mitigation measures previously determined to be infeasible, or mitigation measures which are considerably different from those identified in the Final EIR. The proposed project would require no new mitigation measures because no new impacts are expected beyond those identified in the Final EIR.

  Substantial new information would include new data on traffic conditions or local air quality such that the environmental impacts identified in the Final EIR would be made substantially more severe. No such new information has been identified since publication and certification of the Final EIR. As described previously, the proposed project would not result in significant environmental effects (including effects that would be substantially more severe than impacts identified in the Final EIR). Existing regulations (including City General Plan policies, ordinances in the Municipal Code, and the City's SCAs) and mitigation measures included in the Final EIR would be adequate to ensure that the proposed project's impacts would be less than significant.

As discussed above, the proposed project does not include substantial changes to the development assumptions evaluated in the Final EIR, the project circumstances have not changed, and no new information of substantial importance has been identified which could change the conclusions of the Final EIR.

b. CEQA Guidelines Section 15332. Sections 21080 and 21084 of the California Public Resources Code exempt certain projects from the provisions of CEQA. Section 21084 specifically requires the *CEQA Guidelines* to include a list of these projects (found in Article 19, Categorical Exemptions), which are not expected to result in a significant effect on the environment. Projects classified as categorically exempt are found in Section 15301 to Section 15333 of the *CEQA Guidelines*. As described below, the proposed project also qualifies for a Categorical Exemption under Section 15332 (In-Fill Development Project) in Article 19 of the *CEQA Guidelines*. Specifically, Section 15332 states:

Class 32 consists of projects characterized as in-fill development meeting the conditions described below:

(a) The project is consistent with the applicable general plan designation and all applicable general plan policies as well as with applicable zoning designation and regulations.

(b) The proposed development occurs within city limits on a project site of no more than five acres substantially surrounded by urban uses.

(c) The project site has no value, as habitat for endangered, rare or threatened species.

(d) Approval of the project would not result in any significant effects relating to traffic, noise, air quality, or water quality.

(d) The site can be adequately served by all required utilities and public services.

As previously discussed, the proposed project qualifies for an exemption from environmental review pursuant to *CEQA Guidelines* Section 15182. In addition, the project qualifies for an exemption pursuant to Section 15332 because the project:1) is consistent with the applicable land use designations, zoning and policies applicable to the site as outlined in the Station Area Plan and as evaluated in the Final EIR; 2) the project is located in an urban area on a 0.92-acre site; 3) the project site is vacant and used as a construction staging area and does not provide habitat value for endangered, rare, or threatened species; 4) approval of the project would not result in any new or more significant effects relating to traffic, noise, air quality, or water quality that have not been previously identified as part of the Final EIR; and 5) the project site would be adequately served by all required utilities and public services. These conclusions are further supported by the analysis provided in Section C.

Furthermore, CEQA Guidelines 15300.2 lists the exceptions that may apply to projects that would otherwise be categorically exempt. These exceptions do not apply to the project because: 1) the project site is not located in a sensitive area; 2) impacts of the project would be less than significant and, therefore, would not be cumulatively considerable; 3) the proposed project would not result in new or more significant impacts than those identified in the Station Area Plan EIR; 4) the project site is not located within view of a scenic highway; 5) the project site is not located on a hazardous waste site as characterized by Government Code Section 65962.5; and 6) the proposed project would not cause a substantial adverse change in the significance of a historical resource.

c. CEQA Guidelines Section 15183. CEQA mandates that projects which are consistent with the development density established by existing zoning, community plan, or general plan policies for which an EIR was certified shall not require additional environmental review, except as might be necessary to examine whether there are project-specific significant effects which are peculiar to the project or its site. In approving a project meeting the requirements of section 15183, a public agency shall limit its examination of environmental effects to those which the agency determines are 1) peculiar to the project or parcel on which the project would be located; 2) were not analyzed as significant effects in a prior EIR; 3) are potentially significant off-site impacts and cumulative impacts which were not discussed in the prior EIR; or 4) are previously identified significant effects which, as a result of substantial new information which was not known at the time the EIR was certified, are determined to have a more severe adverse impact than discussed in the prior EIR.

As previously discussed, the proposed project qualifies for an exemption from environmental review pursuant to *CEQA Guidelines* Section 15182. In addition, the project qualifies for an exemption pursuant to Section 15183 because the project: 1) is consistent with the development density

established by the existing Lake Merritt Station Area Plan, for which the Final EIR was certified in November 2014; and 2) environmental effects that are peculiar to the project or the project site are analyzed in this document and were determined to be less than significant with implementation of the City's SCAs and standard design-related mitigation measures. No new or more severe impacts have been identified. These conclusions are further supported by the analysis provided in Section C.

d. CEQA Guidelines Section 15183.3. As described below, the proposed project also qualifies for an exemption under Section 15183.3 (Streamlining for Infill Projects). The purpose of this section is to streamline the environmental review process for eligible infill projects by limiting the topics subject to review at the project level where the effects of infill development have been addressed in a planning level decision or by uniformly applicable development policies. Specifically, Section 15183.3 states:

(b) Eligibility. To be eligible for the streamlining procedures prescribed in this section, an infill project must:

(1) Be located in an urban area on a site that either has been previously developed or that adjoins existing qualified urban uses on at least seventy-five percent of the site's perimeter. For the purpose of this subdivision "adjoin" means the infill project is immediately adjacent to qualified urban uses, or is only separated from such uses by an improved public right-of-way;

(2) Satisfy the performance standards provided in Appendix M; and

(3) Be consistent with the general use designation, density, building intensity, and applicable policies specified for the project area in either a sustainable communities strategy or an alternative planning strategy, except as provided in subdivisions (b)(3)(A) or (b)(3)(B).

As previously discussed, the proposed project qualifies for an exemption from environmental review pursuant to *CEQA Guidelines* Section 15182. In addition, the project qualifies for an exemption pursuant to Section 15183.3 because the project:1) is located within an urban area that has been previously developed and is surrounded by existing development to the north, east, and south; 2) satisfies the performance standards included in Appendix M because the project is a residential project that is not required to install on-site renewable power generation; the site is not located on a list complied pursuant to Section 65962.5 of the Government Code (i.e., Cortese List); and the project complies with the air pollutant exposure reduction measures identified in the Station Area Plan and the SCAs outlined in the accompanying Final EIR; and 3) is consistent with the land use designation, zoning, and applicable policies outlined in the Station Area Plan and with the density and building intensity evaluated in the accompanying Final EIR. These conclusions are further supported by the analysis provided in Section C.

E. APPLICABLE MITIGATION/RECOMMENDATION MEASURES

The proposed project would not be required to implement any mitigation measures to reduce impacts to a less-than-significant level. However, the following recommendations should be incorporated into the project design, although they are not required to reduce a CEQA-related impact:

Recommendation 1: To reduce potential high wind speeds at the southeast corner of the podium, porous screens or trees shall be installed at this location. If porous screens are used, open areas of 30 percent are recommended. Implementation of this measure would also effectively reduce wind speeds at the northeast corner of the building.

Recommendation 2: The following should be considered as part of the final design for the project:

- To ensure adequate sight distance for vehicles, prohibit on-street parking along project frontage on 2nd Avenue between the project driveway and East 12th Street and within 20 feet on the west side of the driveway.
- Redesign project driveway on 2nd Avenue to provide adequate sight distance between motorists exiting the driveway and pedestrians on the sidewalk. Since the recommendation above would prohibit on-street parking adjacent to the project site on 2nd Avenue, one potential design may be to widen the sidewalk along project frontage and install planter wells adjacent to the project driveway to move pedestrians away from the driveway and ensure adequate sight distance and maintain sidewalk width.

Recommendation 3: The following should be considered as part of the final design for the project:

- Consider relocating the long-term bicycle parking from the basement level to a more convenient location on the ground level.
- Identify location and amount of short-term bicycle parking, consistent with the City of Oakland Bicycle Parking Ordinance. Short-term bicycle parking should be near the entrance to both the commercial and residential components of the project.

F. CONDITIONS OF APPROVAL

The City's Uniformly Applied Development Standards are incorporated into projects as conditions of approval regardless of a project's environmental determination. As applicable, the Uniformly Applied Development Standards are adopted as requirements of an individual project when it is approved by the City and are designed to, and will, substantially mitigate environmental effects. For the Lake Merritt Boulevard Apartments Project, the project sponsor agrees to incorporate the City's standards as part of the project.

In reviewing project applications, the City determines which of the standard conditions are applied, based upon the zoning district, community plan, and the type(s) of permit(s)/approvals(s) required for the project. Depending on the specific characteristics of the project type and/or project site, the City will determine which development standards apply to each project; for example, development standards related to creek protection permits will only be applied projects on creekside properties.

The development standards incorporate development policies and standards from various adopted plans, policies, and ordinances (such as the Oakland Planning and Municipal Codes, Oakland Creek Protection, Stormwater Water Management and Discharge Control Ordinance, Oakland Tree Protection Ordinance, Oakland Grading Regulations, National Pollutant Discharge Elimination System (NPDES) permit requirements, Housing Element-related mitigation measures, California

Building Code, and Uniform Fire Code, among others), which have been found to substantially mitigate environmental effects.

The City of Oakland's Standard and Uniformly Applied Conditions of Approval that would apply to the proposed project are listed below. The SCAs will be adopted as requirements of the proposed project if the project is approved by the City.

SCA A: 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):

BASIC (Applies to ALL construction sites)

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 is 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 the BAAQMD shall also be visible. This information may be posted on other required on-site signage.

ENHANCED: All "Basic" controls listed above plus the following controls if the project involves:

i) 114 or more single-family dwelling units;
ii) 240 or more multi-family units;
iii) Nonresidential uses that exceed the applicable screening size listed in the Bay Area Air Quality Management District's CEQA Guidelines;
iv) Demolition permit;
v) Simultaneous occurrence of more than two construction phases (e.g., grading and building construction occurring simultaneously);

vi) Extensive site preparation (i.e., the construction site is four acres or more in size); or
vii) Extensive soil transport (i.e., 10,000 or more cubic yards of soil import/export).

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 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.

x) Off-road heavy diesel engines shall meet the CARB's most recent certification standard.

SCA B: Exposure to Air Pollution (Toxic Air Contaminants: Particulate Matter)
Prior to issuance of a demolition, grading, or building permit

A. 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:

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 polluters 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.

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 particulates and other chemical matter from entering the building. Either HEPA filters or ASHRAE 85% supply filters shall be used.

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.

f) Install indoor air quality monitoring units in buildings.

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.

B. Outdoor 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-D: Bird Collision Reduction

Prior to issuance of a building permit and ongoing

The project applicant, or his or her successor, including the building manager or homeowners' association, 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.

a) Mandatory measures include **all** of the following:
   i) Comply with federal aviation safety regulations for large buildings by installing minimum intensity white strobe lighting with three second flash instead of blinking red or rotating lights.
   ii) Minimize the number of and co-locate rooftop-antennas and other rooftop structures.
   iii) Monopole structures or antennas shall not include guy wires.
   iv) Avoid the use of mirrors in landscape design.
   v) Avoid placement of bird-friendly attractants (i.e. landscaped areas, vegetated roofs, water features) near glass.

b) Additional BMP strategies to consider include the following:
   i) Make clear or reflective glass visible to birds using visual noise techniques. Examples include:
      1. Use of opaque or transparent glass in window panes instead of reflective glass.
      2. 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).
      3. 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).
      4. Install paned glass with fenestration patterns with vertical and horizontal mullions of 10 cm or less.
      5. Place decorative grilles or louvers with spacing of 10 cm or less.
      6. Apply one-way transparent film laminates to outside glass surface to make the window appear opaque on the outside.
      7. Install internal screens through non-reflective glass (as close to the glass as possible) for birds to perceive windows as solid objects.
      8. Install windows which have the screen on the outside of the glass.
      9. Use UV-reflective glass. Most birds can see ultraviolet light, which is invisible to humans.
      10. 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.
   ii) Mute reflections in glass. Examples include:
      1. 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).
      2. 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.
   iii) Reduce Light Pollution. Examples include:
      1. Turn off all unnecessary interior lights from 11 p.m. to sunrise.
      2. 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.
      3. Reduce perimeter lighting whenever possible.
   iv) Institute a building operation and management manual that promotes bird safety. Example text in the manual includes:
      1. 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.
      2. Production of educational materials on bird-safe practices for the building occupants.

3. Asking employees to turn off task lighting at their work stations and draw office blinds or curtains at end of work day.
4. Schedule nightly maintenance during the day or to conclude before 11 p.m., if possible.

SCA-F: Greenhouse Gas (GHG) Reduction Plan
Prior to issuance of a construction-related permit and ongoing as specified
The project applicant shall retain a qualified air quality consultant to develop a Greenhouse Gas (GHG) Reduction Plan for City review and approval. The applicant shall implement the approved GHG Reduction Plan.

The goal of the GHG Reduction Plan shall be to increase energy efficiency and reduce GHG emissions to below [INCLUDE IF SCENARIO A OR B] at least one of the Bay Area Quality Management District's (BAAQMD's) CEQA Thresholds of Significance (1,100 metric tons of CO_2e per year or 4.6 metric tons of CO_2e per year per service population) [INCLUDE IF SCENARIO C] the Bay Area Quality Management District's (BAAQMD's) CEQA Thresholds of Significance (10,000 metric tons of CO_2e per year) [INCLUDE IF SCENARIO B] AND to reduce GHG emissions by 36 percent below the project's "adjusted" baseline GHG emissions (as explained below) to help achieve the City's goal of reducing GHG emissions. The GHG Reduction Plan shall include, at a minimum, (a) a detailed GHG emissions inventory for the project under a "business-as-usual" scenario with no consideration of project design features, or other energy efficiencies, (b) an "adjusted" baseline GHG emissions inventory for the project, taking into consideration energy efficiencies included as part of the project (including the City's Standard Conditions of Approval, proposed mitigation measures, project design features, and other City requirements), (c) a comprehensive set of quantified additional GHG reduction measures available to further reduce GHG emissions beyond the adjusted GHG emissions, and (d) requirements for ongoing monitoring and reporting to demonstrate that the additional GHG reduction measures are being implemented. If the project is to be constructed in phases, the GHG Reduction Plan shall provide GHG emission scenarios by phase.

Specifically, the applicant/sponsor shall adhere to the following:

a) ***GHG Reduction Measures Program.*** Prepare and submit to the City Planning Director or his/her designee for review and approval a GHG Reduction Plan that specifies and quantifies GHG reduction measures that the project will implement by phase.

   Potential GHG reduction measures to be considered include, but are not be limited to, measures recommended in BAAQMD's latest CEQA Air Quality Guidelines, the California Air Resources Board Scoping Plan (December 2008, as may be revised), the California Air Pollution Control Officers Association (CAPCOA) Quantifying Greenhouse Gas Mitigation Measures Document (August 2010, as may be revised), the California Attorney General's website, and Reference Guides on Leadership in Energy and Environmental Design (LEED) published by the U.S. Green Building Council.

   The proposed GHG reduction measures must be reviewed and approved by the City Planning Director or his/her designee. The types of allowable GHG reduction measures include the following (listed in order of City preference): (1) physical design features; (2) operational features; and (3) the payment of fees to fund GHG-reducing programs (i.e., the purchase of "offset carbon credits," pursuant to item "b" below).

   The allowable locations of the GHG reduction measures include the following (listed in order of City preference): (1) the project site; (2) off-site within the City of Oakland; (3) off-site within the San Francisco Bay Area Air Basin; (4) off-site within the State of California; then (5) elsewhere in the United States.

b) ***Offset Carbon Credits Guidelines.*** For GHG reduction measures involving the purchase of offset carbon credits, evidence of the payment/purchase shall be submitted to the City Planning Director or his/her designee for review and approval prior to completion of the project (or prior to completion of the project phase, if the project includes more one phase).

As with preferred locations for the implementation of all GHG reductions measures, the preference for offset carbon credit purchases include those that can be achieved as follows (listed in order of City preference): (1) within the City of Oakland; (2) within the San Francisco Bay Area Air Basin; (3) within the State of California; then (4) elsewhere in the United States. The cost of offset carbon credit purchases shall be based on current market value at the time purchased and shall be based on the Project's operational emissions estimated in the GHG Reduction Plan or subsequent approved emissions inventory, which may result in emissions that are higher or lower than those estimated in the GHG Reduction Plan.

c) ***Plan Implementation and Documentation.*** For physical GHG reduction measures to be incorporated into the design of the project, the measures shall be included on the drawings submitted for construction-related permits. For operational GHG reduction measures to be incorporated into the project, the measures shall be implemented on an indefinite and ongoing basis beginning at the time of project completion (or at the completion of the project phase for phased projects).

For physical GHG reduction measures to be incorporated into off-site projects, the measures shall be included on drawings and submitted to the City Planning Director or his/her designee for review and approval and then installed prior to completion of the subject project (or prior to completion of the project phase for phased projects). For operational GHG reduction measures to be incorporated into off-site projects, the measures shall be implemented on an indefinite and ongoing basis beginning at the time of completion of the subject project (or at the completion of the project phase for phased projects).

d) ***Compliance, Monitoring and Reporting.*** Upon City review and approval of the GHG Reduction Plan program by phase, the applicant/sponsor shall satisfy the following requirements for ongoing monitoring and reporting to demonstrate that the additional GHG reduction measures are being implemented. The GHG Reduction Plan requires regular periodic evaluation over the life of the Project (generally estimated to be at least 40 years) to determine how the Plan is achieving required GHG emissions reductions over time, as well as the efficacy of the specific additional GHG reduction measures identified in the Plan.

Implementation of the GHG reduction measures and related requirements shall be ensured through the project applicant/sponsor's compliance with Conditions of Approval adopted for the project. Generally, starting two years after the City issues the first Certificate of Occupancy for the project, the project applicant/sponsor shall prepare each year of the useful life of the project an Annual GHG Emissions Reduction Report (Annual Report), subject to the City Planning Director or his/her designee for review and approval. The Annual Report shall be submitted to an independent reviewer of the City Planning Director's or his/her designee's choosing, to be paid for by the project applicant/sponsor (see *Funding*, below), within two months of the anniversary of the Certificate of Occupancy.

The Annual Report shall summarize the project's implementation of GHG reduction measures over the preceding year, intended upcoming changes, compliance with the conditions of the Plan, and include a brief summary of the previous year's Annual Report results (starting the second year). The Annual Report shall include a comparison of annual project emissions to the baseline emissions reported in the GHG Plan.

The GHG Reduction Plan shall be considered fully attained when project emissions are less than either applicable numeric BAAQMD CEQA Thresholds [INCLUDE IF SCENARIO B] AND GHG emissions are 36 percent below the project's "adjusted" baseline GHG emissions, as confirmed by the City Planning Director or his/her designee through an established monitoring program. Monitoring and reporting activities will continue at the City's discretion, as discussed below.

e) ***Funding.*** Within two months after the Certificate of Occupancy, the project applicant/sponsor shall fund an escrow-type account or endowment fund to be used exclusively for preparation of Annual Reports and review and evaluation by the City Planning Director or his/her designee, or its selected peer reviewers. The escrow-type account shall be initially funded by the project applicant/sponsor in

an amount determined by the City Planning Director or his/her designee and shall be replenished by the project applicant/sponsor so that the amount does not fall below an amount determined by the City Planning Director or his/her designee. The mechanism of this account shall be mutually agreed upon by the project applicant/sponsor and the City Planning Director or his/her designee, including the ability of the City to access the funds if the project applicant/sponsor is not complying with the GHG Reduction Plan requirements, and/or to reimburse the City for its monitoring and enforcement costs.

f) ***Corrective Procedure.*** If the third Annual Report, or any report thereafter, indicates that, in spite of the implementation of the GHG Reduction Plan, the project is not achieving the GHG reduction goal, the project applicant/sponsor shall prepare a report for City review and approval, which proposes additional or revised GHG measures to better achieve the GHG emissions reduction goals, including without limitation, a discussion on the feasibility and effectiveness of the menu of other additional measures (Corrective GHG Action Plan). The project applicant/sponsor shall then implement the approved Corrective GHG Action Plan.

If, one year after the Corrective GHG Action Plan is implemented, the required GHG emissions reduction target is still not being achieved, or if the project applicant/owner fails to submit a report at the times described above, or if the reports do not meet City requirements outlined above, the City Planning Director or his/her designee may, in addition to its other remedies, (a) assess the project applicant/sponsor a financial penalty based upon actual percentage reduction in GHG emissions as compared to the percent reduction in GHG emissions established in the GHG Reduction Plan; or (b) refer the matter to the City Planning Commission for scheduling of a compliance hearing to determine whether the project's approvals should be revoked, altered or additional conditions of approval imposed.

The penalty as described in (a) above shall be determined by the City Planning Director or his/her designee and be commensurate with the percentage GHG emissions reduction not achieved (compared to the applicable numeric significance thresholds) or required percentage reduction from the "adjusted" baseline.

In determining whether a financial penalty or other remedy is appropriate, the City shall not impose a penalty if the project applicant/sponsor has made a good faith effort to comply with the GHG Reduction Plan.

The City would only have the ability to impose a monetary penalty after a reasonable cure period and in accordance with the enforcement process outlined in Planning Code Chapter 17.152. If a financial penalty is imposed, such penalty sums shall be used by the City solely toward the implementation of the GHG Reduction Plan.

g) ***Timeline Discretion and Summary.*** The City Planning Director or his/her designee shall have the discretion to reasonably modify the timing of reporting, with reasonable notice and opportunity to comment by the applicant, to coincide with other related monitoring and reporting required for the project.

- *Fund Escrow-type Account for City Review*: Certificate of Occupancy plus 2 months
- *Submit Baseline Inventory of "Actual Adjusted Emissions"*: Certificate of Occupancy plus 1 year
- *Submit Annual Report #1*: Certificate of Occupancy plus 2 years
- *Submit Corrective GHG Action Plan* (if needed): Certificate of Occupancy plus 4 years (based on findings of Annual Report #3)
- *Post Attainment Annual Reports*: Minimum every 3 years and at the City Planning Director's or his/her designee's reasonable discretion

SCA-G: Railroad Crossings
Analysis required during project review; implementation prior to project completion
The Transportation Impact Studies (TIS) otherwise required to be prepared for the project, in accordance with standard City policies and practices, must evaluate potential impacts to at-grade railroad crossing resulting from project-related traffic. In general, the major types of impacts to consider are collisions between trains and vehicles, trains and pedestrians, and trains and bicyclists. The TIS should include an analysis of potential queuing onto railroad tracks. A "Diagnostic Review" must be undertaken and include specific traffic elements, such as roadway and rail description, accident history, traffic volumes (all modes, including pedestrian and bicyclist crossing movements), train volumes, vehicular speeds, train speeds, and existing rail and traffic control.

Where the TIS identifies potentially substantially dangerous crossing conditions at at-grade railroad crossings caused by the project, measures relative to the project's traffic contribution to the crossings may be applied through project redesign and/or incorporation of the appropriate measures to reduce potential adverse impacts caused by specific housing development projects. These measures may include, without limitation, the following:

a) Installation of grade separations at crossings, i.e., physically separating roads and railroad tracks by constructing overpasses or underpasses

b) Improvements to warning devices at existing highway rail crossings that are impacted by project traffic

c) Installation of additional warning signage

d) Improvements to traffic signaling at intersections adjacent to crossings, e.g., signal preemption

e) Installation of median separation to prevent vehicles from driving around railroad crossing gates

f) Where sound walls, landscaping, buildings, etc. would be installed near crossings, maintaining the visibility of warning devices and approaching trains

g) Prohibition of parking within 100 feet of the crossings to improve the visibility of warning devices and approaching trains

h) Construction of pull-out lanes for buses and vehicles transporting hazardous materials

i) Installation of vandal-resistant fencing or walls to limit the access of pedestrians onto the railroad right-of-way

j) Elimination of driveways near crossings

k) Increased enforcement of traffic laws at crossings

l) Rail safety awareness programs to educate the public about the hazards of highway-rail grade crossings

m) Any proposed improvements must be coordinated with California Public Utility Commission (CPUC) and affected railroads and all necessary permits/approvals obtained, including a GO 88-B Request (Authorization to Alter Highway Rail Crossings).

SCA-H: Compliance with the Green Building Ordinance, OMC Chapter 18.02
Prior to issuance of a demolition, grading, or building permit
The applicant shall comply with the requirements of the California Green Building Standards (CALGreen) mandatory measures and the applicable requirements of the Green Building Ordinance, OMC Chapter 18.02.

a) The following information shall be submitted to the Building Services Division for review and approval with the application for a building permit:

   i) Documentation showing compliance with Title 24 of the 2008 California Building Energy Efficiency Standards.

ii) Completed copy of the final green building checklist approved during the review of the Planning and Zoning permit.

iii) Copy of the Unreasonable Hardship Exemption, if granted, during the review of the Planning and Zoning permit.

iv) Permit plans that show, in general notes, detailed design drawings, and specifications as necessary, compliance with the items listed in subsection (b) below.

v) Copy of the signed statement by the Green Building Certifier approved during the review of the Planning and Zoning permit that the project complied with the requirements of the Green Building Ordinance.

vi) Signed statement by the Green Building Certifier that the project still complies with the requirements of the Green Building Ordinance, unless an Unreasonable Hardship Exemption was granted during the review of the Planning and Zoning permit.

vii) Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance.

b) The set of plans in subsection (a) shall demonstrate compliance with the following:

i) CALGreen mandatory measures.

ii) All pre-requisites per the LEED / GreenPoint Rated checklist approved during the review of the Planning and Zoning permit, or, if applicable, all the green building measures approved as part of the Unreasonable Hardship Exemption granted during the review of the Planning and Zoning permit.

iii) Insert green building point level/certification requirement: (See Green Building Summary Table) per the appropriate checklist approved during the Planning entitlement process.

iv) All green building points identified on the checklist approved during review of the Planning and Zoning permit, unless a Request for Revision Plan-check application is submitted and approved by the Planning and Zoning Division that shows the previously approved points that will be eliminated or substituted.

v) The required green building point minimums in the appropriate credit categories.

During construction

The applicant shall comply with the applicable requirements CALGreen and the Green Building Ordinance, Chapter 18.02.

a) The following information shall be submitted to the Building Inspections Division of the Building Services Division for review and approval:

i) Completed copies of the green building checklists approved during the review of the Planning and Zoning permit and during the review of the building permit.

ii) Signed statement(s) by the Green Building Certifier during all relevant phases of construction that the project complies with the requirements of the Green Building Ordinance.

iii) Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance.

After construction, as specified below

Within sixty (60) days of the final inspection of the building permit for the project, the Green Building Certifier shall submit the appropriate documentation to Build It Green / Green Building Certification Institute and attain the minimum certification/point level identified in subsection (a) above. Within one year of the final inspection of the building permit for the project, the applicant shall submit to the Planning and Zoning Division the

Certificate from the organization listed above demonstrating certification and compliance with the minimum point/certification level noted above.

SCA-1: Approved Use
Ongoing

a) The project shall be constructed and operated in accordance with the authorized use as described in the application materials, letter and/or staff report, and the plans dated insert date of final approved plans and submitted on insert "received" date of final approved plans, and as amended by the following conditions. Any additional uses or facilities other than those approved with this permit, as described in the project description and the approved plans, will require a separate application and approval. Any deviation from the approved drawings, Conditions of Approval or use shall require prior written approval from the Director of City Planning or designee.

b) This action by the Director of City Planning or City Planning Commission ("this Approval") includes the approvals set forth below. This Approval includes: List permit, code section, memo and/or date if applicable per the language in the public notice.

SCA-4: Conformance with other Requirements
Prior to issuance of a demolition, grading, P-job, or other construction related permit

a) The project applicant shall comply with all other applicable federal, state, regional and/or local laws/codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City's Building Services Division, the City's Fire Marshal, and the City's Public Works Agency. Compliance with other applicable requirements may require changes to the approved use and/or plans. These changes shall be processed in accordance with the procedures contained in Condition of Approval 3.

b) The applicant shall submit approved building plans for project-specific needs related to fire protection to the Fire Services Division for review and approval, including, but not limited to automatic extinguishing systems, water supply improvements and hydrants, fire department access, and vegetation management for preventing fires and soil erosion.

SCA-12: Required Landscape Plan for New Construction and Certain Additions to Residential Facilities
Prior to issuance of a building permit
Submittal and approval of a landscape plan for the entire site is required for the establishment of a new residential unit (excluding secondary units of five hundred (500) square feet or less), and for additions to Residential Facilities of over five hundred (500) square feet. The landscape plan and the plant materials installed pursuant to the approved plan shall conform with all provisions of Chapter 17.124 of the Oakland Planning Code, including the following:

a) Landscape plan shall include a detailed planting schedule showing the proposed location, sizes, quantities, and specific common botanical names of plant species.

b) Landscape plans for projects involving grading, rear walls on downslope lots requiring conformity with the screening requirements in Section 17.124.040, or vegetation management prescriptions in the S-11 zone, shall show proposed landscape treatments for all graded areas, rear wall treatments, and vegetation management prescriptions.

c) Landscape plan shall incorporate pest-resistant and drought-tolerant landscaping practices. Within the portions of Oakland northeast of the line formed by State Highway 13 and continued southerly by Interstate 580, south of its intersection with State Highway 13, all plant materials on submitted landscape plans shall be fire-resistant The City Planning and Zoning Division shall maintain lists of plant materials and landscaping practices considered pest-resistant, fire-resistant, and drought-tolerant.

d) All landscape plans shall show proposed methods of irrigation. The methods shall ensure adequate irrigation of all plant materials for at least one growing season.

SCA-13: Landscape Requirements for Street Frontages
Prior to issuance of a final inspection of the building permit

a) All areas between a primary Residential Facility and abutting street lines shall be fully landscaped, plus any unpaved areas of abutting rights-of-way of improved streets or alleys, provided, however, on streets without sidewalks, an unplanted strip of land five (5) feet in width shall be provided within the right-of-way along the edge of the pavement or face of curb, whichever is applicable. Existing plant materials may be incorporated into the proposed landscaping if approved by the Director of City Planning.

b) In addition to the general landscaping requirements set forth in Chapter 17.124, a minimum of one (1) fifteen-gallon tree, or substantially equivalent landscaping consistent with city policy and as approved by the Director of City Planning, shall be provided for every twenty-five (25) feet of street frontage. On streets with sidewalks where the distance from the face of the curb to the outer edge of the sidewalk is at least six and one-half (6 ½) feet, the trees to be provided shall include street trees to the satisfaction of the Director of Parks and Recreation.

SCA-15: Landscape Maintenance
Ongoing
All required planting shall be permanently maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable landscaping requirements. All required fences, walls and irrigation systems shall be permanently maintained in good condition and, whenever necessary, repaired or replaced.

SCA-17: Landscape Requirements for Street Frontages
Prior to issuance of a final inspection of the building permit
On streets with sidewalks where the distance from the face of the curb to the outer edge of the sidewalk is at least six and one-half (6 ½) feet and does not interfere with access requirements, a minimum of one (1) twenty-four (24) inch box tree shall be provided for every twenty-five (25) feet of street frontage, unless a smaller size is recommended by the City arborist. The trees to be provided shall include species acceptable to the Tree Services Division.

SCA-18: Landscape Maintenance
Ongoing
All required planting shall be permanently maintained in good growing condition and, whenever necessary, replaced with new plant materials to ensure continued compliance with applicable landscaping requirements. All required irrigation systems shall be permanently maintained in good condition and, whenever necessary, repaired or replaced.

SCA-19: Underground Utilities
Prior to issuance of a building permit
The project applicant shall submit plans for review and approval by the Building Services Division and the Public Works Agency, and other relevant agencies as appropriate, that show all new electric and telephone facilities; fire alarm conduits; street light wiring; and other wiring, conduits, and similar facilities placed underground. The new facilities shall be placed underground along the project applicant's street frontage and from the project applicant's structures to the point of service. The plans shall show all electric, telephone, water service, fire water service, cable, and fire alarm facilities installed in accordance with standard specifications of the serving utilities.

SCA-20: 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/or mitigations 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 and/or mitigations.

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-20: 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: Examples include:

a) Install additional standard City of Oakland streetlights insert location.

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 insert location.

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 at insert location.

f) Remove and replace deficient concrete sidewalk, curb and gutter within property frontage insert location.

g) Provide adequate fire department access and water supply, including, but not limited to currently adopted fire codes and standards. Insert as applicable.

h) Insert as applicable.

SCA-24: Construction Management Plan
Prior to issuance of a demolition, grading, or building permit
The project applicant shall submit to the Planning and Zoning Division and the Building Services Division for review and approval a construction management plan that identifies the conditions of approval and mitigation measures related to construction impacts of the project and explains how the project applicant will comply with these construction-related conditions of approval and mitigation measures.

SCA 25: 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

SCA-28: Days/Hours of Construction Operation
Ongoing throughout demolition, grading, and/or construction
The project applicant shall require construction contractors to limit standard construction activities as follows:

a) Construction activities are limited to between 7:00 a.m. and 7:00 p.m. 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.

b) Any construction activity proposed to occur outside of the standard hours of 7:00 a.m. to 7:00 p.m. 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.

c) Construction activity shall not occur on Saturdays, with the following possible exceptions:

   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.

   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.

d) No extreme noise generating activities (greater than 90 dBA) shall be allowed on Saturdays, with no exceptions.

e) No construction activity shall take place on Sundays or Federal holidays.

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.

g) Applicant shall use temporary power poles instead of generators where feasible.

SCA-29: Noise Control

Ongoing throughout demolition, grading, and/or construction

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:

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).

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.

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.

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.

SCA-30: Noise Complaint Procedures

Ongoing throughout demolition, grading, and/or construction

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 respond to and track complaints pertaining to construction noise. These measures shall include:

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.

SCA-31: Interior Noise

Prior to issuance of a building permit and Certificate of Occupancy

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. 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:

(a) Quality control was exercised during construction to ensure all air-gaps and penetrations of the building shell are controlled and sealed; and

(b) Demonstrates compliance with interior noise standards based upon performance testing of a sample unit.

(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 and the single event noise occurences. Potential features/measures to reduce interior noise could include, but are not limited to, the following:

a) 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.

b) Prohibition of Z-duct construction.

SCA-32: 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.

SCA-33: 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.

Major Project Cases:

f) Provision for parking management and spaces for all construction workers to ensure that construction workers do not park in on-street spaces or insert name of street..

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.

SCA-34: Erosion and Sedimentation Control [When no grading permit is required.]
Ongoing throughout demolition grading, and/or construction activities
The project applicant shall implement Best Management Practices (BMPs) to reduce erosion, sedimentation, and water quality impacts during construction to the maximum extent practicable. Plans demonstrating the Best Management Practices shall be submitted for review and approval by the Planning and Zoning Division and the Building Services Division. At a minimum, the project applicant shall provide filter materials deemed acceptable to the City at nearby catch basins to prevent any debris and dirt from flowing into the City's storm drain system and creeks.

SCA-35: Hazards Best Management Practices
Prior to commencement of demolition, grading, or construction
The project applicant and construction contractor shall ensure that construction of 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:

a) Follow manufacture's recommendations on use, storage, and disposal of chemical products used in construction;

b) Avoid overtopping construction equipment fuel gas tanks;

c) During routine maintenance of construction equipment, properly contain and remove grease and oils;

d) Properly dispose of discarded containers of fuels and other chemicals.

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.

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.

SCA-36: 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.

Prior to issuance of demolition, grading, or building permit
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.

Ongoing
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 in 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.

SCA-38: Vibration
Prior to issuance of a building permit
A qualified acoustical consultant shall be retained by the project applicant during the design phase of the project to comment on structural design as it relates to reducing groundborne vibration at the project site. If required in order to reduce groundborne vibration to acceptable levels (insert FTA vibration standards applicable to the project. This information is located in the CEQA Thresholds, page 13, Table 3), the project applicant shall incorporate special building methods to reduce groundborne vibration being transmitted into project structures. The City shall review and approve the recommendations of the acoustical consultant and the plans implementing such recommendations. Applicant shall implement the approved plans. Potential methods include the following:

a) Isolation of foundation and footings using resilient elements such as rubber bearing pads or springs, such as a "spring isolation" system that consists of resilient spring supports that can support the podium or residential foundations. The specific system shall be selected so that it can properly support the structural loads, and provide adequate filtering of ground-borne vibration to the residences above.

b) Trenching, which involves excavating soil between the railway/freeway and the project so that the vibration path is interrupted, thereby reducing the vibration levels before they enter the project's

structures. Since the reduction in vibration level is based on a ratio between trench depth and vibration wavelength, additional measurements shall be conducted to determine the vibration wavelengths affecting the project. Based on the resulting measurement findings, an adequate trench depth and, if required, suitable fill shall be identified (such as foamed styrene packing pellets (i.e., Styrofoam) or low-density polyethylene).

SCA-39: Pile Driving and Other Extreme Noise Generators
Ongoing throughout demolition, grading, and/or construction
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:

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 emission from the site;

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

e) Monitor the effectiveness of noise attenuation measures by taking noise measurements.

SCA-43: Tree Removal Permit on Creekside Properties
Prior to issuance of a final inspection of the building permit
Prior to removal of any tree located on the project site which is identified as a creekside property, the project applicant must secure the applicable creek protection permit, and abide by the conditions of that permit.

SCA-44: Tree Removal During Breeding Season
Prior to issuance of a tree removal permit
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.

SCA-46: Tree Replacement Plantings
Prior to issuance of a final inspection of the building permit
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:

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 Sequoia sempervirens (Coast Redwood), Quercus agrifolia (Coast Live Oak), Arbutus menziesii (Madrone), Aesculus californica (California Buckeye) or Umbellularia californica (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:

e) i. For Sequoia sempervirens, three hundred fifteen square feet per tree;

f) ii. For all other species listed in #2 above, seven hundred (700) square feet per tree.

g) 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.

h) 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. 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.

SCA-52: Archaeological Resources
Ongoing throughout demolition, grading, and/or construction

a) 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.

b) 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 resources is carried out.

c) 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.

SCA-53: Human Remains

Ongoing throughout demolition, grading, and/or construction

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.

SCA-54: Paleontological Resources

Ongoing throughout demolition, grading, and/or construction

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.

SCA-55: Erosion and Sedimentation Control Plan

Prior to any grading activities

a) The project applicant shall obtain a grading permit if required by the Oakland Grading Regulations pursuant to Section 15.04.660 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.

Ongoing throughout grading and construction activities

b) 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.

SCA-58: Soils Report

Required as part of the submittal of a Tentative Tract or Tentative Parcel Map.

A preliminary soils report 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. The soils reports shall be based, at least in part, on information obtained from on-site testing. Specifically the minimum contents of the report should include:

A. Logs of borings and/or profiles of test pits and trenches:

a) 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.

b) The depth of each boring shall be sufficient to provide adequate design criteria for all proposed structures.

c) All boring logs shall be included in the soils report.

B. Test pits and trenches

a) Test pits and trenches shall be of sufficient length and depth to establish a suitable soils profile for the design of all proposed structures.

b) 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:

a) Site description;

b) Local and site geology;

c) Review of previous field and laboratory investigations for the site;

d) 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;

e) 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;

f) Conclusions and recommendations for foundations and retaining structures, resistance to lateral loading, slopes, and specifications, for fills, and pavement design as required;

g) 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;

h) All other items which a Soils Engineer deems necessary;

i) The signature and registration number of the Civil Engineer preparing the report.

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 be 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.

SCA-60: Geotechnical Report
Required as part of the submittal of a tentative Tract Map or tentative Parcel Map

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:

i) Each investigation shall include an analysis of expected ground motions at the site from identified faults. The analyses shall be accordance with applicable City ordinances and polices, 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.

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.

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.

b) Tentative Tract or Parcel Map approvals shall require, but not be limited to, approval of the Geotechnical Report.

SCA-61: 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-62: 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.

SCA-64: 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:

a) 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.

b) Obtain and submit written evidence of approval for any remedial action if required by a local, State, or federal environmental regulatory agency.

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.

SCA-66: 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-68: 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.

a) 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.

b) 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

c) 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-69: 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.

SCA-71: Fire Safety Phasing Plan
Prior to issuance of a demolition, grading, and/or construction and concurrent with any p-job submittal permit
The project applicant shall submit a separate fire safety phasing plan to the Planning and Zoning Division and Fire Services Division for their review and approval. The fire safety plan shall include all of the fire safety features incorporated into the project and the schedule for implementation of the features. Fire Services Division may require changes to the plan or may reject the plan if it does not adequately address fire hazards associated with the project as a whole or the individual phase.

SCA-74: Hazardous Materials Business Plan
Prior to issuance of a business license
The project applicant shall submit a Hazardous Materials Business Plan for review and approval by Fire Prevention Bureau, Hazardous Materials Unit. Once approved this plan shall be kept on file with the City and will be updated as applicable. The purpose of the Hazardous Materials Business Plan is to ensure that employees are adequately trained to handle the materials and provides information to the Fire Services Division should emergency response be required. The Hazardous Materials Business Plan shall include the following:

a) The types of hazardous materials or chemicals stored and/or used on site, such as petroleum fuel products, lubricants, solvents, and cleaning fluids.

b) The location of such hazardous materials.

c) An emergency response plan including employee training information

d) A plan that describes the manner in which these materials are handled, transported and disposed.

SCA-75: Stormwater Pollution Prevention Plan (SWPPP)
Prior to and ongoing throughout demolition, grading, and/or construction activities
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, 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.

SCA-78: Site Design Measures for Post-Construction Stormwater Management
Prior to issuance of building permit (or other construction-related permit)
The project drawings submitted for a building permit (or other construction-related permit) shall contain a final site plan to be reviewed and approved by Planning and Zoning. The final site plan shall incorporate appropriate site design measures to manage stormwater runoff and minimize impacts to water quality after the construction of the project. These measures may include, but are not limited to, the following:

i) Minimize impervious surfaces, especially directly connected impervious surfaces;

ii) Utilize permeable paving in place of impervious paving where appropriate;

iii) Cluster buildings;

iv) Preserve quality open space; and

v) Establish vegetated buffer areas.

Ongoing
The approved plan shall be implemented and the site design measures shown on the plan shall be permanently maintained.

SCA-79: Source Control Measures to Limit Stormwater Pollution
Prior to issuance of building permit (or other construction-related permit)
The applicant shall implement and maintain all structural source control measures imposed by the Chief of Building Services to limit the generation, discharge, and runoff of stormwater pollution.

Ongoing
The applicant, or his or her successor, shall implement all operational Best Management Practices (BMPs) imposed by the Chief of Building Services to limit the generation, discharge, and runoff of stormwater pollution.

SCA 80: Post-Construction Stormwater Management Plan
Prior to issuance of building permit (or other construction-related permit)
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.

a) The post-construction stormwater management plan shall include and identify the following:

i) All proposed impervious surface on the site;

ii) Anticipated directional flows of on-site stormwater runoff; and

iii) Site design measures to reduce the amount of impervious surface area and directly connected impervious surfaces; and

iv) Source control measures to limit the potential for stormwater pollution;

v) Stormwater treatment measures to remove pollutants from stormwater runoff; and

vi) 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.

b) The following additional information shall be submitted with the post-construction stormwater management plan:

i) Detailed hydraulic sizing calculations for each stormwater treatment measure proposed; and

ii) 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 or 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.

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.

Prior to final permit inspection
The applicant shall implement the approved stormwater management plan.

SCA 81: Maintenance Agreement for Stormwater Treatment Measures
Prior to final zoning inspection
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:

i) 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

ii) 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.

SCA-82: Erosion, Sedimentation, and Debris Control Measures
Prior to issuance of demolition, grading, or construction-related permit
The project applicant shall submit an erosion and sedimentation control plan for review and approval by the Building Services Division. All work shall incorporate all applicable "Best Management Practices (BMPs) for the construction industry, and as outlined in the Alameda Countywide Clean Water Program pamphlets, including BMP's for dust, erosion and sedimentation abatement per Chapter Section 15.04 of the Oakland Municipal Code. The measures shall include, but are not limited to, the following:

BASIC (Applies to ALL construction sites)

a) On sloped properties, the downhill end of the construction area must be protected with silt fencing (such as sandbags, filter fabric, silt curtains, etc.) and hay bales oriented parallel to the contours of the slope (at a constant elevation) to prevent erosion into the creek.

b) In accordance with an approved erosion control plan, the project applicant shall implement mechanical and vegetative measures to reduce erosion and sedimentation, including appropriate seasonal maintenance. One hundred (100) percent degradable erosion control fabric shall be installed on all graded slopes to protect and stabilize the slopes during construction and before permanent vegetation gets established. All graded areas shall be temporarily protected from erosion by seeding with fast growing annual species. All bare slopes must be covered with staked tarps when rain is occurring or is expected.

c) Minimize the removal of natural vegetation or ground cover from the site in order to minimize the potential for erosion and sedimentation problems. Maximize the replanting of the area with native vegetation as soon as possible.

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

e) Install filter materials (such as sandbags, filter fabric, etc.) acceptable to the Engineering Division at the storm drain inlets nearest to the project site prior to the start of the wet weather season (October 15); site dewatering activities; street washing activities; saw cutting asphalt or concrete; and in order to retain any debris flowing into the City storm drain system. Filter materials shall be maintained and/or replaced as necessary to ensure effectiveness and prevent street flooding.

f) Ensure that concrete/granite supply trucks or concrete/plaster finishing operations do not discharge wash water into the creek, street gutters, or storm drains.

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

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

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

j) Remove all dirt, gravel, refuse, and green waste from the sidewalk, street pavement, and storm drain system adjoining the project site. During wet weather, avoid driving vehicles off paved areas and other outdoor work.

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

l) All erosion and sedimentation control measures implemented during construction activities, as well as construction site and materials management shall be in strict accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the Regional Water Quality Board (RWQB).

m) Temporary fencing is required for sites without existing fencing between the creek and the construction site and shall be placed along the side adjacent to construction (or both sides of the creek

if applicable) at the maximum practical distance from the creek centerline. This area shall not be disturbed during construction without prior approval of Planning and Zoning.

n) All erosion and sedimentation control measures shall be monitored regularly by the project applicant. The City may require erosion and sedimentation control measures to be inspected by a qualified environmental consultant (paid for by the project applicant) during or after rain events. If measures are insufficient to control sedimentation and erosion then the project applicant shall develop and implement additional and more effective measures immediately.

SCA-83: Creek Protection Plan
http://www.oaklandpw.com/creeks
Prior to and ongoing throughout demolition, grading, and/or construction activities

a) The approved creek protection plan shall be included in the project drawings submitted for a building permit (or other construction-related permit). The project applicant shall implement the creek protection plan to minimize potential impacts to the creek during and after construction of the project. The plan shall fully describe in plan and written form all erosion, sediment, stormwater, and construction management measures to be implemented on-site.

b) If the plan includes a stormwater system, all stormwater outfalls shall include energy dissipation that slows the velocity of the water at the point of outflow to maximize infiltration and minimize erosion. The project shall not result in a substantial increase in stormwater runoff volume or velocity to the creek or storm drains.

SCA-84: Regulatory Permits and Authorizations
Prior to issuance of a demolition, grading, or building permit within vicinity of the creek
Prior to construction within the vicinity of the creek, the project applicant shall obtain all necessary regulatory permits and authorizations from the U.S. Army Corps of Engineers (Corps), Regional Water Quality Control Board (RWQCB), California Department of Fish and Game, and the City of Oakland, and shall comply with all conditions issued by applicable agencies. Required permit approvals and certifications may include, but not be limited to the following:

a) U.S. Army Corps of Engineers (Corps): Section 404. Permit approval from the Corps shall be obtained for the placement of dredge or fill material in Waters of the U.S., if any, within the interior of the project site, pursuant to Section 404 of the federal Clean Water Act.

b) Regional Walter Quality Control Board (RWQCB): Section 401 Water Quality Certification. Certification that the project will not violate state water quality standards is required before the Corps can issue a 404 permit, above.

c) California Department of Fish and Game (CDFG): Section 1602 Lake and Streambed Alteration Agreement. Work that will alter the bed or bank of a stream requires authorization from CDFG.

SCA-85: Creek Monitoring
Prior to issuance of a demolition, grading, or building permit within vicinity of the creek
A qualified geotechnical engineer and/or environmental consultant shall be retained and paid for by the project applicant to make site visits during all grading activities; and as a follow-up, submit to the Building Services Division a letter certifying that the erosion and sedimentation control measures set forth in the Creek Protection Permit submittal material have been instituted during the grading activities.

SCA-86: Creek Landscaping Plan
Prior to issuance of a demolition, grading, or building permit within vicinity of the creek
The project applicant shall develop a final detailed landscaping and irrigation plan for review and approval by the Planning and Zoning Division prepared by a licensed landscape architect or other qualified person. Such a

plan shall include a planting schedule, detailing plant types and locations, and a system for temporary irrigation of plantings.

a) Plant and maintain only drought-tolerant plants on the site where appropriate as well as native and riparian plants in and adjacent to riparian corridors. Along the riparian corridor, native plants shall not be disturbed to the maximum extent feasible. Any areas disturbed along the riparian corridor shall be replanted with mature native riparian vegetation and be maintained to ensure survival.

b) All landscaping indicated on the approved landscape plan shall be installed prior to the issuance of a Final inspection of the building permit, unless bonded pursuant to the provisions of Section 17.124.50 of the Oakland Planning Code.

c) All landscaping areas shown on the approved plans shall be maintained in neat and safe conditions, and all plants shall be maintained in good growing condition and, whenever necessary replaced with new plant materials to ensure continued compliance with all applicable landscaping requirements. All paving or impervious surfaces shall occur only on approved areas.

SCA-87: Creek Dewatering and Aquatic Life
Prior to the start of and ongoing throughout any in-water construction activity

a) If any dam or other artificial obstruction is constructed, maintained, or placed in operation within the stream channel, ensure that sufficient water is allowed to pass down channel at all times to maintain aquatic life (native fish, native amphibians, and western pond turtles) below the dam or other artificial obstruction.

b) The project applicant shall hire a biologist, and obtain all necessary State and federal permits (e.g. CDFG Scientific Collecting Permit), to relocate all native fish/native amphibians/pond turtles within the work site, prior to dewatering. The applicant shall first obtain a project-specific authorization from the CDFG and/or the USFWS, as applicable to relocate these animals. Captured native fish/native amphibians/pond turtles shall be moved to the nearest appropriate site on the stream channel downstream. The biologist/contractor shall check daily for stranded aquatic life as the water level in the dewatering area drops. All reasonable efforts shall be made to capture and move all stranded aquatic life observed in the dewatered areas. Capture methods may include fish landing nets, dip nets, buckets, and by hand. Captured aquatic life shall be released immediately in the nearest appropriate downstream site. This condition does not allow the take or disturbance of any state or federally listed species, nor state-listed species of special concern, unless the applicant obtains a project specific authorization from the CDFG and/or the USFWS, as applicable.

SCA-88: Creek Dewatering and Diversion
Prior to the start of any in-water construction activities
If installing any dewatering or diversion device(s), the project applicant shall develop and implement a detailed dewatering and diversion plan for review and approval by the Building Services Division. All proposed dewatering and diversion practices shall be consistent with the requirements of the Streambed Alteration Agreement issued by the California Department of Fish and Game.

a) Ensure that construction and operation of the devices meet the standards in the latest edition of the Erosion and Sediment Control Field Manual published by the Regional Water Quality Control Board (RWQCB).

b) Construct coffer dams and/or water diversion system of a non-erodable material which will cause little or no siltation. Maintain coffer dams and the water diversion system in place and functional throughout the construction period. If the coffer dams or water diversion system fail, repair immediately based on the recommendations of a qualified environmental consultant. Remove devices only after construction is complete and the site stabilized.

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

SCA-91: 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.

SCA-93: Oakland Area Geologic Hazards Abatement District (GHAD)

Prior to the approval of the final map

Prior to approval of the final map, the project shall complete annexation into the Oakland Area GHAD and provide evidence that all assessments, reserves and other requirements necessary to fund the GHAD with respect to the annexed properties have been established and authorized. The applicant shall prepare a Plan of Control, as defined in Public Resource Code Section 26509 which shall specify all anticipated operations and maintenance responsibilities of the GHAD for the annexed properties.

a) The applicant shall provide an initial funding on the annexed properties in the amount to be determined by the City Engineer in accordance with the Plan of Control and the Engineer's Report for the annexed properties which shall be no later than the recordation of the final map for the project.

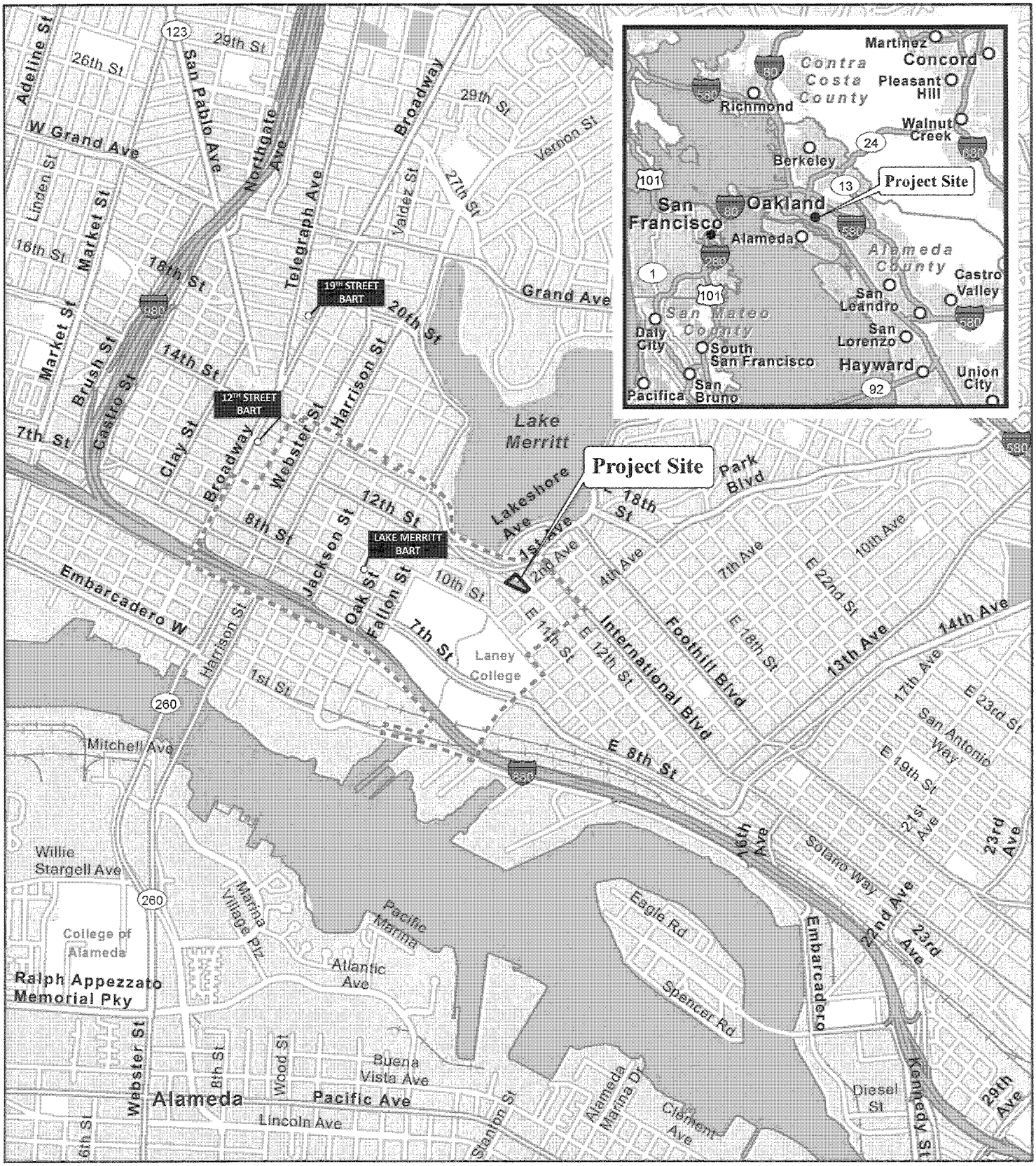
b) The Engineer's Report shall identify the projected costs and a budget for GHAD operations and reserve accumulation for the annexed properties.

c) The Engineer's Report shall include costs for the services of the project manager, attorney and treasurer/clerk for the GHAD.

The applicant shall request the GHAD to defend, hold harmless, and indemnify the Indemnified Parties (as that is defined in Condition #7 and their insurers against any and all liability, damages, claims, demands, judgments, losses, ("Indemnified GHAD claims") or other forms of legal or equitable relief related to the operation (including, without limitation, maintenance of GHAD owned property) of a the annexed properties and in the case of the City Council members, actions taken by said members while acting as the GHAD Board of Directors. This indemnity shall include, without limitation, payment of litigation expenses associated with any action herein. The Indemnified Parties shall have the right to select counsel to represent the Indemnified Parties, at the GHAD's expense, in defense of any action specified in this condition of approval insert condition of approval number. The Indemnified Parties shall take all reasonable steps to promptly notify the GHAD of any claim, demand, or legal actions that may create a claim for indemnification under these conditions of approval. Within 90 days of the annexation to the GHAD, the applicant shall request the GHAD to enter into an Indemnification Agreement in a form acceptable to the City Attorney to establish in more specific detail the terms and conditions of the GHAD's indemnification obligations set forth herein. Any failure of any party to timely execute such Indemnification Agreement shall not be construed to limit any right or obligation otherwise specified in these Conditions of Approval.

ATTACHMENT A

FIGURES



LSA

FIGURE 1

Project Boundary

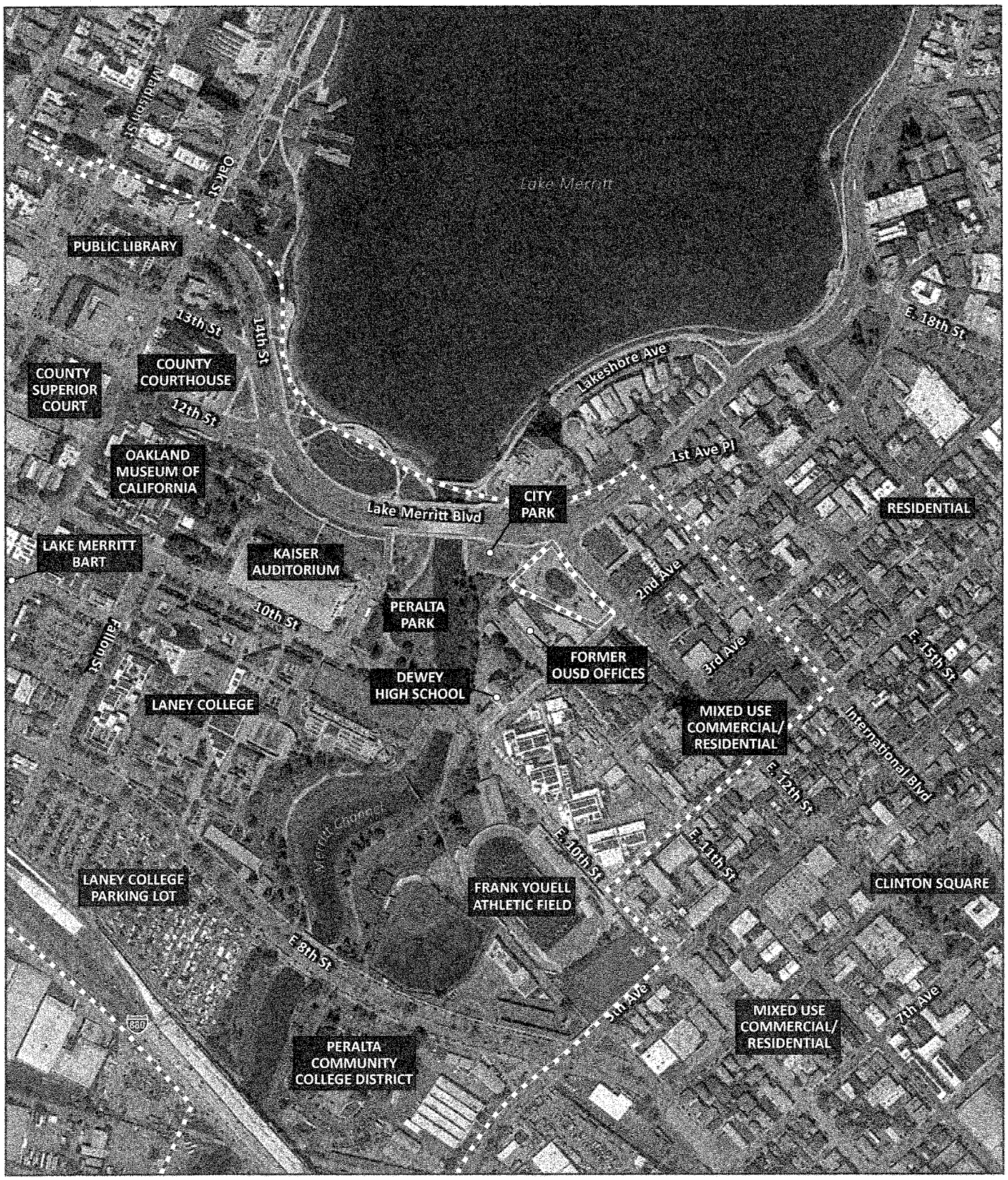
Lake Merritt Station Area Plan Boundary

SOURCE: ESRI StreetMap North America (2012).

I:\URC1401 UrbanCore\figures\Fig_1.ai (9/3/14)

Lake Merritt Boulevard Apartments Project CE

Project Location and Regional Vicinity



LSA

FIGURE 2

Project Site

Lake Merritt Station Area Plan Boundary

0 250 500

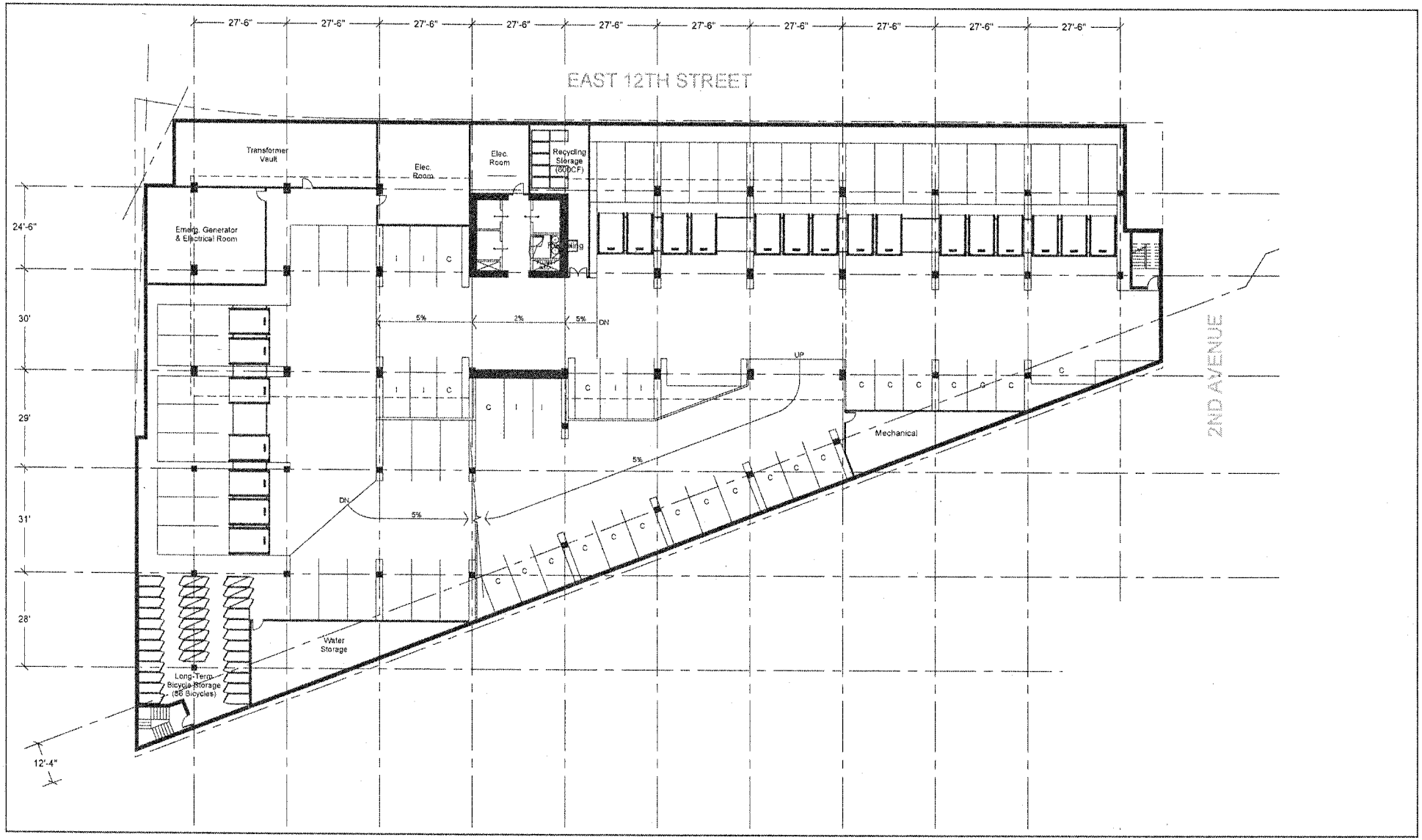
FEET

Lake Merritt Boulevard Apartments Project CE

Aerial Photograph of the Project Site

SOURCES: GOOGLE EARTH,FEBRUARY 2014; LSA ASSOCIATES, INC., 2014.

I:\URC1401 UrbanCore\figures\Fig_2.ai (9/3/14)



LSA

FIGURE 3a

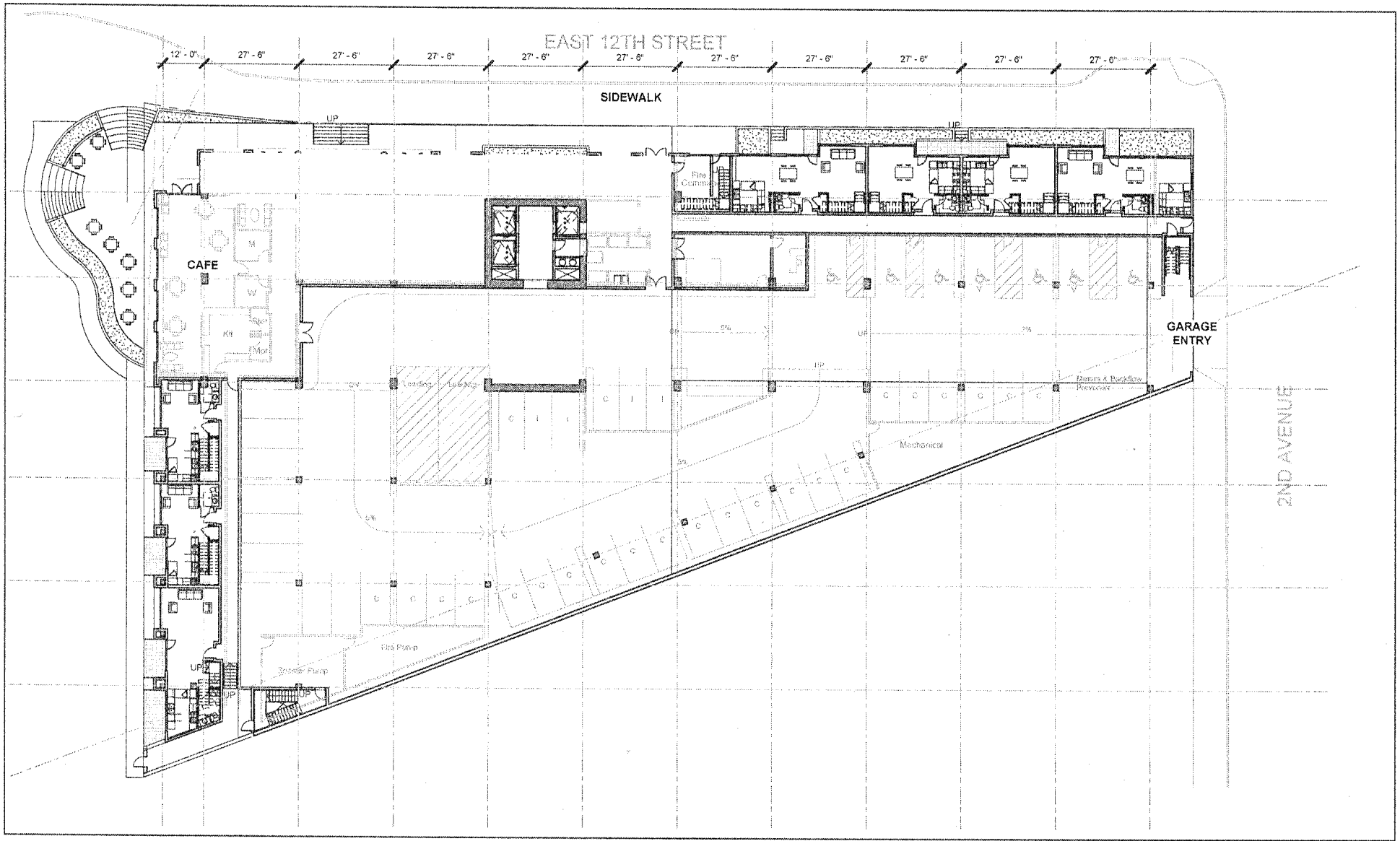
NOT TO SCALE

SOURCE: PYATOK, JULY 2014.

Lake Merritt Boulevard Apartments Project CE

Conceptual Partially Below-Grade Parking Garage (Level 1B) Plan

I:\URC1401 UrbanCore\figures\Fig_3a.ai (9/8/14)



LSA

FIGURE 3b

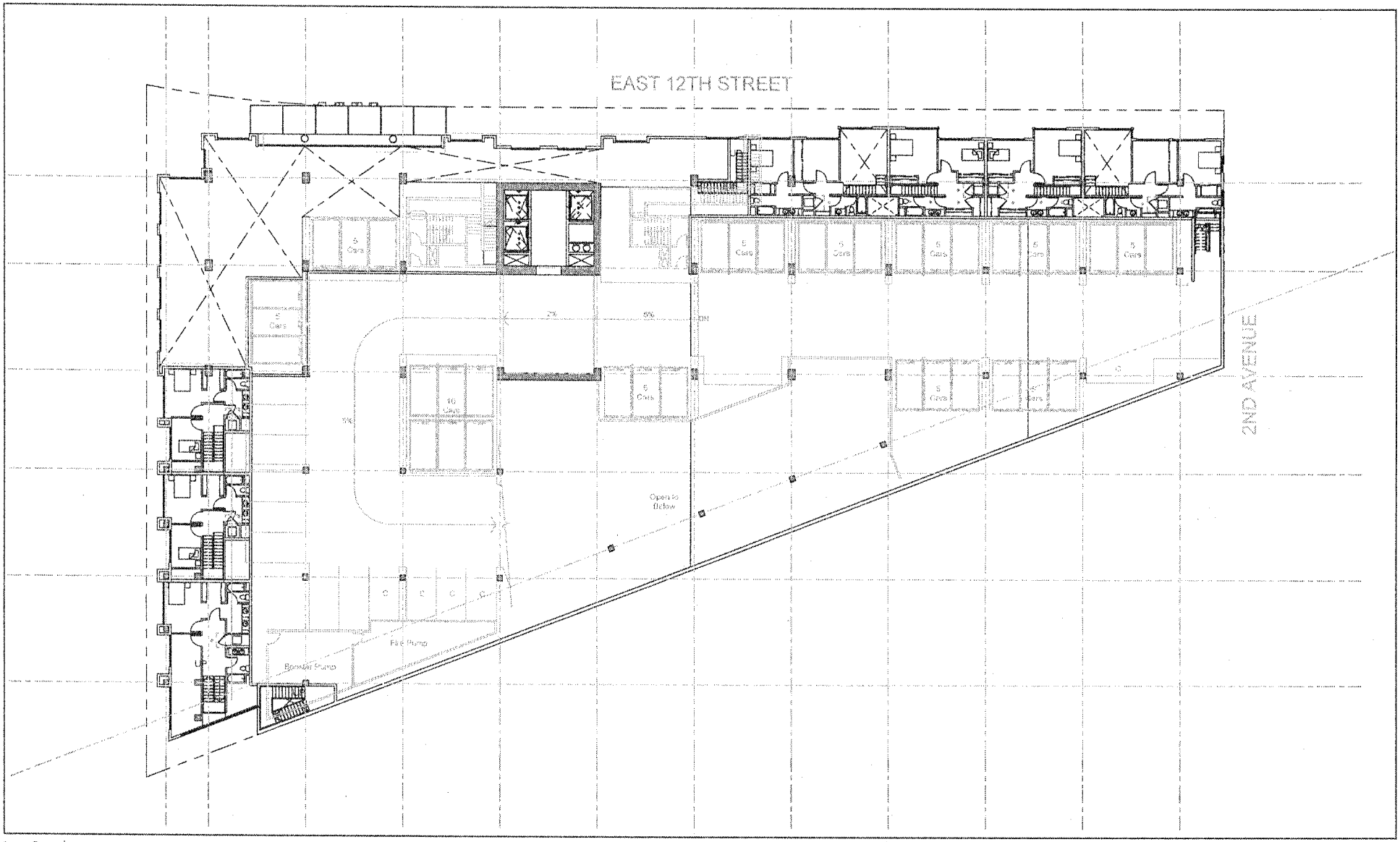
NOT TO SCALE

SOURCE: PYATOK, JULY 2014.

I:\URC1401 UrbanCore\figures\Fig_3b.ai (9/8/14)

Lake Merritt Boulevard Apartments Project CE

Conceptual Ground Level (Level 1) Plan



LSA

FIGURE 3c

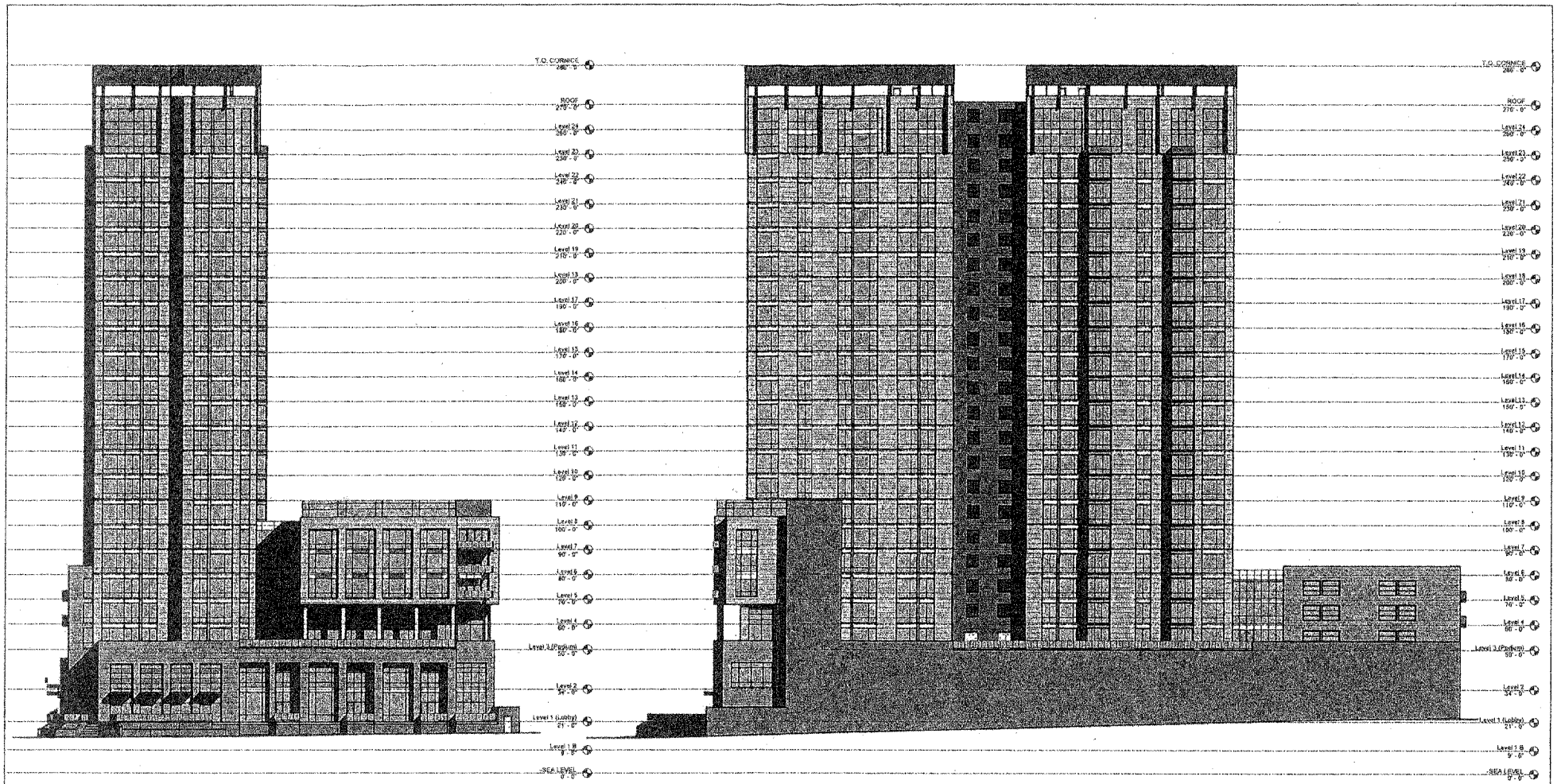
NOT TO SCALE

SOURCE: PYATOK, JULY 2014.

I:\URC1401 UrbanCore\figures\Fig_3c.ai (9/8/14)

Lake Merritt Boulevard Apartments Project CE

Conceptual Level 2 Plan



LSA

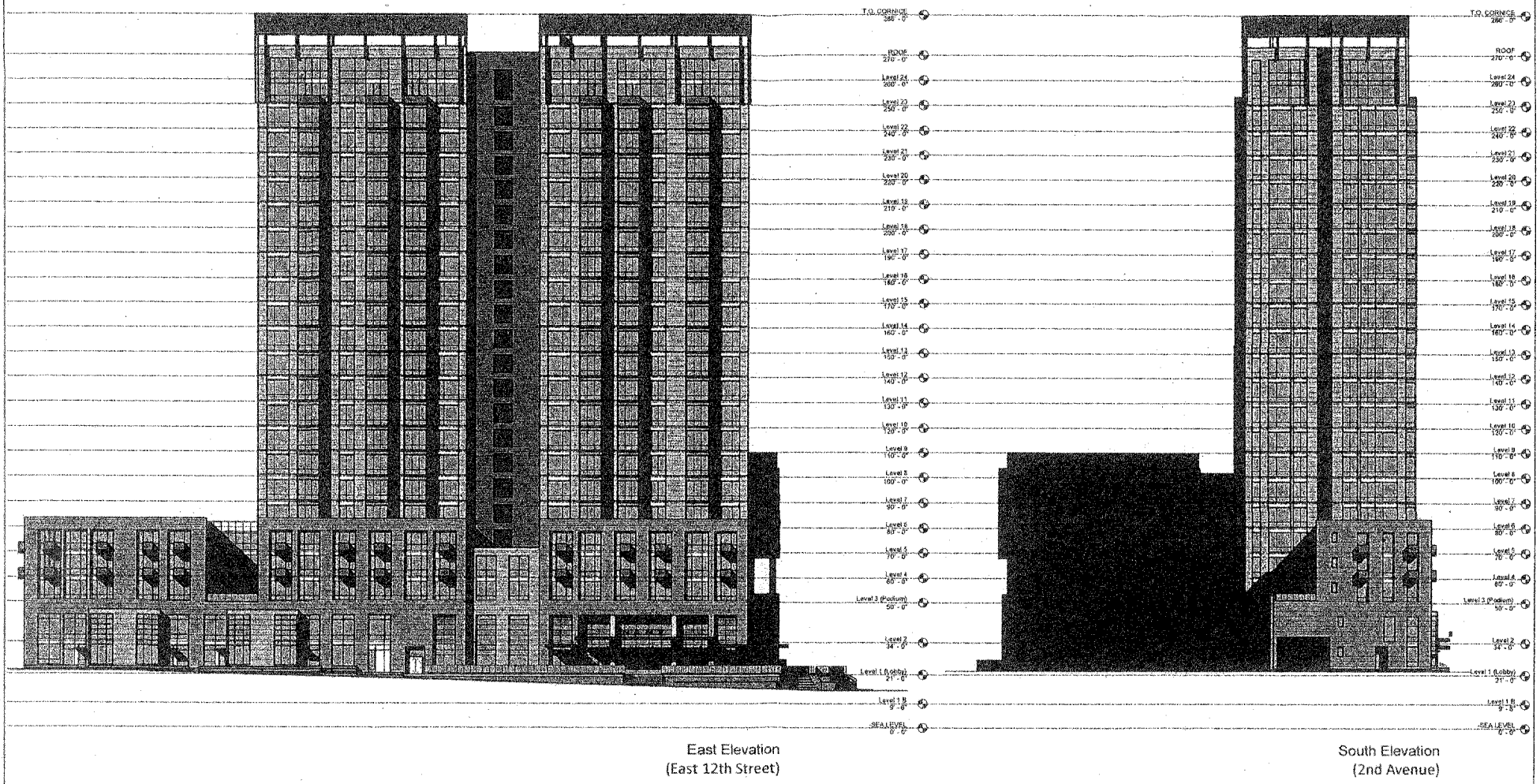
FIGURE 4b

NOT TO SCALE

SOURCE: PYATOK, JULY 2014.

I:\URC1401 UrbanCore\figures\Fig_4b 11x17.ai (8/28/14)

Lake Merritt Boulevard Apartments Project CE
Building Elevations



LSA

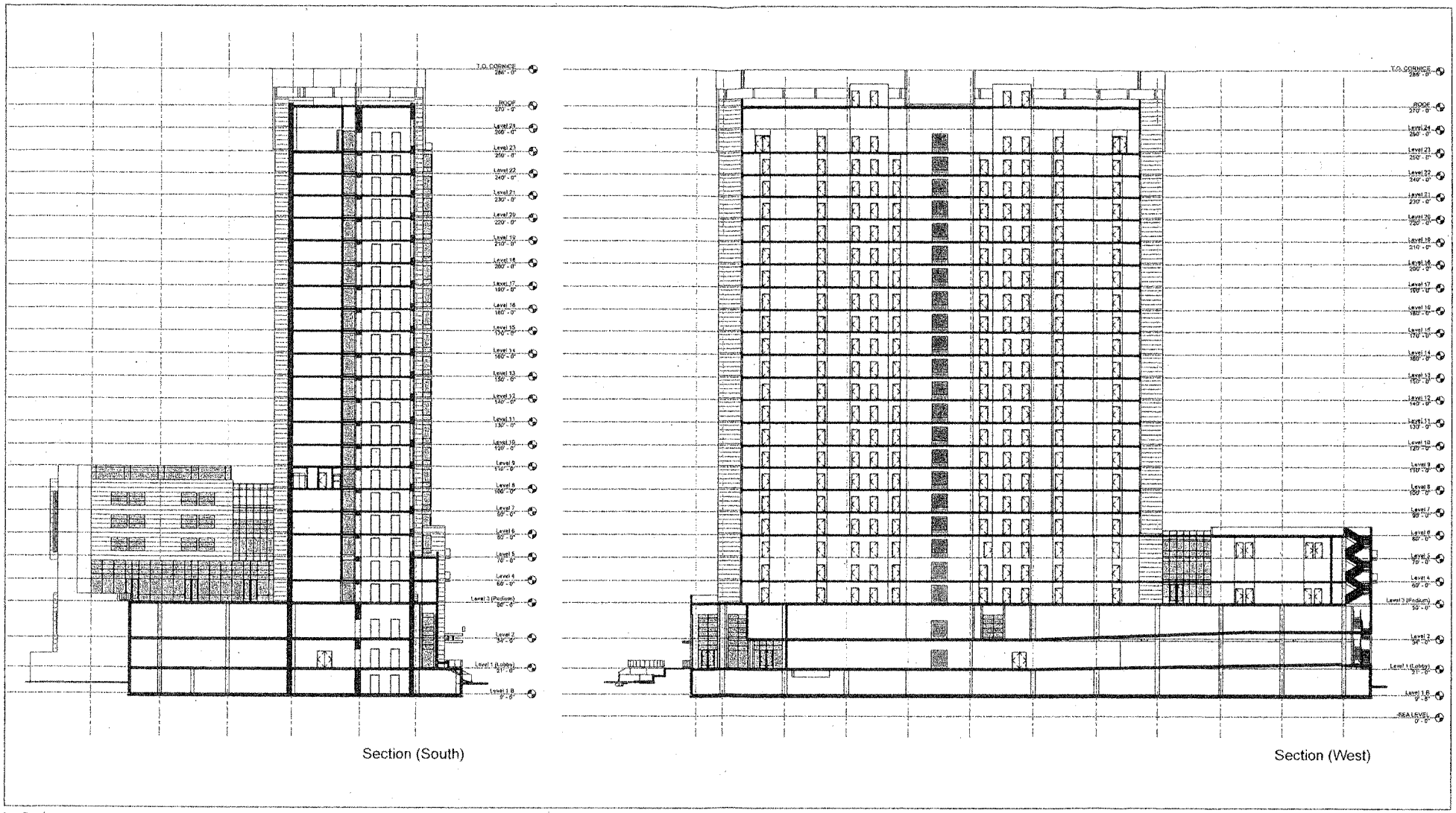
FIGURE 4a

NOT TO SCALE

SOURCE: PYATOK, JULY 2014.

I:\URC1401 UrbanCore\figures\Fig_4a 11x17.ai (8/28/14)

Lake Merritt Boulevard Apartments Project CE
Building Elevations



LSA

FIGURE 5

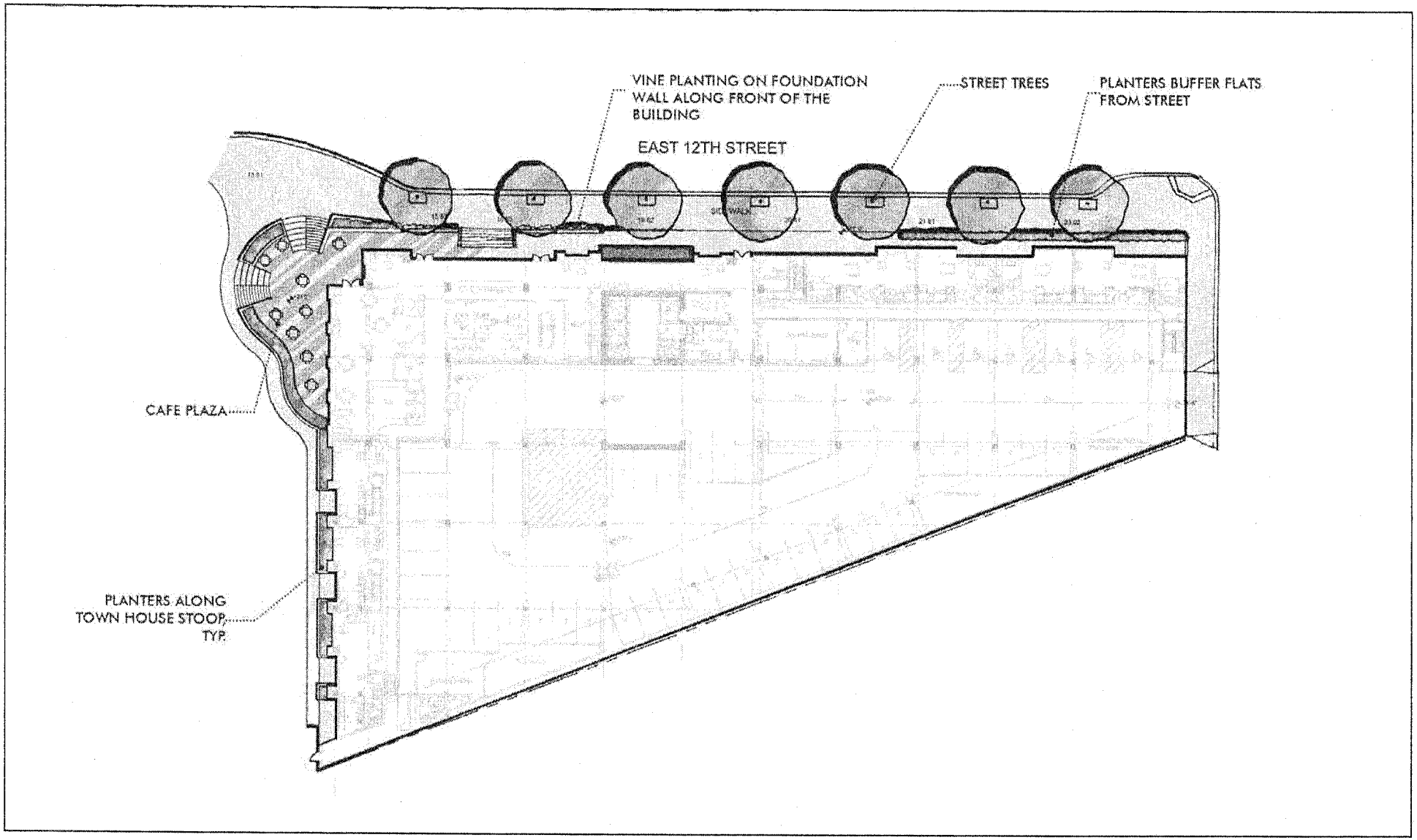
NOT TO SCALE

SOURCE: PYATOK, JULY 2014.

I:\URC1401 UrbanCore\figures\Fig_5 11x17.ai (9/3/14)

Lake Merritt Boulevard Apartments Project CE

Building Sections



LSA

FIGURE 6

N

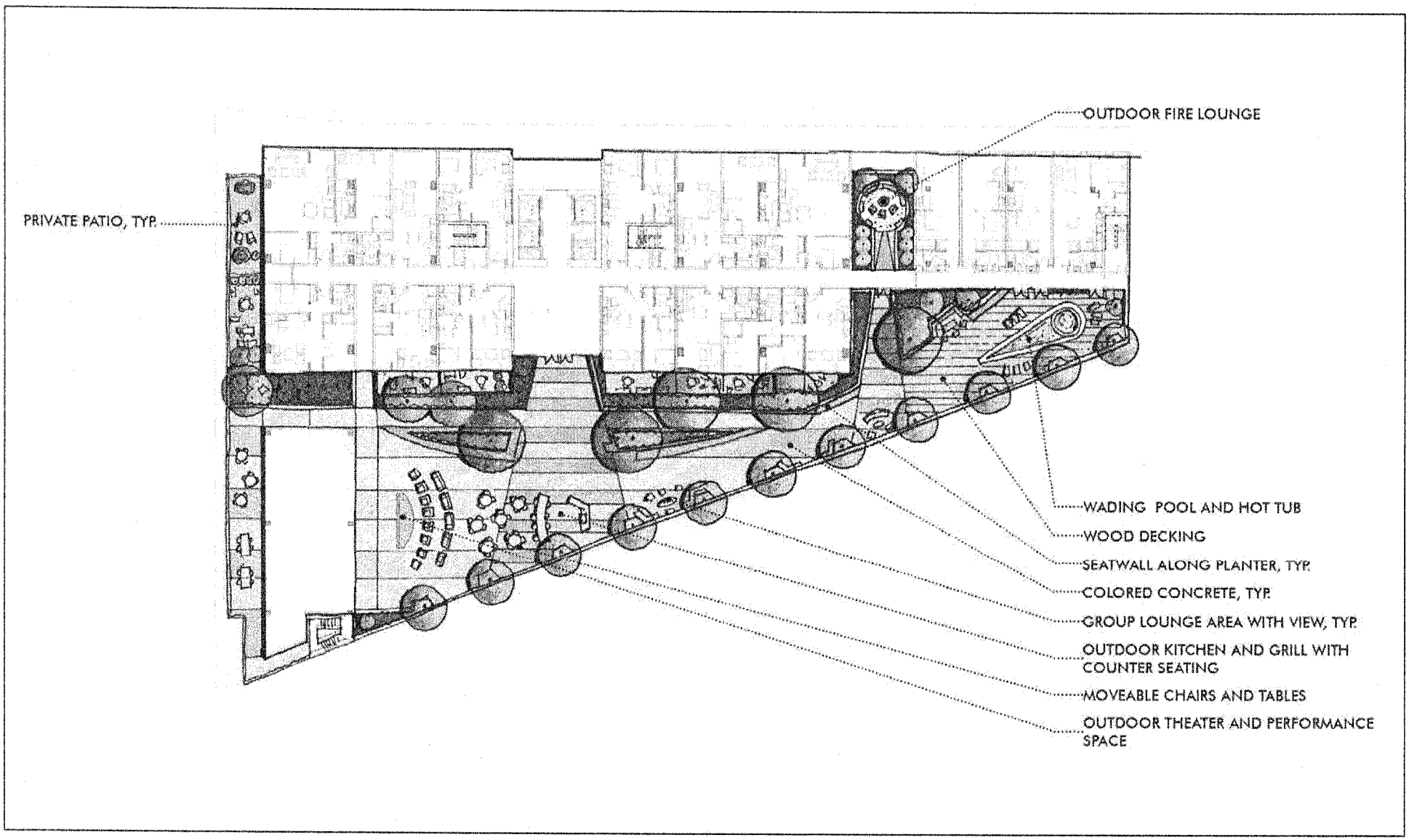
0 30 60
FEET

SOURCE: PYATOK, JULY 2014.

I:\URC1401 UrbanCore\figures\Fig_6.ai (9/3/14)

Lake Merritt Boulevard Apartments Project CE

Conceptual Ground-Level (Level 1) Landscape Plan



LSA

FIGURE 7

N

0 30 60
FEET

SOURCE: PYATOK, JULY 2014.

I:\URC1401 UrbanCore\figures\Fig_7.ai (8/26/14)

Lake Merritt Boulevard Apartments Project CE

Conceptual Podium-Level (Level 3) Landscape Plan

ATTACHMENT B

SUN AND SHADOW STUDY

Lake Merritt Boulevard Apartments

Oakland, CA

Sun/Shadow Study

RWDI # 1401361
September 9, 2014

SUBMITTED TO

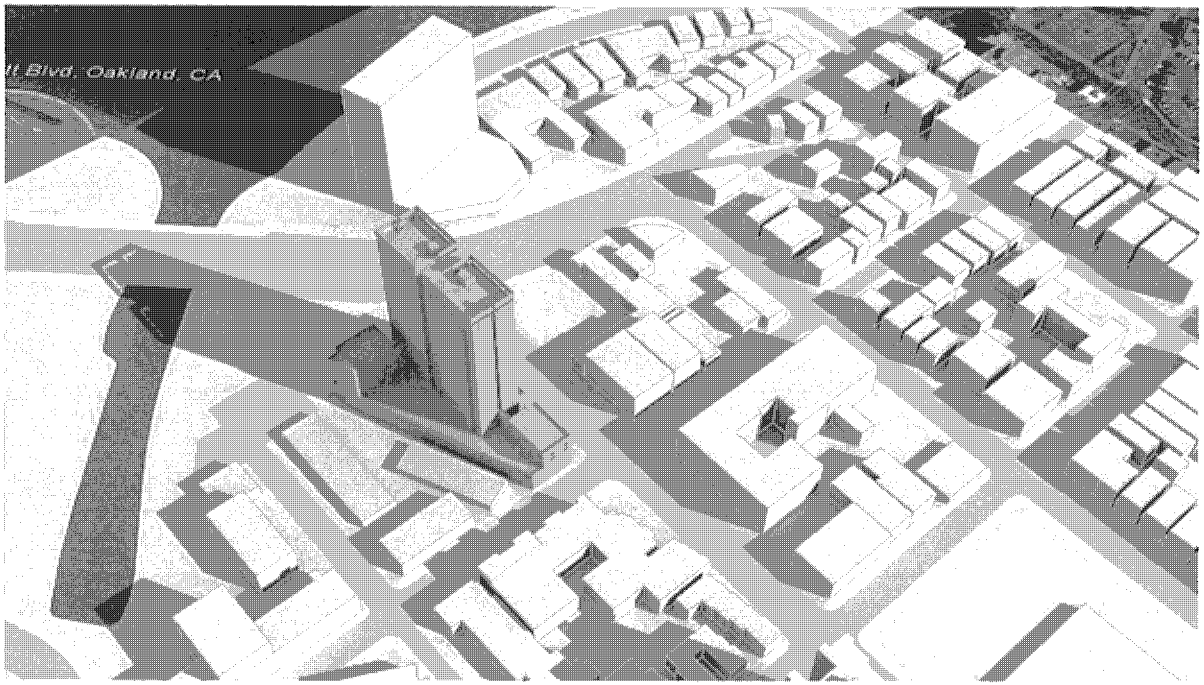
Theresa Wallace
LSA Associates, Inc.
2215 Fifth Street
Berkeley, CA 94710
Theresa.wallace@lsa-assoc.com

SUBMITTED BY

Rowan Williams Davies & Irwin Inc.
650 Woodlawn Road West
Guelph, Ontario, Canada N1K 1B8
519.823.1311

Neetha Vasan, M.A.Sc., LEED AP
Technical Coordinator
Neetha.Vasan@rwdi.com

Frank Kriksic, B.E.S., C.E.T., LEED AP
Senior Project Manager
Frank.Kriksic@rwdi.com



3D Model of the proposed project and surroundings (View from south)

Dan Bacon
Senior Project Manager
Dan.Bacon@rwdi.com

Hanqing Wu, Ph.D., P.Eng.
Technical Director
Hanqing.Wu@rwdi.com

1. Introduction

Rowan Williams Davies & Irwin Inc. (RWDI) was retained by LSA Associates Inc. to conduct a Sun/Shadow Study for the proposed Lake Merritt Boulevard Apartments in Oakland, CA. The objectives of this study were to illustrate the sun and shadow patterns for various times and dates and to determine the potential exposure to sunlight and shadow on and around the study site.

This study involved the use of a three-dimensional (3D) computer model of the project site with the existing surroundings and the proposed development in place. The 3D model was used to produce renderings of the shadows cast around the project site by the proposed development. The following report provides a discussion of the methodology and graphic results of the Sun/Shadow Study.

2. Building and Site Information

The proposed development will be located on the South side of Lake Merritt, bordered by E 12th Street on the east and 2nd Avenue on the south, in Oakland, California. The development consists of a 24-story tower, that includes an eight-story podium, rising to a height of approximately 286 ft. Image 1 shows a rendering of the project.

Image 2 shows an aerial view of the site and its immediate surroundings. Currently the site is an unoccupied lot, surrounded by fairly low institutional, mixed-use, and residential buildings between two and five stories in height. Two taller, approximately 22-story towers are located to the immediate north and south of the site. Downtown Oakland is to the northwest on across Lake Merritt.

Image 1: Rendering of the proposed project
(Courtesy of Urban Core / Pyatok Architects)

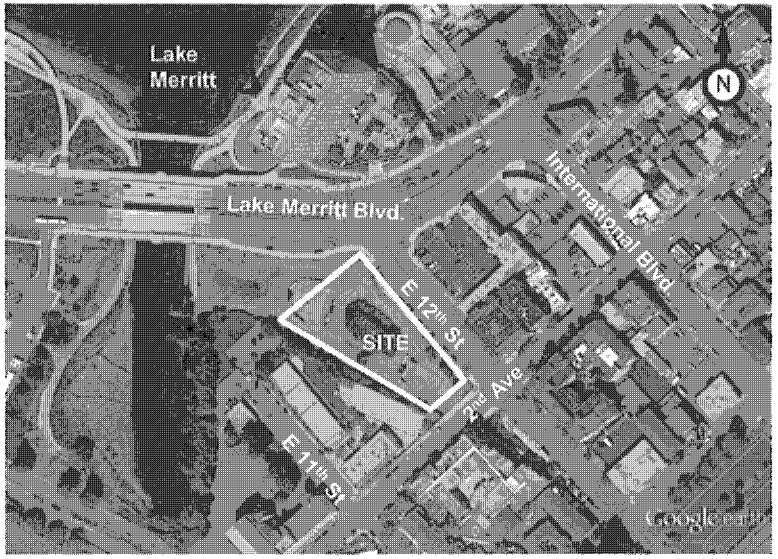


Image 2: Aerial View of Site and Surroundings
(Courtesy of GoogleEarth™)

3. Methodology

The shadow patterns illustrated in this report were generated with the aid of a computer graphics program and are shown in Section 4. Simulation Results. A Computer Aided Design (CAD) three-dimensional computer model of the study site was created by our graphics department to reflect the design of the proposed development in accordance with architectural drawings prepared by Pyatok Architects forwarded by LSA Associates Inc., received as of July 23, 2014.

The analysis in this study relies on discussion of the magnitude of the shade created by the proposed development. The CAD generated 3D model was incorporated into a computer graphics program with the appropriate settings to simulate the geographic characteristics and solar angles for Oakland. The computer generated renderings exhibit the simulated shadow conditions anticipated to occur in the vicinity of the study site. The tests conducted in this study assume bright sunlight from sunrise to sunset, in order to properly identify shadow patterns created by the proposed structure.

Table 1 identifies the dates and times shadow conditions were simulated. The times listed are either Pacific Standard Time (PST) or Pacific Daylight Saving Time (PDT), whichever is in effect on the dates specified.

Table 1 – Dates and Times Studied

Date	Time
March 21st (PDT)	9:00am, 12:00 noon, 3:00pm
June 21st (PDT)	9:00am, 12:00 noon, 3:00pm, 6:00pm
September 21st (PDT)	9:00am, 12:00 noon, 3:00pm
December 21st (PST)	9:00am, 12:00 noon, 3:00pm

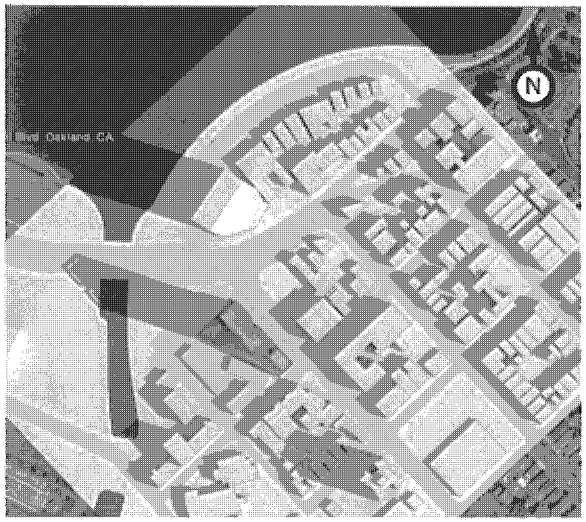
The approximate sunrise and sunset times for the four times of the year studied are included in Table 2 as they may be of interest when assessing the shadow conditions.

Table 2 – Approximate Sunrise and Sunset Times

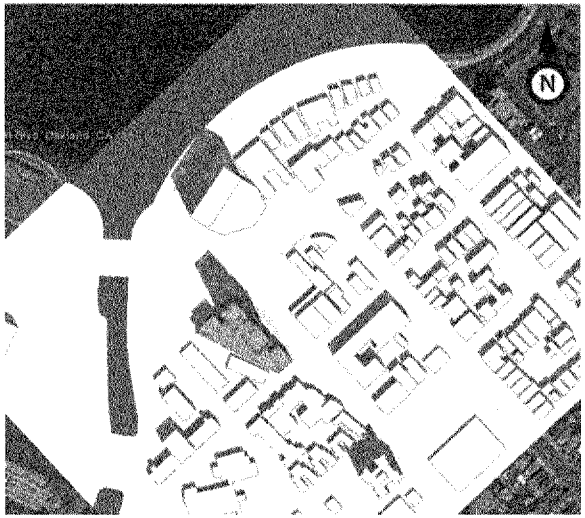
Date	Sunrise Time	Sunset Time
March 21st (PDT)	7:00am	7:30pm
June 21st (PDT)	5:45am	8:30pm
September 21st (PDT)	7:00am	7:00pm
December 21st (PST)	7:30am	5:00pm

RWDI
CONSULTING ENGINEERS & SCIENTISTS

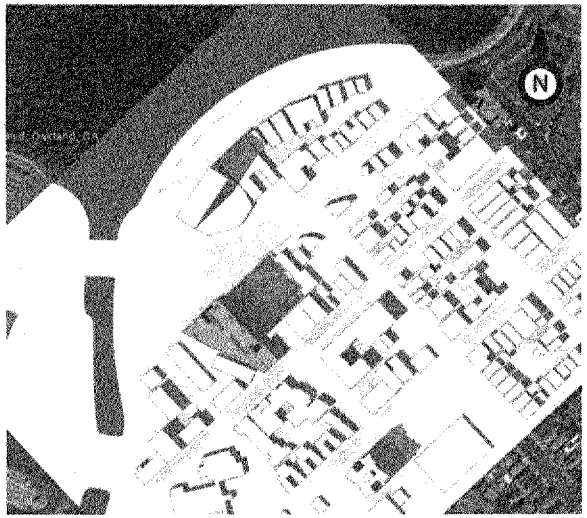
4. Simulation Results – March 21st (PDT)



9:00 am



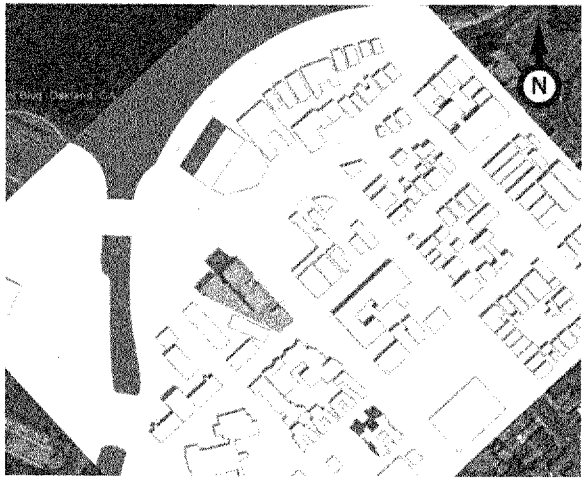
12:00 noon



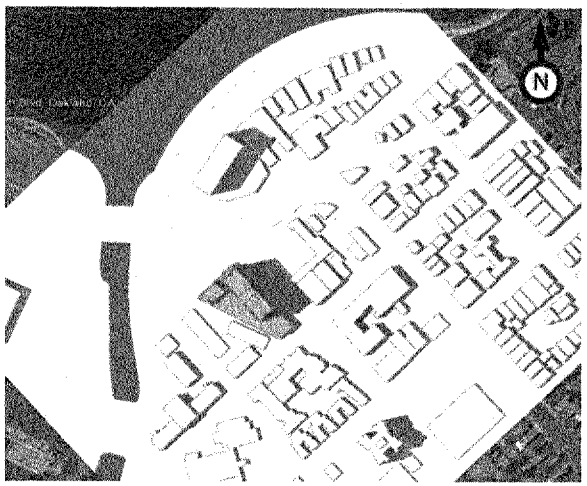
3:00 pm

4. Simulation Results – June 21st (PDT)

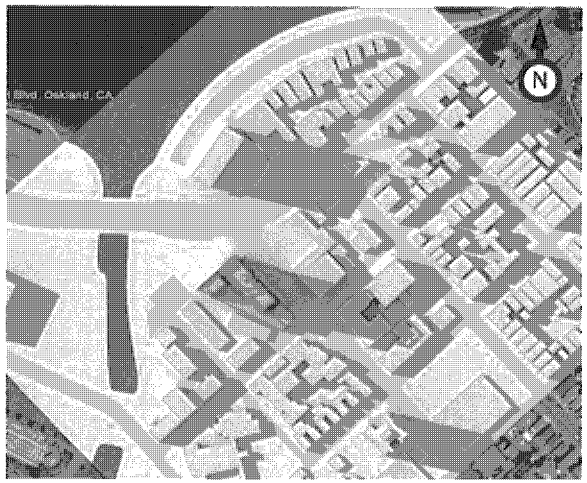
9:00 am



12:00 noon



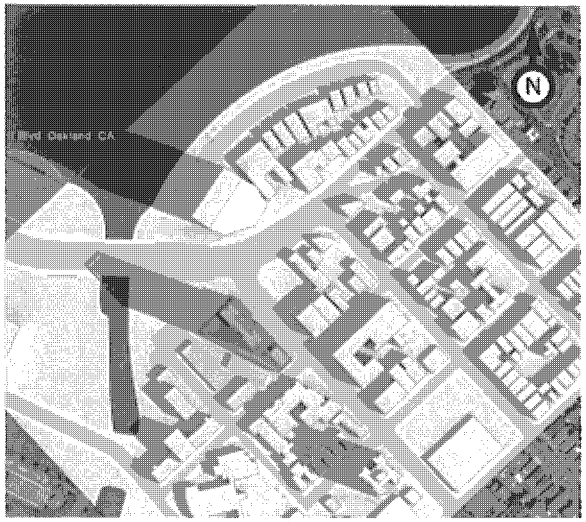
3:00 pm



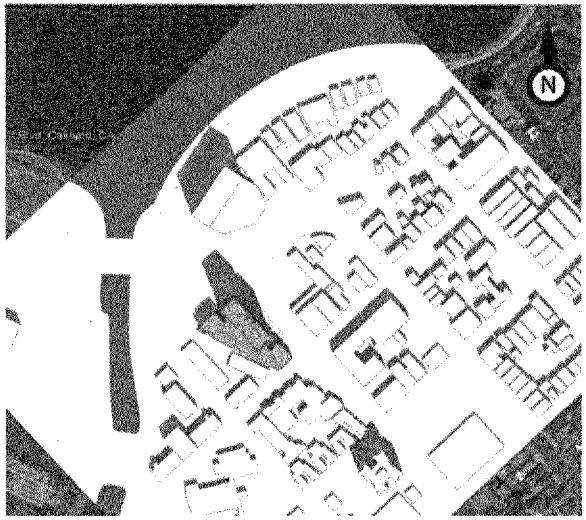
6:00 pm

RWDI
CONSULTING ENGINEERS & SCIENTISTS

4. Simulation Results – September 21st (PDT)



9:00 am

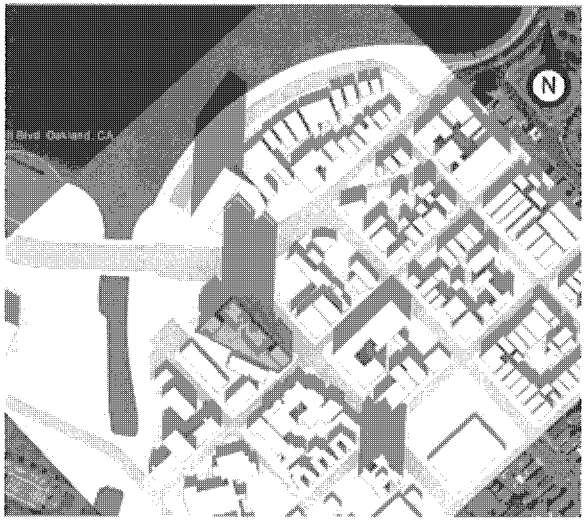


12:00 noon

3:00 pm

4. Simulation Results – December 21st (PST)

9:00 am



12:00 noon

3:00 pm

5. Summary

The renderings included in this report illustrate the shadows cast by the proposed conditions for the Lake Merritt Boulevard Apartments project site on the 21st day of March, June, September and December.

6. Applicability of Results

The results presented in this report pertain to the model of the proposed Lake Merritt Boulevard Apartments project generated using the architectural design drawings listed in Appendix A. Should there be any design changes that deviate from this list of drawings, the results presented may change. Therefore, if changes in the design are made, it is recommended that RWDI be contacted and requested to review their potential effects on sun/shadow conditions.

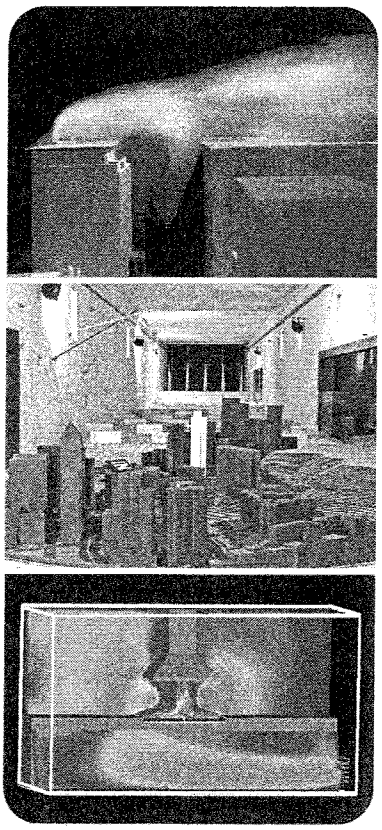
ATTACHMENT C

PEDESTRIAN WIND ASSESSMENT

CERMAK
PETERKA
PETERSEN

WIND ENGINEERING AND AIR QUALITY CONSULTANTS

Engineering Report



Pedestrian Wind Assessment for the

Lake Merritt Apartments

Prepared for:
LSA Associates
2215 Fifth Street
Berkeley, CA 94710

Prepared by:
Anthony S. Bova, Senior Engineer
Ronald L. Petersen, Ph.D., CCM, Principal

CPP Project: 7645
February 2015

CPP, Inc.

2400 Midpoint Drive, Suite 190
Fort Collins, Colorado 80525 USA

Tel: +1 970 221 3371
Fax: +1 970 221 3124

info@cppwind.com
www.cppwind.com

EXECUTIVE SUMMARY

This report documents the wind-tunnel study conducted by CPP, Inc. on behalf of LSA Associates (LSA) for the proposed Lake Merritt Apartments (LMA) in Oakland, California. The City of Oakland has the requirement that the building under design does not increase the likelihood of winds exceeding 36 mph at the site for more than one hour during daylight hours during the year (Oakland CEQA 2013). Hence, the purpose of this study was to conduct a pedestrian level wind assessment to evaluate the development's adherence to this requirement.

To meet the objectives of the study, a 1:300 scale model of the LMA and nearby surroundings within a 1700 ft radius was constructed and placed in CPP's boundary-layer wind tunnel. Measurements of winds likely to be experienced by pedestrians were combined with wind statistics and compared to the threshold criterion described above.

Three configurations were investigated. In Configuration A, the site and surroundings were modeled as they currently exist, i.e., the site was modeled as a vacant lot and all existing buildings within the 1700 ft radius were included. Note that this includes a fully constructed version of the building currently under construction at 116 15th Street. Configuration B was identical to Configuration A except for the addition of the LMA. Configuration C was identical to Configuration B except that a generic massing, representing a possible future development of Oakland Unified School District Properties (OUSD 2014), was added to the southwest of the LMA. A generic massing was added because the OUSD project is speculative and no plans are currently available for the actual structure.

The following summarizes the results of the study:

- The threshold criterion was not exceeded at any locations in configuration A.

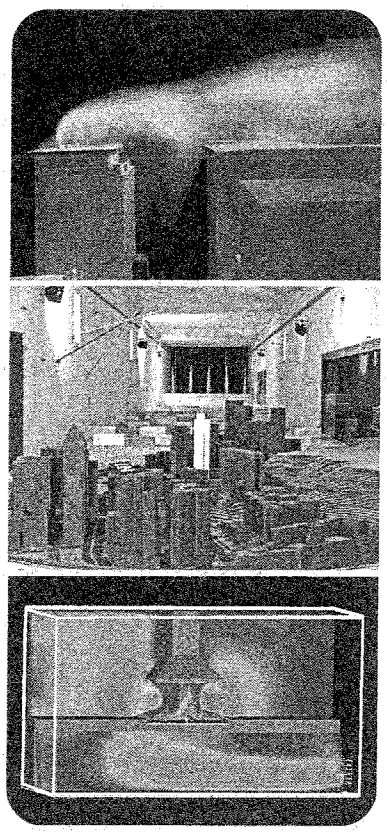
- In Configuration B, only two points exceed the criterion. Of these locations (location 7) is on the podium of the LMA and therefore may not be relevant in terms of environmental impact. Location 6 is at the south corner of the LMA. Both locations are amenable to wind speed reduction measures as recommended in Section 4.

- In configuration C, the criterion was exceeded at 6 of the 41 measurement locations. It should be noted that the generic massing is unlikely to be represent an actual future building structure at this location, thus the results of testing are more qualitative. It is also clear from a comparison between Configurations B and C that the generic massing, not the LMA, is responsible for the increase in the number of locations exceeding the threshold criterion.

CERMAK
PETERKA
PETERSEN

WIND ENGINEERING AND AIR QUALITY CONSULTANTS

Engineering Report



Pedestrian Wind Assessment for the Lake Merritt Apartments

Prepared for:
LSA Associates
2215 Fifth Street
Berkeley, CA 94710

Prepared by:
Anthony S. Bova, Senior Engineer
Ronald L. Petersen, Ph.D., CCM, Principal

CPP Project: 7645
February 2015

CPP, Inc.
2400 Midpoint Drive, Suite 190
Fort Collins, Colorado 80525 USA
Tel: +1 970 221 3371
Fax: +1 970 221 3124
info@cppwind.com
www.cppwind.com

EXECUTIVE SUMMARY

This report documents the wind-tunnel study conducted by CPP, Inc. on behalf of LSA Associates (LSA) for the proposed Lake Merritt Apartments (LMA) in Oakland, California. The City of Oakland has the requirement that the building under design does not increase the likelihood of winds exceeding 36 mph at the site for more than one hour during daylight hours during the year (Oakland CEQA 2013). Hence, the purpose of this study was to conduct a pedestrian level wind assessment to evaluate the development's adherence to this requirement.

To meet the objectives of the study, a 1:300 scale model of the LMA and nearby surroundings within a 1700 ft radius was constructed and placed in CPP's boundary-layer wind tunnel. Measurements of winds likely to be experienced by pedestrians were combined with wind statistics and compared to the threshold criterion described above.

Three configurations were investigated. In Configuration A, the site and surroundings were modeled as they currently exist, i.e., the site was modeled as a vacant lot and all existing buildings within the 1700 ft radius were included. Note that this includes a fully constructed version of the building currently under construction at 116 15th Street. Configuration B was identical to Configuration A except for the addition of the LMA. Configuration C was identical to Configuration B except that a generic massing, representing a possible future development of Oakland Unified School District Properties (OUSD 2014), was added to the southwest of the LMA. A generic massing was added because the OUSD project is speculative and no plans are currently available for the actual structure.

The following summarizes the results of the study:

- The threshold criterion was not exceeded at any locations in configuration A.
- In Configuration B, only two points exceed the criterion. Of these locations (location 7) is on the podium of the LMA and therefore may not be relevant in terms of environmental impact. Location 6 is at the south corner of the LMA. Both locations are amenable to wind speed reduction measures as recommended in Section 4.
- In configuration C, the criterion was exceeded at 6 of the 41 measurement locations. It should be noted that the generic massing is unlikely to be represent an actual future building structure at this location, thus the results of testing are more qualitative. It is also clear from a comparison between Configurations B and C that the generic massing, not the LMA, is responsible for the increase in the number of locations exceeding the threshold criterion.

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

1. INTRODUCTION

This report documents the wind-tunnel study conducted by CPP, Inc. on behalf of LSA Associates (LSA) for the proposed Lake Merritt Apartments (LMA) in Oakland, California. The City of Oakland has the requirement that the building under design does not increase the likelihood of winds exceeding 36 mph at the site for more than one hour during daylight hours during the year (Oakland CEQA 2013). Hence, the purpose of this study was to conduct a pedestrian level wind assessment to evaluate the development's adherence to this requirement.

All the data collection was performed in accordance with the American Society of Civil Engineers (ASCE) Standard 7 on wind loads (2006), and with the ASCE Manual of Practice Number 67 on wind-tunnel testing (1999).

This report includes wind tunnel test procedures, test results, and a discussion of test results obtained in the CPP, Inc. Wind Engineering Laboratory.

2. PROJECT DESCRIPTION

2.1 DESCRIPTION OF SITE

The Lake Merritt Apartments Lake Merritt (LMA) will be located in Oakland, California. A 1:300 scale model of the LMA and nearby surroundings was constructed and placed on a 3.45 m diameter turntable. The area modeled is depicted in Figure 1. Close-up plan views of the test buildings showing measurement locations and results are provided in Figure 2. Photos of the model are shown in Figure 3. Table 1 summarizes the model configurations, test methods, and data acquisition parameters used.

To accurately represent full scale wind profiles in the wind tunnel it is necessary to match the surface roughness length used in the model to that of the actual site. The surface roughness length for the approach to the site was specified using AERSURFACE (EPA, 2008) and aerial photographs. AERSURFACE uses land cover data from the U.S. Geological Survey (USGS) National Land Cover Data archives and computes weighted averages of surface roughness lengths for a specified radius. The AERSURFACE-predicted surface roughness was then compared to an estimated roughness using current aerial photographs. If they disagree, the AERSURFACE-predicted roughness was corrected accordingly. Based on AERSURFACE results out to a radius of 3 km, a target approach surface roughness length of 0.35 m was selected for use in the wind-tunnel modeling (see Appendix for details).

2.2 MEASUREMENT LOCATIONS

Mean (average) wind speed and turbulence intensity were measured at 41 locations on the turntable[1]. The locations were chosen to determine the degree of pedestrian comfort or discomfort at locations where relatively severe conditions frequently are found, such as at the building corners, near entrances and on adjacent sidewalks with heavy pedestrian traffic, and in open plaza areas. Wind speed data were obtained at each of the pedestrian measurement locations listed in Table 2 for the configurations described in Table 1. The data were analysed as discussed in the appendix.

[1] Locations are numbered 1-42, but location 8 was considered to be redundant because of its proximity to other points, and therefore was not tested. Instead of renumbering the remaining locations, location 8 was simply omitted from the report.

2.3 CLIMATE

The meteorological information of primary interest for this evaluation is the wind frequency distribution. Figure 4 shows the wind frequency distribution, in the form of a wind rose, at the Oakland International Airport anemometer. The anemometer is located approximately 6 miles SSW of the Lake Merritt Apartments site. The data were collected during the period from 2004 2013. The figure indicates that the most frequent high speed winds are from the WNW to WSW. Climate data were limited to hours between 6 AM and 8 PM (local time) to provide a conservative estimate of wind speeds during daylight hours.

3. CRITERIA AND RESULTS

To enable a quantitative assessment of the wind environment, the wind-tunnel data were statistically combined with the wind frequency and direction information from the Oakland International Airport anemometer to obtain cumulative probability distributions of wind speed for the full scale site at each pedestrian measurement location. The most significant comparison of the resulting data is with the criterion described below.

3.1 CRITERION

According to documents provided by the client, "The project would have a significant impact on the environment if it would…create winds that exceed 36 mph for more than one hour during daylight hours during the year." (CEQA Thresholds 2013). This is the sole criterion by which measurement locations in this study are classified as "passing" or "failing."

3.2 RESULTS

Figure 5 presents the results for each location in a bar chart format. These results are based on annual wind analysis for hours between 6 AM and 8 PM local time. Table 3 contains mean wind speeds at each location for each configuration.

A detailed presentation of the wind tunnel data and their integration to determine pedestrian wind comfort and distress is presented in the Appendix. Refer to the text in the appendix for a description of how to interpret this information.

4. DISCUSSION AND RECOMMENDATIONS

4.1 CONFIGURATION A - *VACANT LOT AT LOCATION OF THE LMA*

In this configuration, none of the tested locations fail the Oakland threshold criterion.

4.2 CONFIGURATION B - *LMA IN PLACE*

Locations failing the threshold criterion:

Locations 6 and 7 are expected to exceed the threshold criterion by about 6 and 1.5 daylight hours per year, respectively. Both locations are influenced by westerly winds (See polar plots in the Appendix). Note that location 7 is on the rooftop of the LMA podium/parking garage, and may therefore be less relevant in terms of environmental impact. At location 6, westerly winds will result in a gusty wake at the SE corner of the podium. Higher wind speeds are not uncommon at building corners. In this case high wind speeds may be reduced by the addition of porous screens or trees. If porous screens are used for wind speed reduction, porosities (open areas) of 30% are recommended.

Note that peak wind speeds at locations 38-40, which characterize areas beneath or above bridges to the west of the LMA, and locations 41 and 42, at or near the Lakeshore apartment tower, were not greatly influenced by the addition of the LMA, as suggested by comparison of Figure 5a and Figure 5b.

Locations passing the threshold criterion:

The remaining locations (1-5, 8-42) are not expected to exceed the threshold criterion.

4.3 CONFIGURATION C - *LMA AND GENERIC MASSING IN PLACE*

Locations failing the threshold criterion:

When a large generic massing is added to the south of the LMA, several more locations are estimated to fail the Oakland criterion. As in Configuration B (section 4.2), locations 6 and 7 fail the criterion. In addition, locations 5, 24, 31 and 36 also fail the criterion.

Location 31 is on top of the eastern rooftop structure on the podium of the LMA, and, just as location 7, may not be relevant in terms of environmental impact. Location 5 is on the sidewalk at the NE corner of the LMA, where recommended wind speed reduction measures such as those described section 4.2 may apply.

Note that the generic massing, while helpful in estimating a qualitative effect, is unlikely to be representative of the future building structure. What is clear from comparison with the results of Configuration B is that the generic massing, not the LMA building structure, is responsible for the threshold exceedances at the additional locations, including locations 24 and 36 to the east and west, respectively, of the LMA.

Locations passing the threshold criterion:

The remaining locations (1-4, 8-23, 25-30, 32-35, 37-42) are not expected to exceed the threshold criterion.

5. REFERENCES

American Society of Civil Engineers (1999), *Wind Tunnel Studies of Buildings and Structures* (ASCE Manual of Practice Number 67).

EPA, *AERSURFACE User's Guide*, EPA–454/B–08–001, USEPA Office of Air Quality Planning and Standards, Air Quality Assessment Division, Air Quality Modeling Group, Research Triangle Park, North Carolina, 2008.

Oakland CEQA (2013), City of Oakland CEQA Thresholds of significance guidelines, October 2013 (supplied by client).

OUSD (2014), Request for Developer Qualifications for new development of Oakland Unified School District Properties. *Issued by* the Oakland Unified School District, June 24, 2014 (supplied by client).

FIGURES

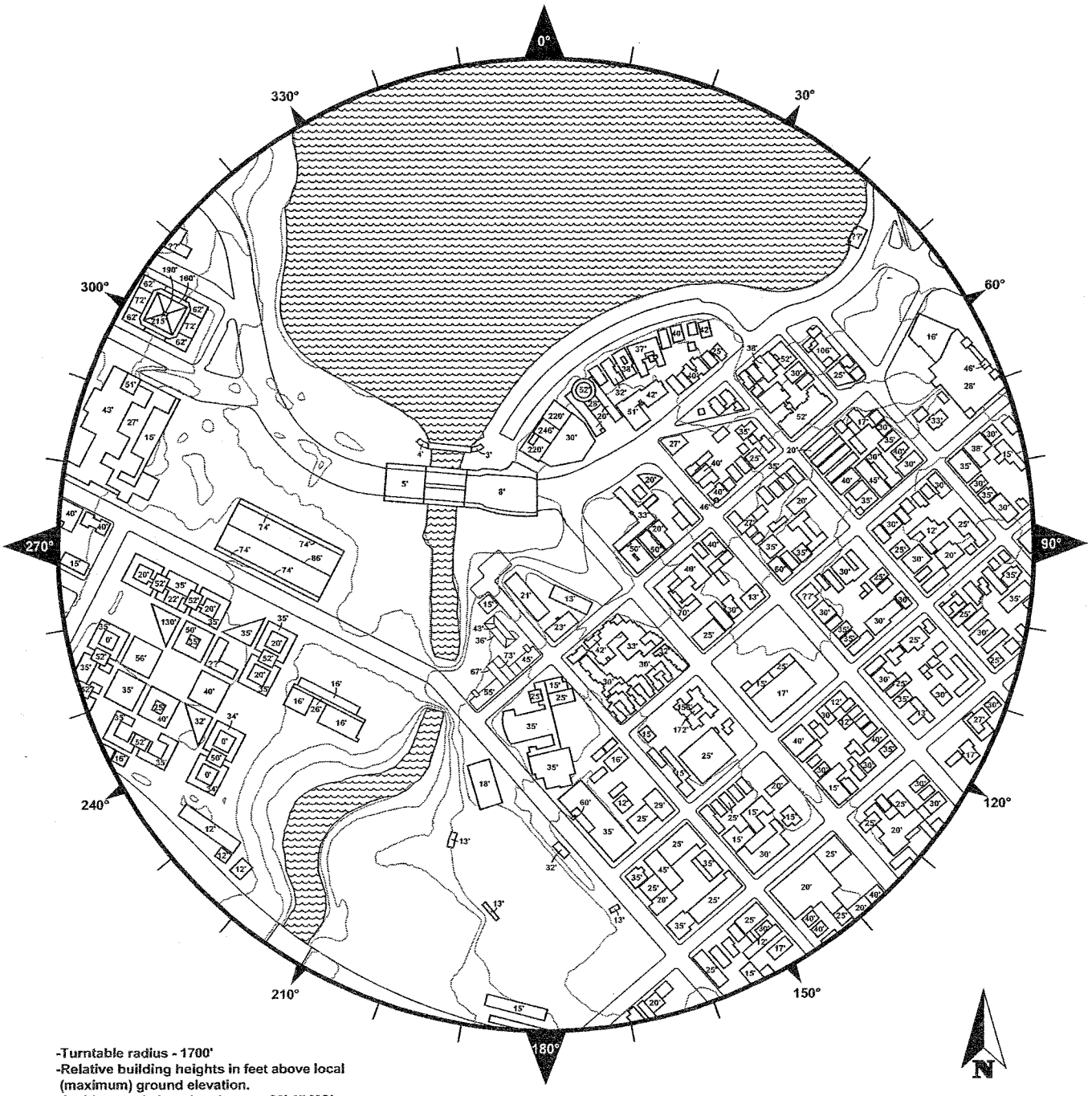


Figure 1. Plan view of the area modeled on the turntable with building heights: a) Configuration A.

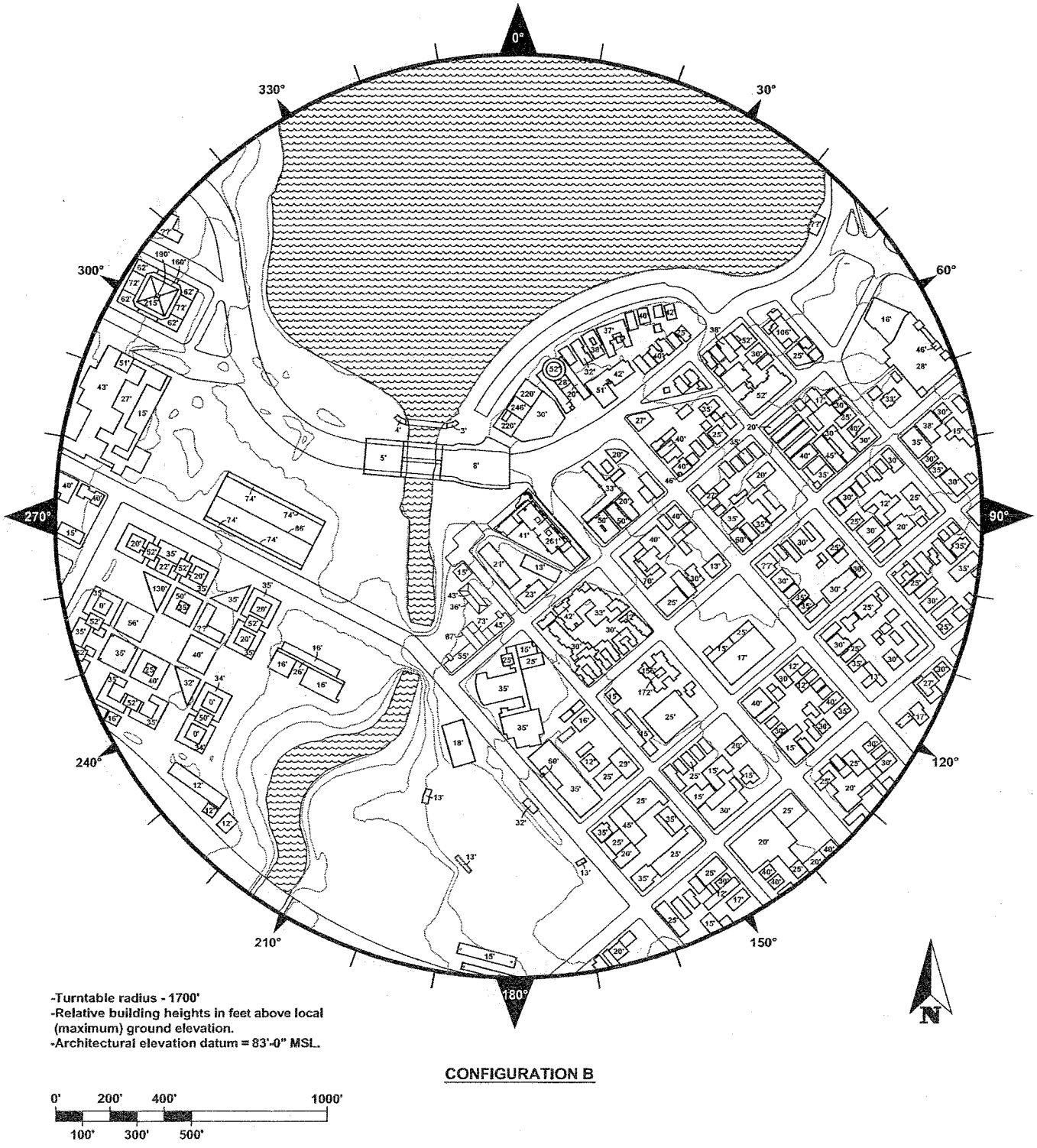


Figure 1. Plan view of the area modeled on the turntable with building heights: b) Configuration B.

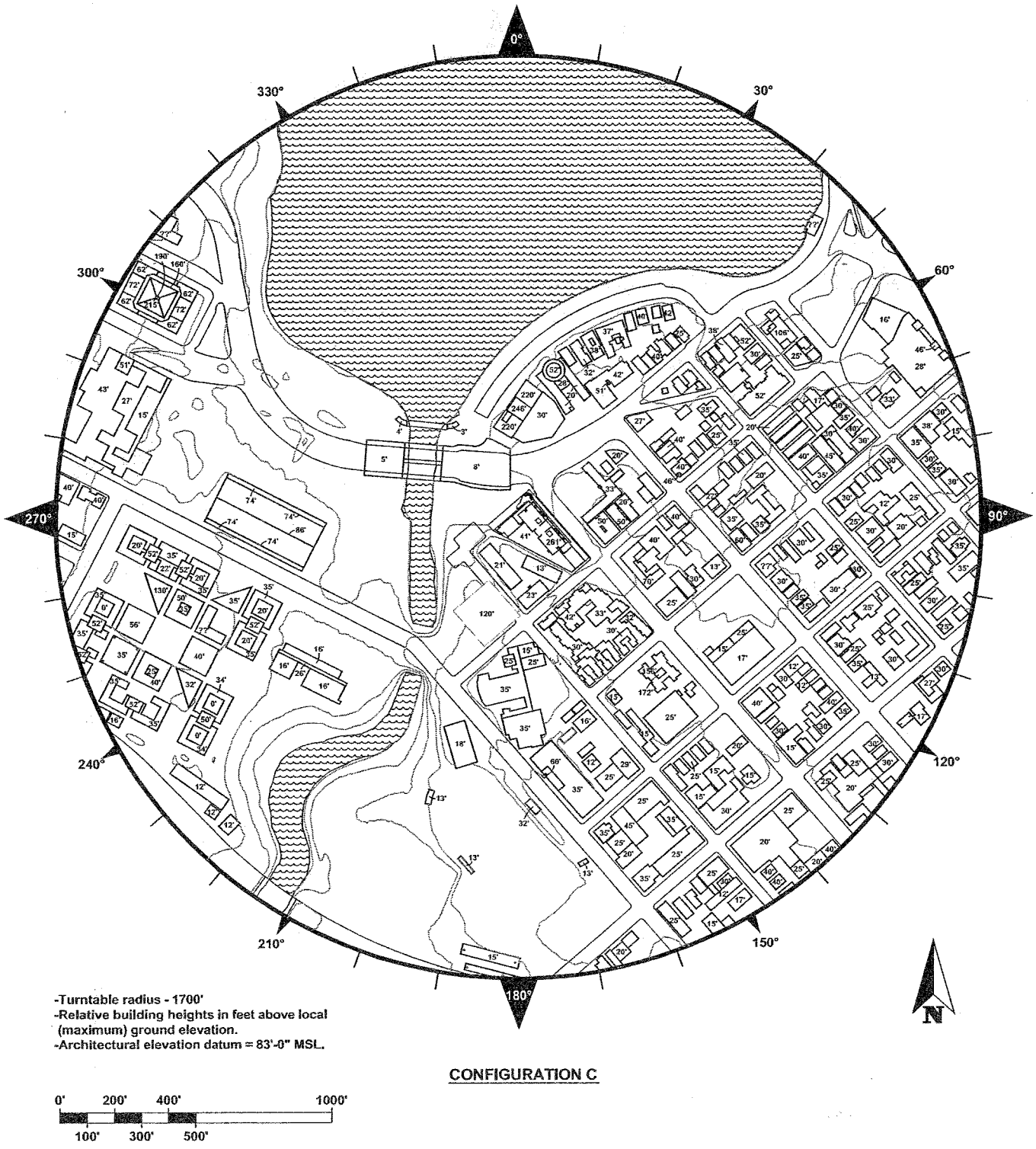


Figure 1. Plan view of the area modeled on the turntable with building heights: c) Configuration C.

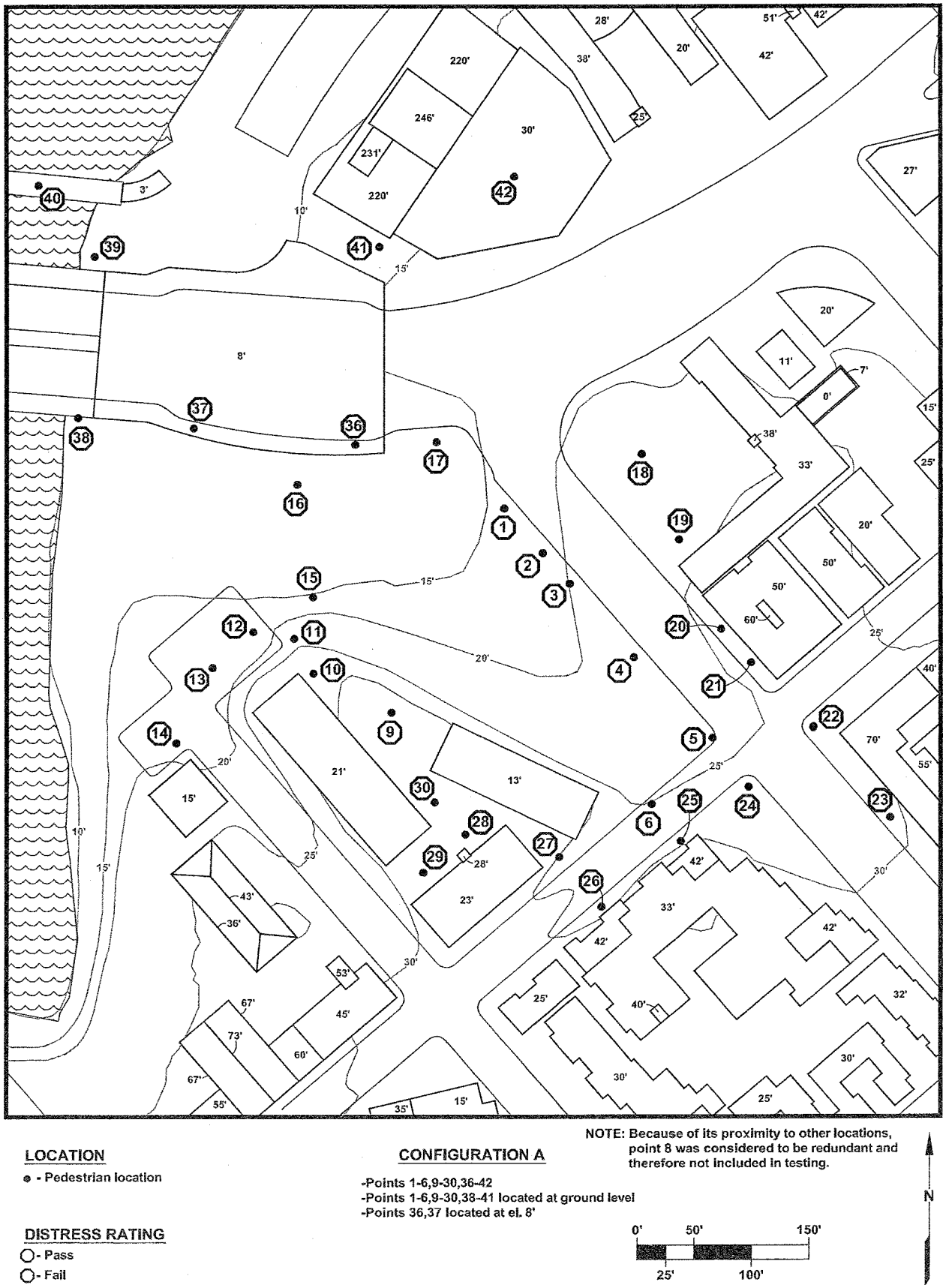


Figure 2. Close up of the LMA with measurement locations and annual daytime results: a) Configuration A.

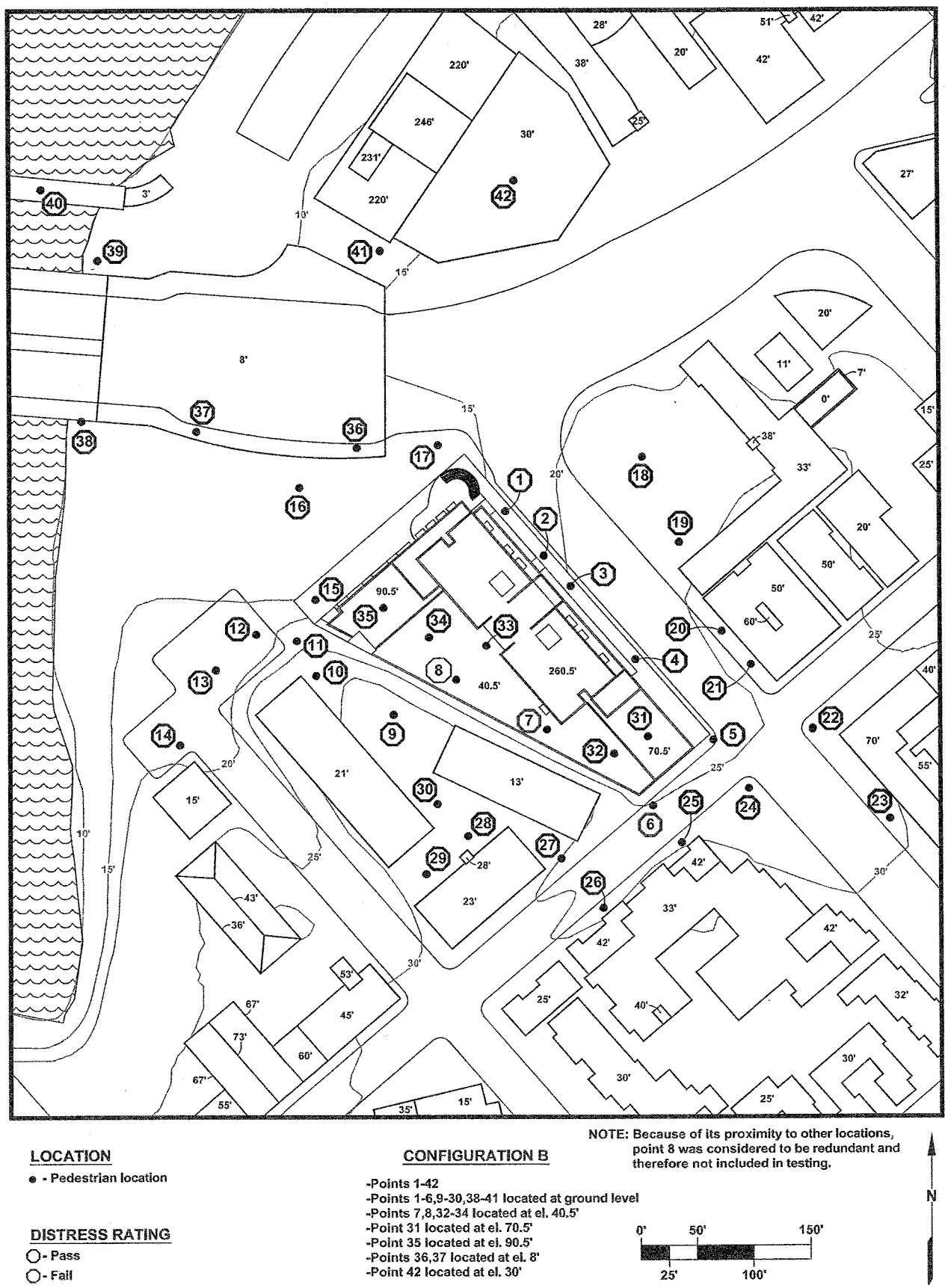


Figure 2. Close up of the LMA with measurement locations and annual daytime results: b) Configuration B.

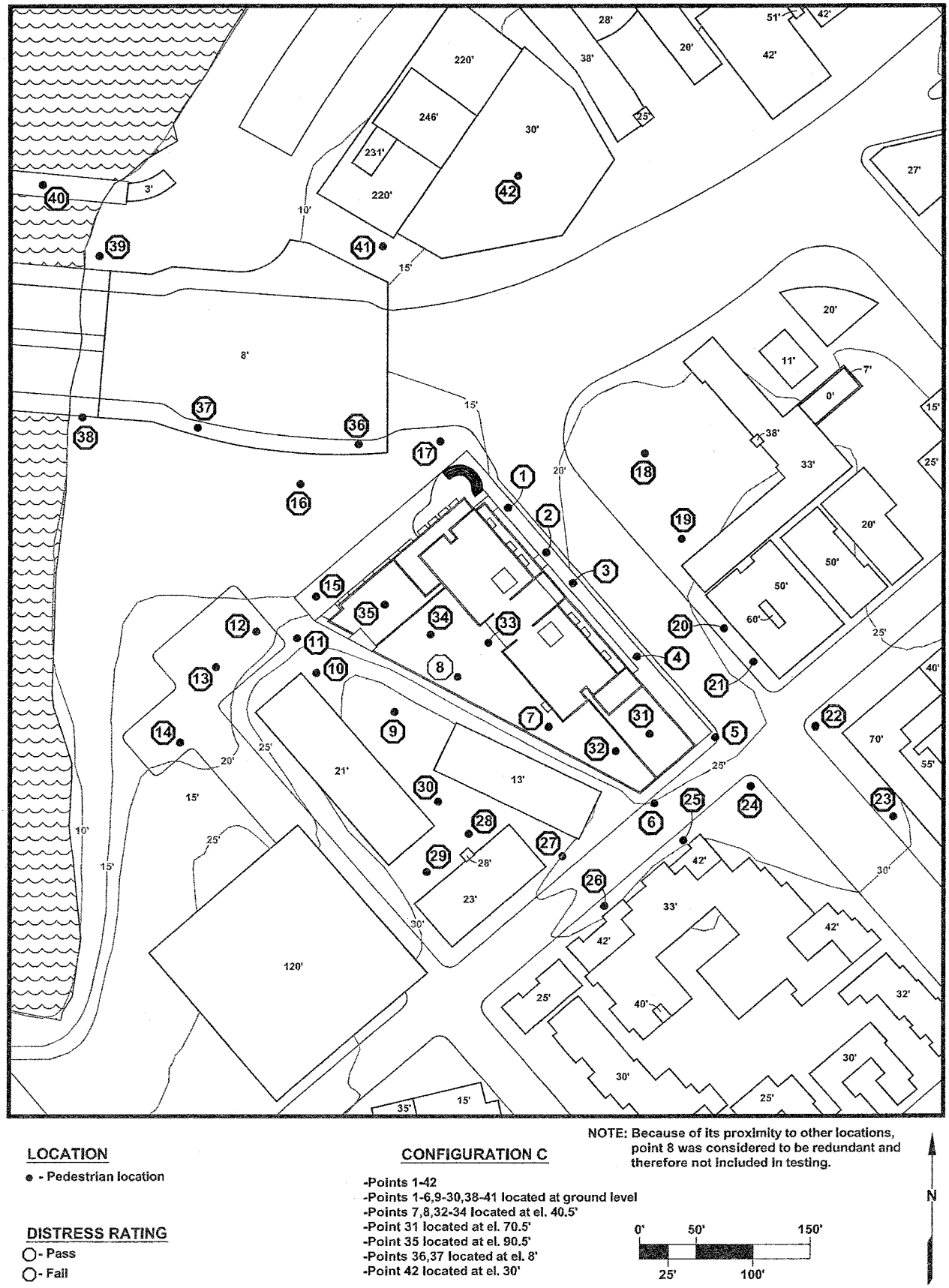


Figure 2. Close up of the LMA with measurement locations and annual daytime results: c) Configuration C.

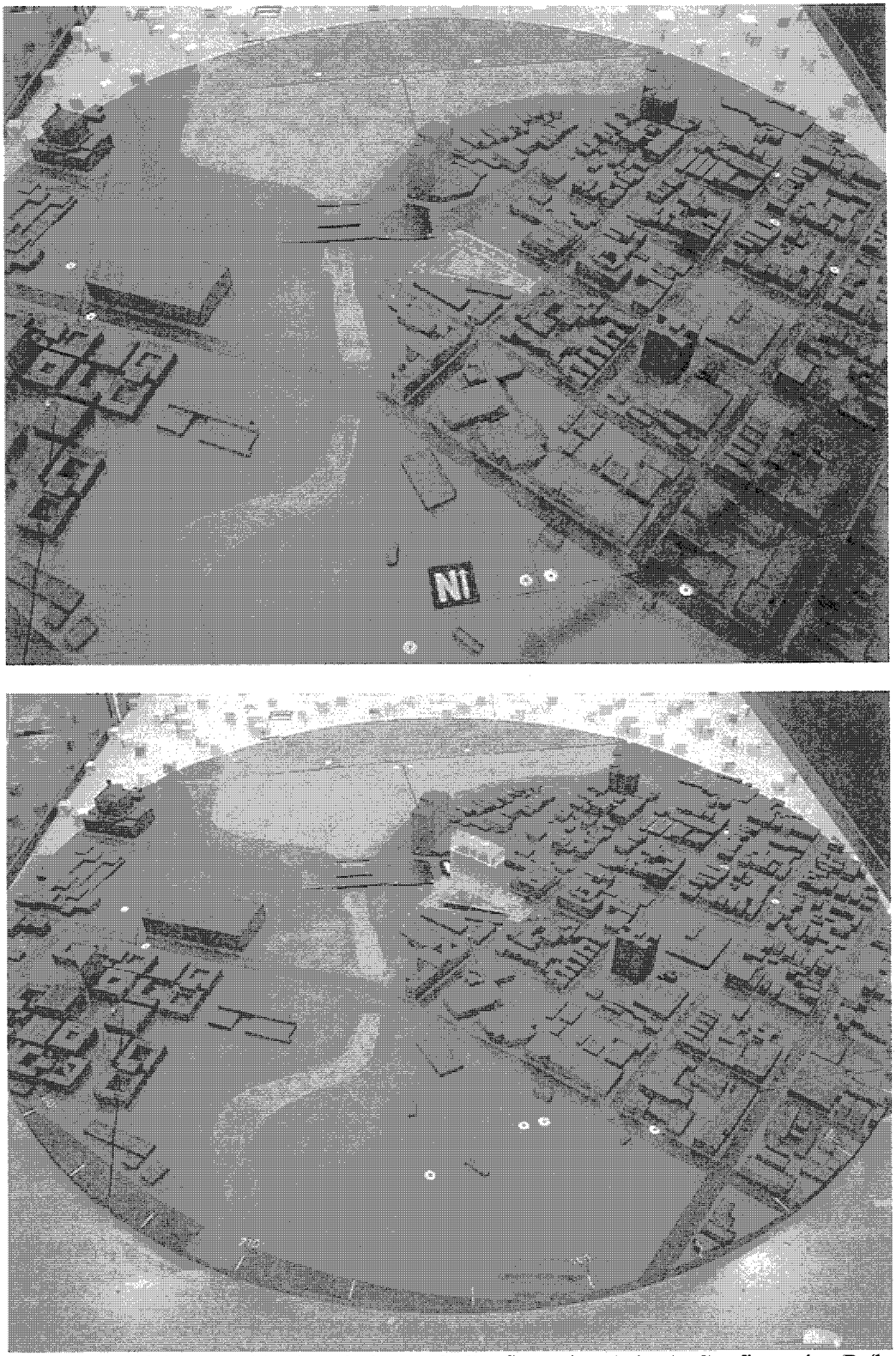


Figure 3. Photographs of the model in the wind tunnel: Configuration A (top); Configuration B (bottom). (Views from the SSE.)

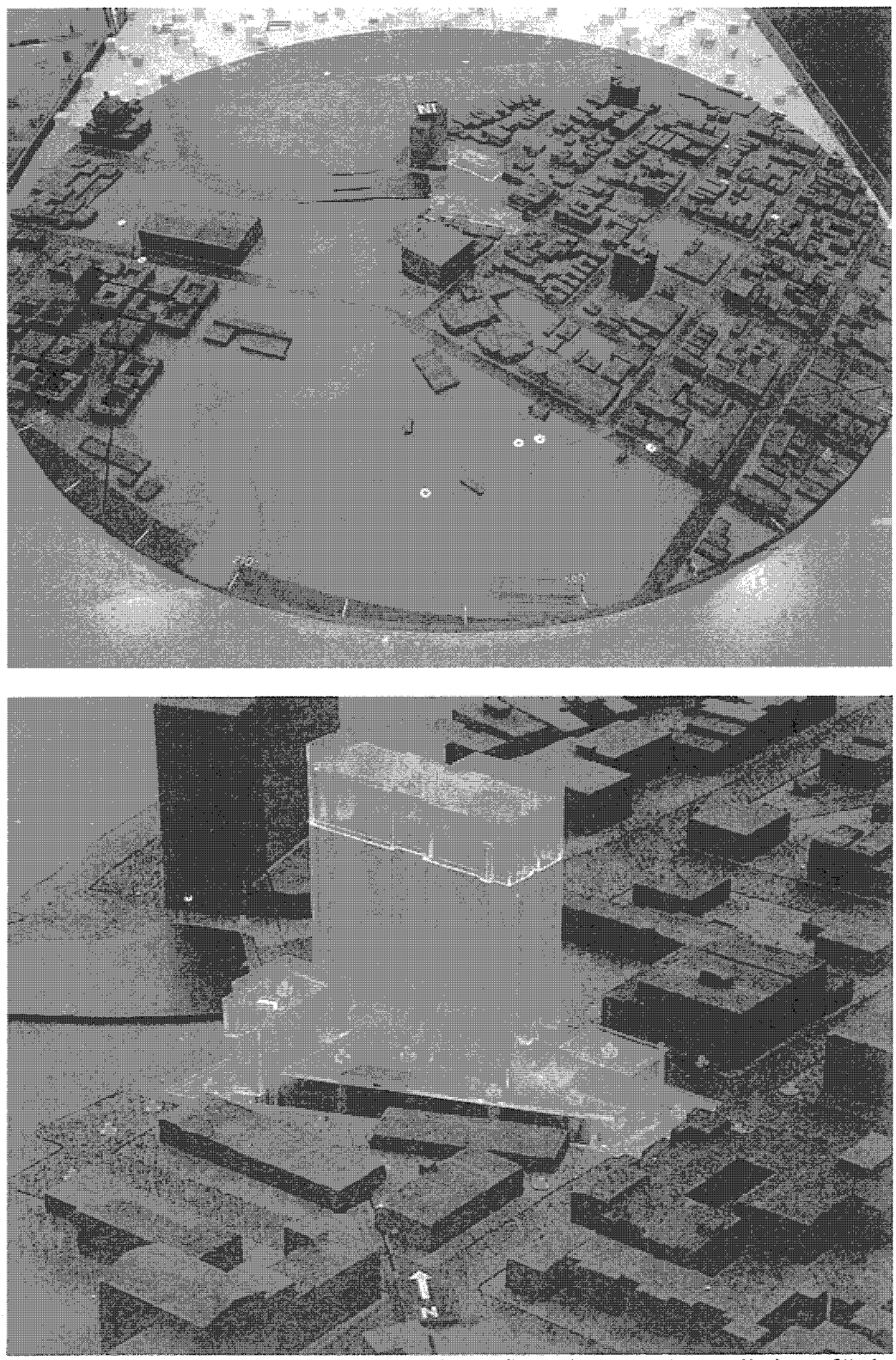


Figure 3. Photographs of the model in the wind tunnel: Configuration C (top); Detail view of Lake Merritt Apartment Tower and podium model (bottom). Views from SSE.

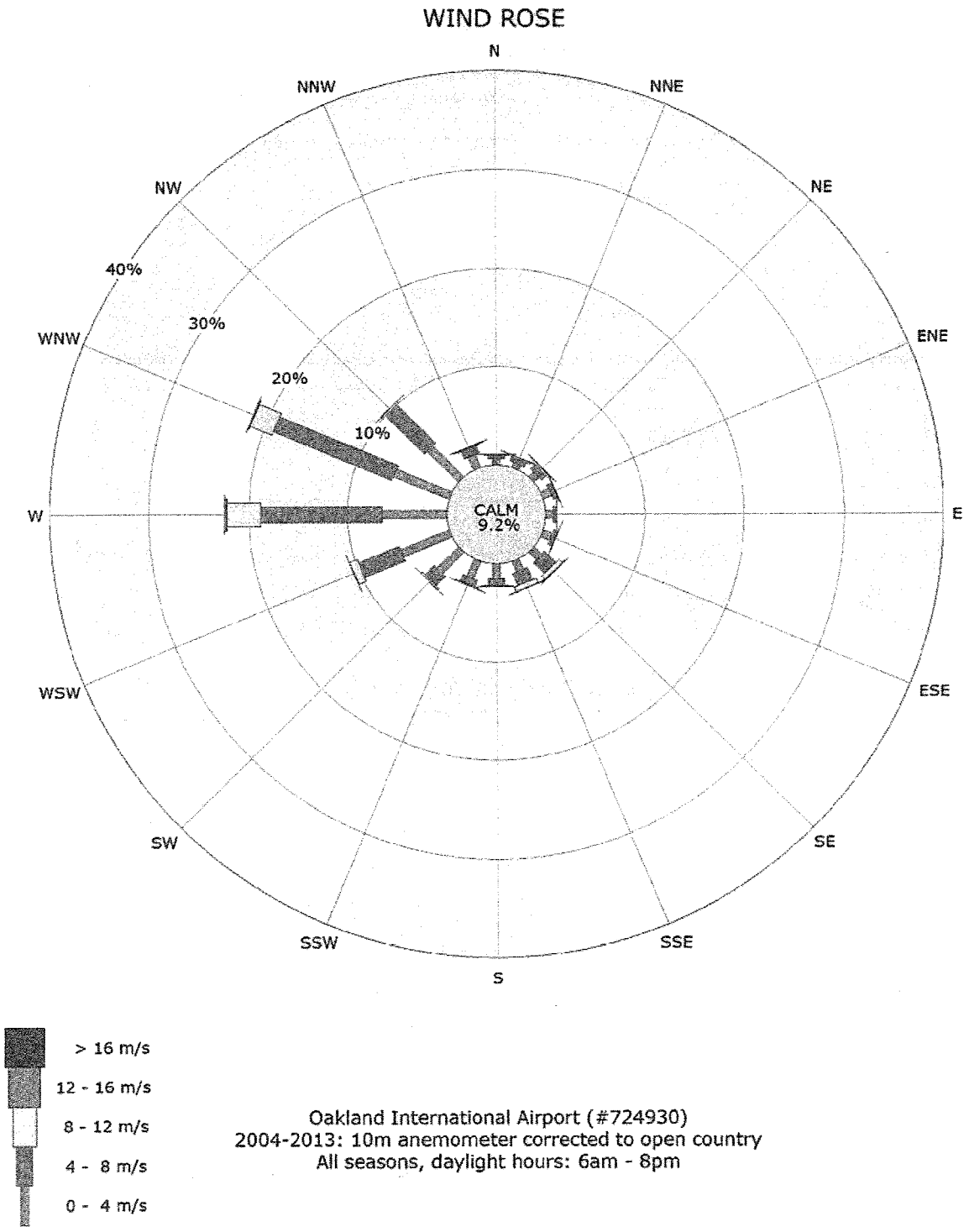


Figure 4. Wind rose for the Oakland International Airport anemometer.

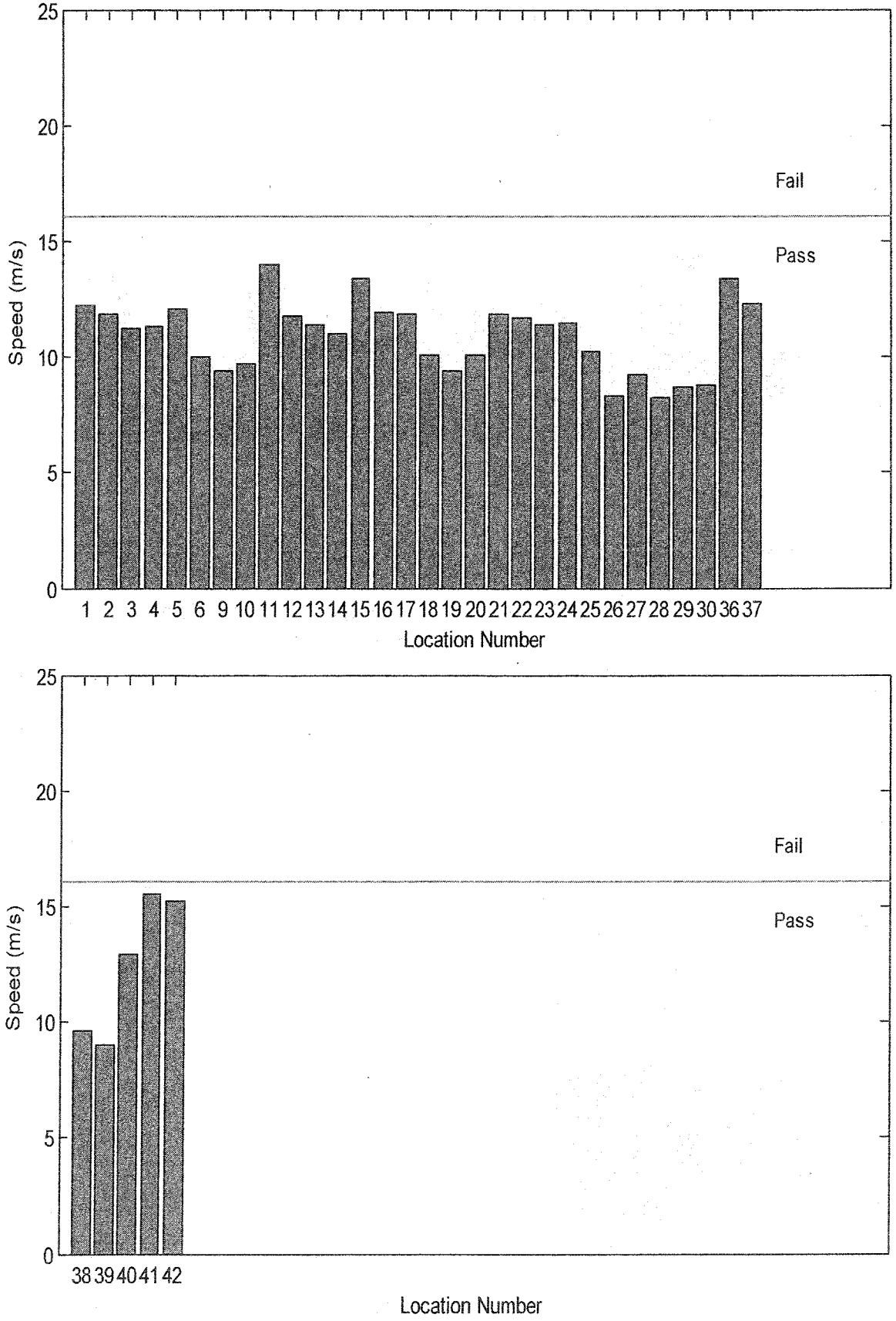


Figure 5. Annual peak wind speeds for each measurement location: a) Configuration A.

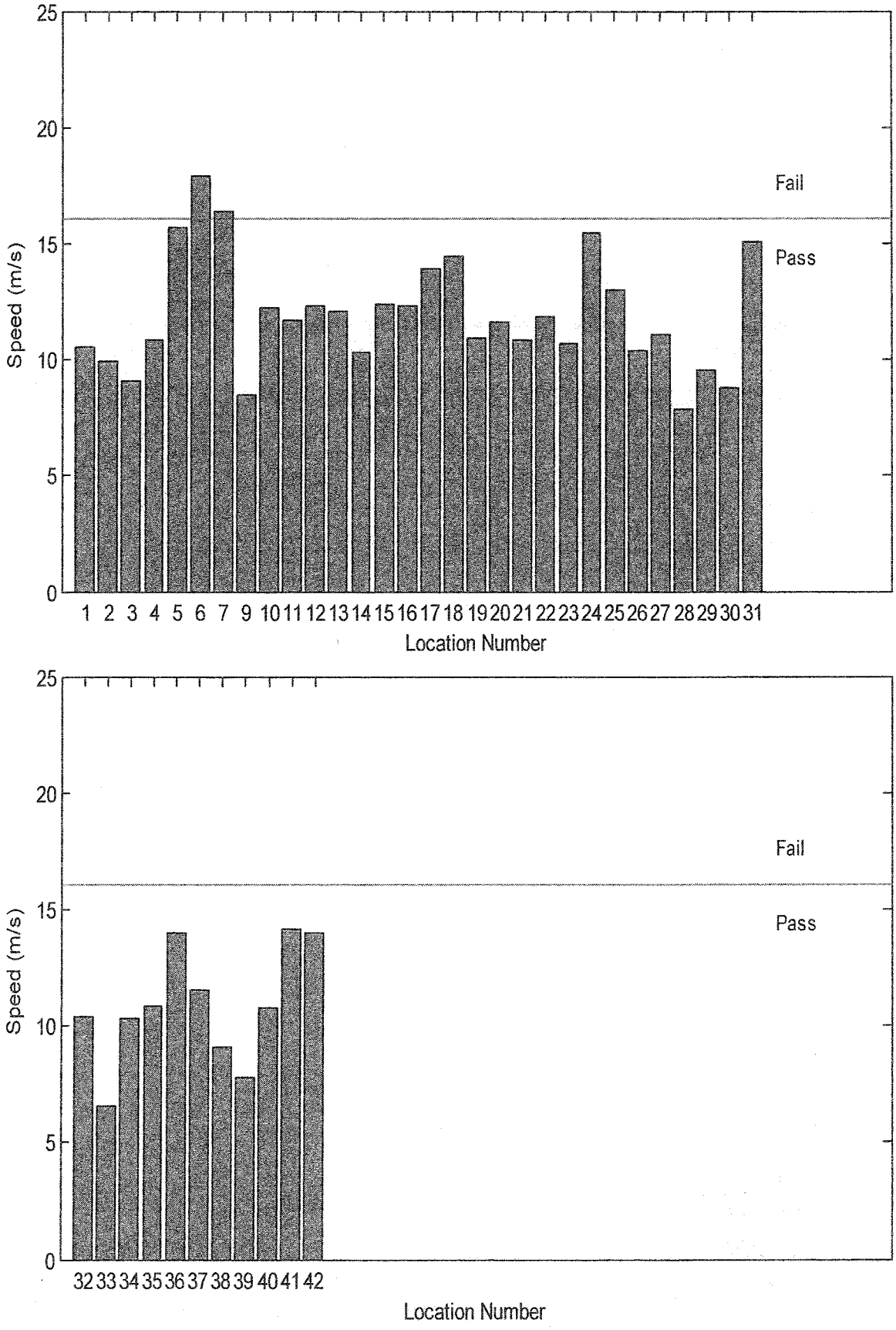


Figure 5. Annual peak wind speeds for each measurement location: b) Configuration B.

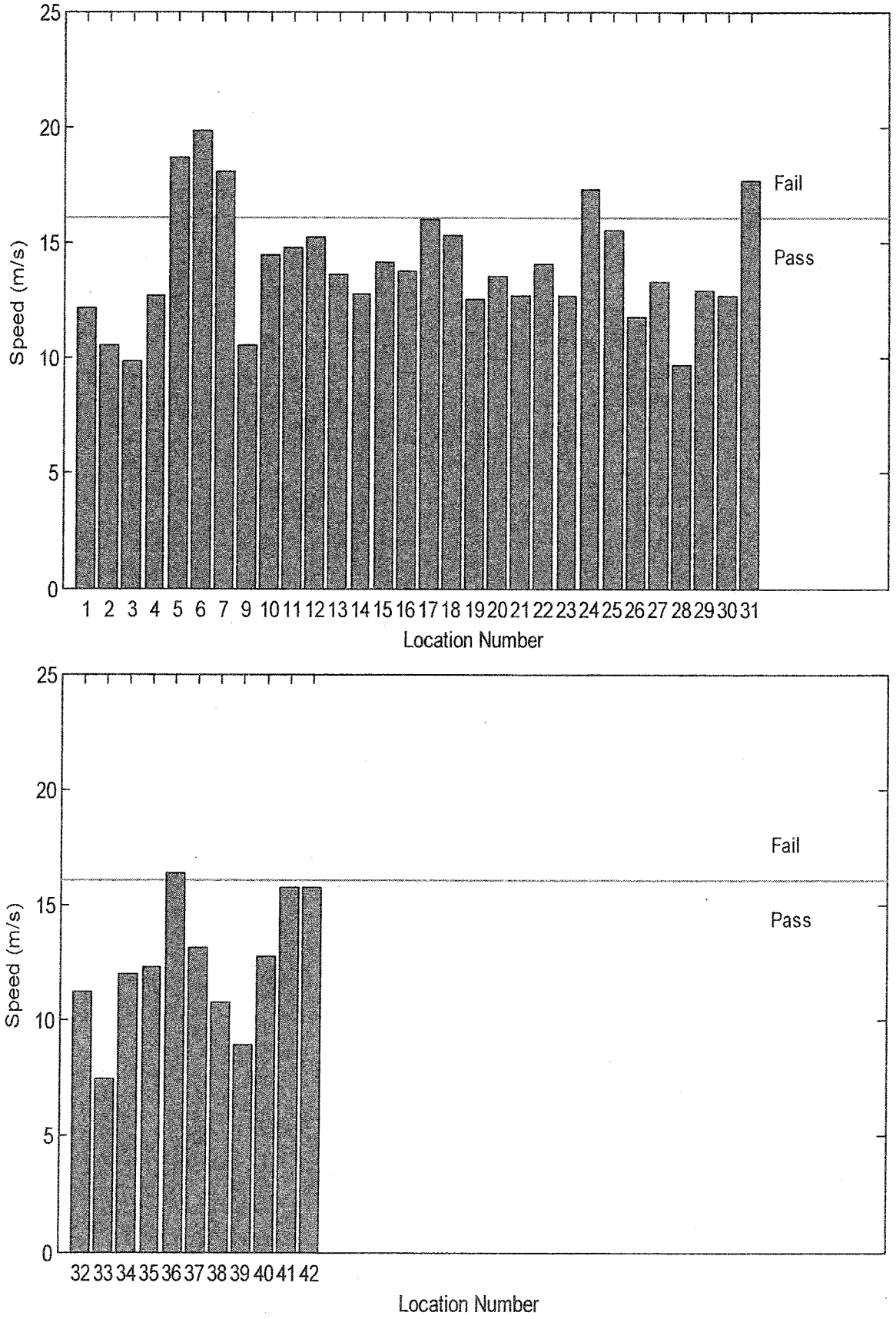


Figure 5. Annual peak wind speeds for each measurement location: c) Configuration C.

TABLES

Table 1. Configurations for Data Acquisition

Configuration A	
Geometry	Existing buildings *excluding* the Lake Merritt tower and podium (vacant lot at the LMA site).
Pedestrian Velocities	Pedestrian winds measured for 16 wind directions, in 22.5-degree increments, at full scale height of 5 to 7 ft | 1.5 to 2.1 m for **35** locations.
Configuration B	
Geometry	The Lake Merritt tower and podium in place with existing buildings.
Pedestrian Velocities	Pedestrian winds measured for 16 wind directions, in 22.5-degree increments, at full scale height of 5 to 7 ft, 1.5 to 2.1 m for **41** locations.
Configuration C	
Geometry	As in Configuration B, but with a generic massing to the southwest representing a possible future building.
Pedestrian Velocities	Pedestrian winds measured for 16 wind directions, in 22.5-degree increments, at full scale height of 5 to 7 ft | 1.5 to 2.1 m for **41** locations.

Table 2. Summary of Measurement Locations

Location	Description
1-4	Sidewalk locations along the north boundary of the LMA
5 and 6	Northeast and southeast corners of the LMA. podium/parking garage
7* and 31-35	Podium/garage rooftop and rooftop structures
9-11	Dewey High School plaza
12-14	Parking/open areas to the west of Dewey High School
15-17	Open space/park area to the west of the LMA
18-19	Parking area of Best Value Inn north of the LMA
20-23	Sidewalks on the north side of E 12th St. to the north and northeast of the LMA
24-26	Sidewalks on the east side of 2nd Ave., to the east of the LMA
27-30	Locations within the Dewey High School complex, south/southwest of the LMA
36 and 37	Sidewalk to the west of the LMA
38 and 39	Walkway that passes under the Lake Merritt Blvd. bridge
40	Pedestrian bridge to the west of the Lake Merritt Blvd. bridge
41-42	Sidewalk south of Lakeshore apartments, and the Lakeshore Apartments podium, respectively

All locations are at ground level unless otherwise indicated.
*Point 8 was considered to be a redundant location and was therefore omitted.

Table 3. Summary Table of Average Wind Speeds Predicted By Wind Tunnel Simulations

Measurement	Configuration A		Configuration B		Configuration C	
Location	MPH	m/s	MPH	m/s	MPH	m/s
1	15.7	7.0	12.1	5.4	12.3	5.5
2	15.0	6.7	9.2	4.1	9.6	4.3
3	14.3	6.4	8.3	3.7	8.3	3.7
4	14.3	6.4	8.5	3.8	8.5	3.8
5	15.4	6.9	17.0	7.6	17.9	8.0
6	11.4	5.1	23.5	10.5	23.7	10.6
7	n/a	n/a	21.5	9.6	22.6	10.1
9*	8.7	3.9	9.6	4.3	12.8	5.7
10	8.9	4.0	16.6	7.4	17.4	7.8
11	17.9	8.0	12.3	5.5	12.5	5.6
12	14.5	6.5	10.5	4.7	11.0	4.9
13	14.1	6.3	10.3	4.6	10.3	4.6
14	13.4	6.0	10.7	4.8	10.1	4.5
15	17.0	7.6	11.2	5.0	10.7	4.8
16	15.0	6.7	11.2	5.0	11.6	5.2
17	15.0	6.7	17.4	7.8	17.9	8.0
18	12.3	5.5	19.2	8.6	19.5	8.7
19	9.4	4.2	11.4	5.1	11.6	5.2
20	11.2	5.0	13.6	6.1	14.1	6.3
21	13.9	6.2	13.4	6.0	13.6	6.1
22	13.6	6.1	14.8	6.6	15.7	7.0
23	13.0	5.8	11.2	5.0	10.7	4.8
24	14.8	6.6	19.2	8.6	20.4	9.1
25	10.1	4.5	16.3	7.3	18.1	8.1
26	7.8	3.5	11.0	4.9	9.4	4.2
27	6.5	2.9	7.4	3.3	7.8	3.5
28	7.6	3.4	6.9	3.1	8.7	3.9
29	8.9	4.0	9.4	4.2	14.5	6.5
30	7.6	3.4	11.0	4.9	15.9	7.1
31	n/a	n/a	14.5	6.5	14.1	6.3
32	n/a	n/a	13.4	6.0	13.6	6.1
33	n/a	n/a	6.5	2.9	7.2	3.2
34	n/a	n/a	11.2	5.0	11.9	5.3
35	n/a	n/a	9.8	4.4	10.3	4.6
36	17.4	7.8	15.4	6.9	16.1	7.2
37	15.9	7.1	13.2	5.9	13.6	6.1
38	10.7	4.8	8.7	3.9	8.9	4.0
39	8.3	3.7	7.8	3.5	8.3	3.7
40	12.1	5.4	11.0	4.9	11.9	5.3
41	18.1	8.1	18.8	8.4	19.7	8.8
42	11.9	5.3	12.3	5.5	12.3	5.5

* Location 8 was omitted for reasons mentioned in the report

APPENDIX
A
ANALYSIS AND RESULTS DETAILS

TABLE OF CONTENTS

LIST OF FIGURES

A.1. ATMOSHERIC BOUNDARY LAYER SIMULATION

Modelling of the pedestrian wind environment near a structure requires special consideration of flow conditions to obtain similitude between the model and the prototype. A detailed discussion of the similarity requirements and their wind-tunnel implementation can be found in Cermak (1971, 1975, 1976). These criteria are satisfied by constructing a scale model of the structure and its surroundings, and performing the tests in a wind tunnel specifically designed to model atmospheric boundary-layer flows.

A.1.1 ATMOSPHERIC BOUNDARY LAYER

An analysis of the mean velocity profile was conducted to determine whether the shape was characteristic of that expected in the atmosphere. The starting point in any analysis of the mean velocity profile characteristics is to consider the equations which are commonly used to predict the distribution of wind and turbulence in the atmosphere. The most common equation, which has a theoretical basis, is referred to as the "log-law" and is given by:

$$\frac{U}{U_*} = \frac{1}{k} \ln\left(\frac{z}{z_o}\right) \qquad \text{A.1}$$

where

U = the velocity at height z;

z = elevation above ground-level;

z_o = the surface roughness length;

U_* = the friction velocity; and

k = the von Kàrmàn's constant (which is generally taken to be 0.4).

Another equation which is commonly used to characterize the mean wind profile is referred to as the "power-law" and is given by:

$$\frac{U}{U_r} = \left(\frac{z}{z_r}\right)^n \qquad \text{A.2}$$

where

z_r = is some reference height;

U_r = is the wind speed at the reference height; and

n = is the "power-law" exponent.

This wind tunnel flow is adjusted to match the atmospheric flow characterization at the project site as discussed in the main report.

A consistency check is to relate the power-law exponent, n, to the surface roughness length, z_o. Counihan (1975) presents a method for computing the "power-law" from the surface roughness length, z_o, using the following equation:

$$n = 0.24 + 0.096 \log_{10} z_o + 0.016 (\log_{10} z_o)^2 \quad \text{A.3}$$

A.1.2 WIND TUNNEL CONFIGURATION

All testing was carried out in CPP's closed-circuit wind tunnel shown in **Error! Reference source not found.**. Turning vanes at the tunnel elbows were used to maintain a homogeneous flow at the test-section entrance. Spires and a trip at the leading edge of the test section begin the development of the atmospheric boundary layer. The long boundary layer development region between the spires and the site model was filled with roughness elements in a pattern experimentally set to develop the appropriate approach boundary layer wind profile and approach surface roughness length.

A.2. DATA ACQUSITION AND PROCESSING

Wind speed data were obtained at each of the pedestrian measurement locations listed in main report. The measurements were made with a CPP Probe (calibratible pedestrian-level pressure probe).

The data were analysed to provide: 1) the mean wind speed, U_{mean}, normalized by the tunnel reference wind speed, U_{ref}; 2) the turbulence intensity (a measure of wind gustiness), U_{rms}/U_{ref}; and 3) the largest normalized effective peak gust,

$$\frac{U_{peak}}{U_{ref}} = \left(\frac{U_{mean} + 3U_{rms}}{U_{ref}} \right) \qquad \text{A.4}$$

Calibration of the hot-film anemometers was performed by comparing output with the Pitot-static probe in the wind tunnel. The calibration data were fit to a King's Law relationship (King, 1914). The CPP Probe, a device that measures fluctuations in pressure to determine wind speed, was validated against a hot-film anemometer.

A.2.1 PROBABILITY ANALYSIS FOR COMFORT RATINGS

For prediction of pedestrian wind comfort, the wind data from the anemometer described in the main report were used to form a joint probability density of speed and direction, called a wind rose (presented in the main report).

The wind rose data were corrected to 10 m above the ground and an open country approach, then fit to a Weibull distribution at a 10 m height of the form,

$$P_i(>U) = a_i \exp\left[-(u/C)^k\right] \qquad \text{A.5}$$

and at the pitot reference elevation ($z_{ref} = 984$ ft)

$$P_i(>U) = a_i \exp\left[-(u/C_{ref})^k\right] \qquad \text{A.6}$$

where:

$i = 1$ to 16 directions;

a_i is the probability of wind coming from direction i;

k and C are variables in the Weibull distribution;

C_{ref} results from the multiplication of C by the site ratio that converts the wind speeds to the reference height and also accounts for terrain category upwind of the site by means of an ESDU (2006) analysis.

A.3. INTERPRETATION OF PEDESTRIAN WIND FIGURES

A.3.1 ANNUAL ANALYSIS

For each location in Figure A.1, the left plot represents the non-dimensional wind tunnel data obtained by dividing the measured directional wind speeds by the mean reference wind speed (in the free stream upwind of the model). This technique allows the wind tunnel data to be combined with the wind climate data adjusted to the same reference height. Both mean and peak wind speeds are shown (as described in the legend).

The middle plot shows the details of the Lawson comfort analysis. The Lawson (1990) comfort rating is shown under each plot, along with the critical mean and gust equivalent mean wind speeds ($U_{GEM} = U_{peak}/1.85$). The black bars indicate for the given location which directions are most sensitive to the general wind climate. In other words, the longest black bar indicates the wind direction contributing most to the Lawson rating. The sum of the length of all bars equals the 5% occurrence that is the basis for the Lawson comfort criteria.

The right plot for each location shows the details of the threshold criterion in the same manner as the middle plot. The sum of the length of all bars equals 0.0196% (1 hour) of daylight hours (6 AM to 8 PM) per year.

A.4. REFERENCES

American Society of Civil Engineers (2010), Minimum Design Loads for Buildings and Other Structures (ASCE 7–10).

American Society of Civil Engineers (1999), Wind Tunnel Studies of Buildings and Structures (ASCE Manual of Practice Number 67).

Cermak, J.E., "Laboratory Simulation of the Atmospheric Boundary Layer," AIAA Journal., Vol. 9, September 1971.

Cermak, J.E., "Applications of Fluid Mechanics to Wind Engineering," Journal Fluids Engineering, Vol. 97, P. 9, 1975.

Cermak, J.E., "Aerodynamics of Buildings," Annual Review of Fluid Mechanics, Vol. 8, pp. 75-106, 1976.

Choi, C., A. Kareem, M. Matsumoto, G. Solari and C.J. Baker, ed. Wind and Structures, Volume 5, Number 2-4, ISSN 1226-6116, March-July 2002.

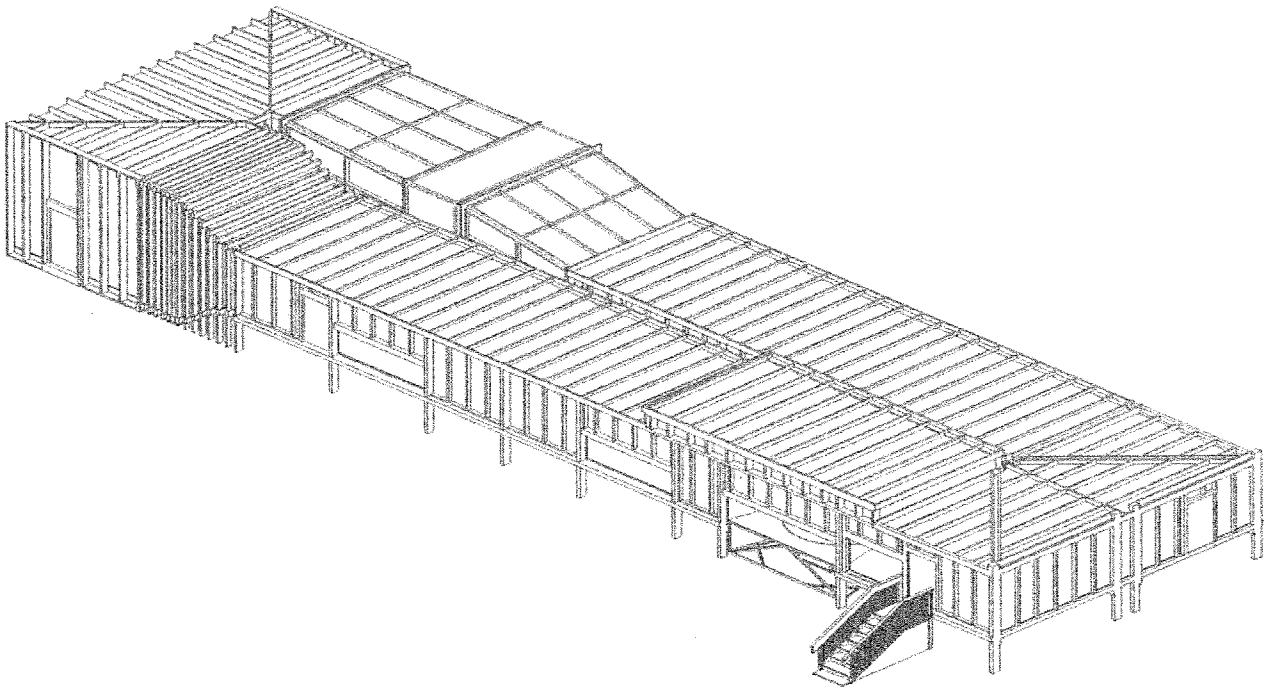
ESDU 01008 (2006), Computer program for wind speeds and turbulence properties: flat or hilly sites in terrain with roughness change, IHS ESDU International.

King, C.V., "On the Convection of Heat From Small Cylinders in a Stream of Fluid," Philosophical Transactions of the Royal Society, London, Vol. A214, p. 373, 1914.

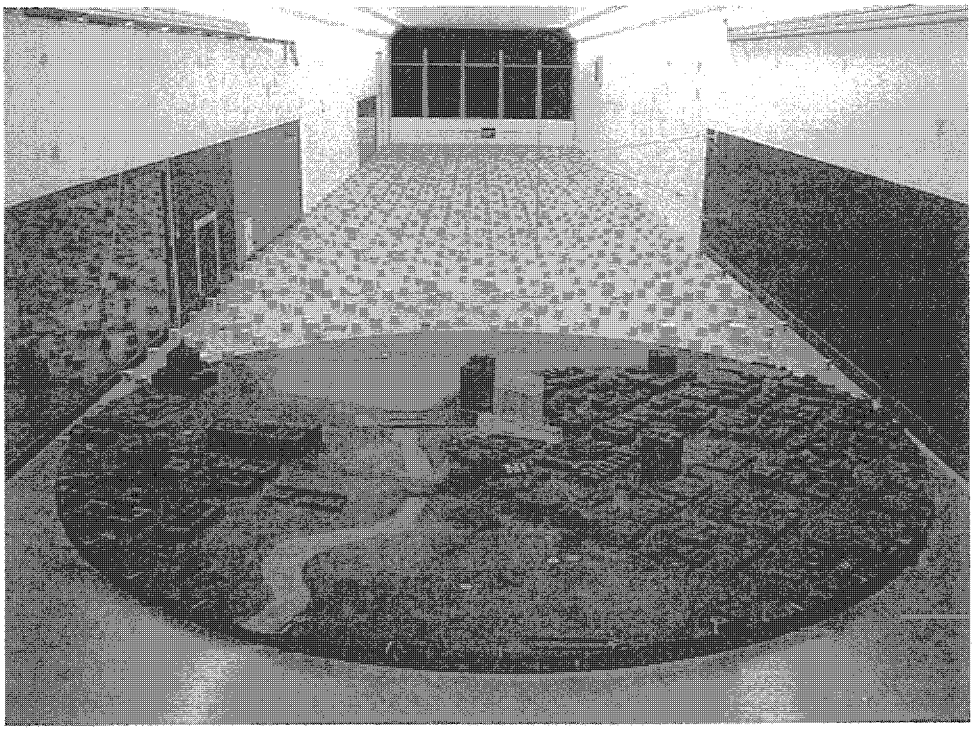
Lawson, T.V. (1990), "The Determination of the Wind Environment of a Building Complex before Construction," Department of Aerospace Engineering, University of Bristol, Report Number TVL 9025.

FIGURES

CPP's Closed-Circuit Wind Tunnel



CPP's Closed-Circuit Wind Tunnel



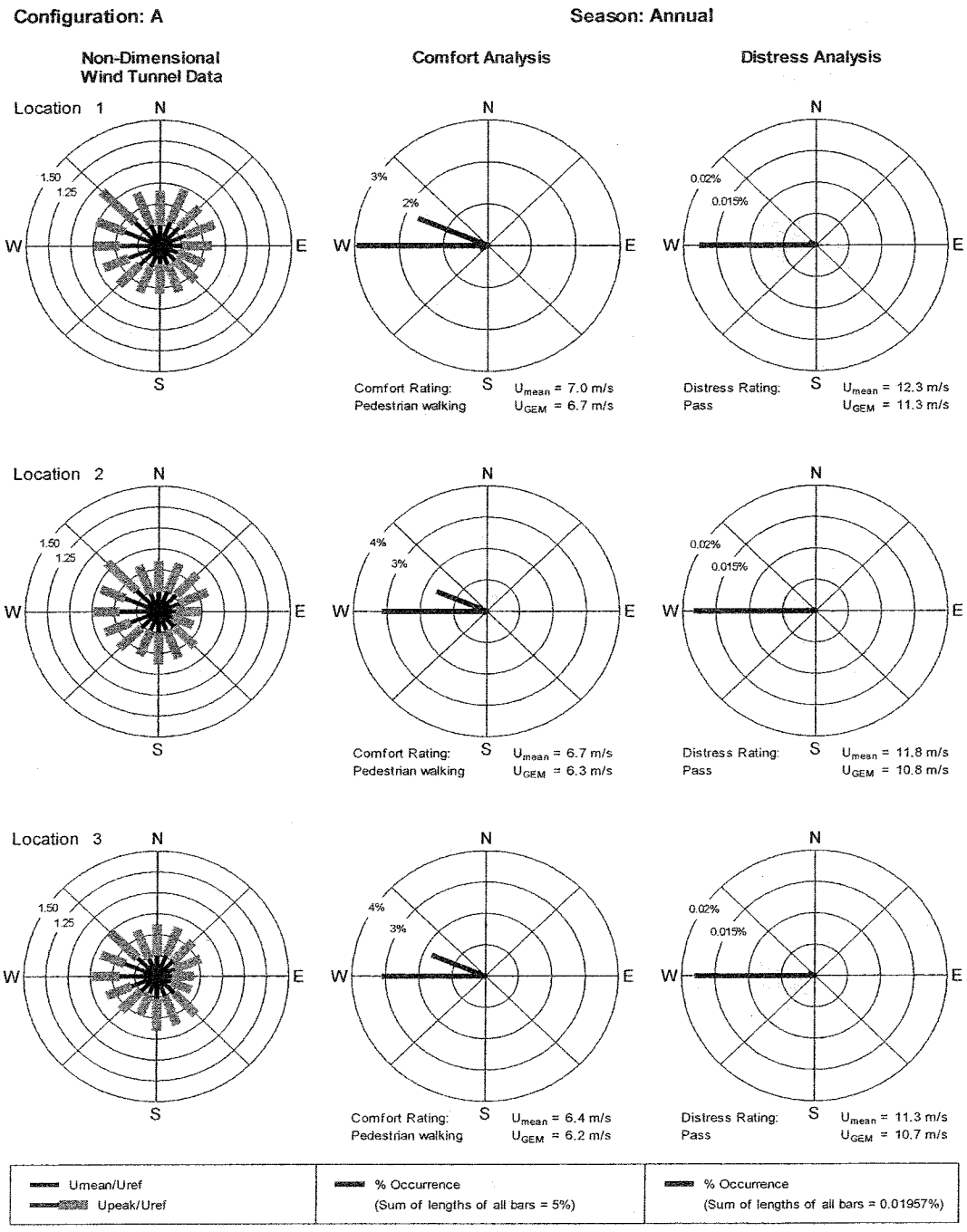


Figure A.1. Combination of wind tunnel data with annual daylight wind climate - Configuration A .

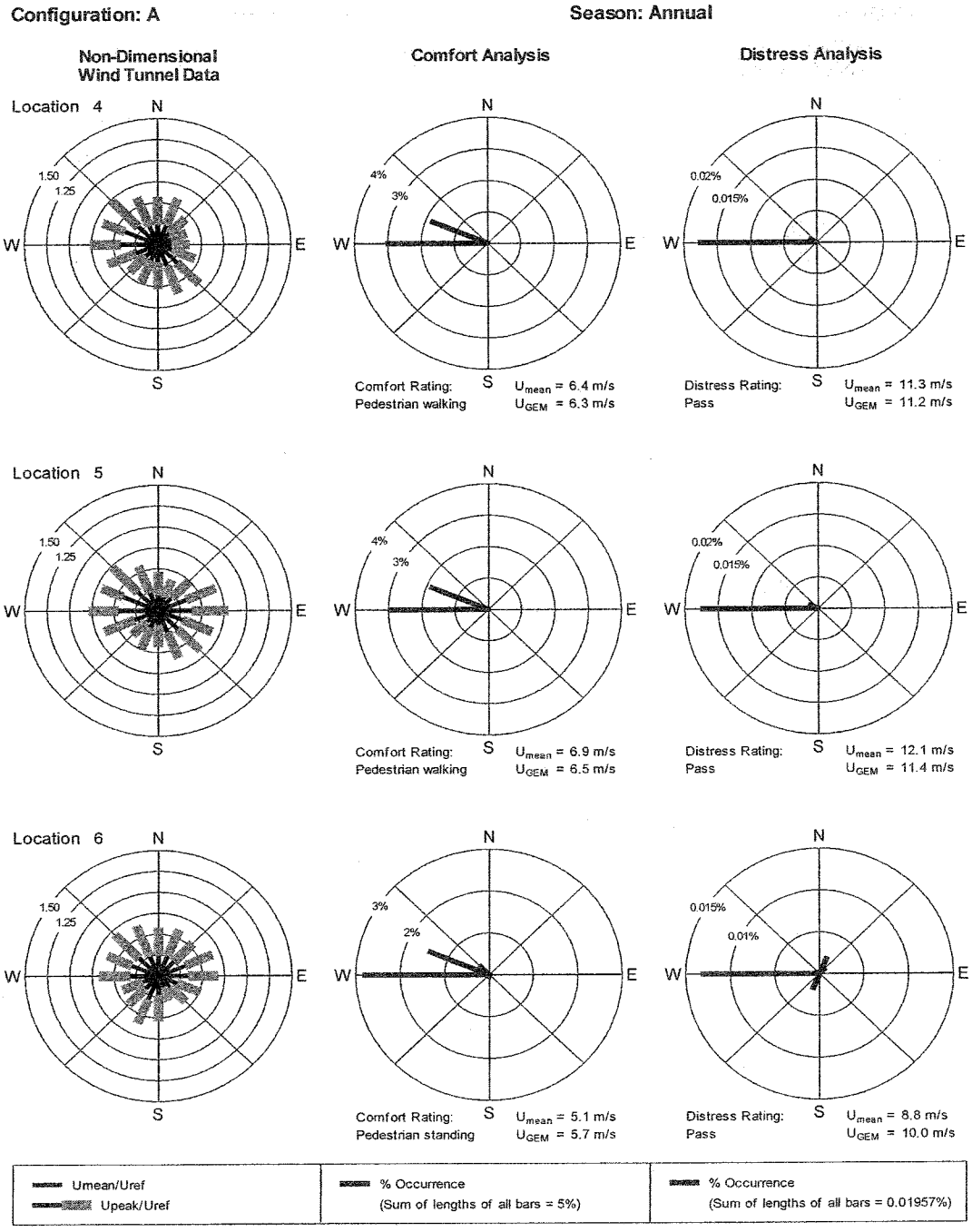


Figure A.1. Combination of wind tunnel data with annual daylight wind climate - Configuration A.

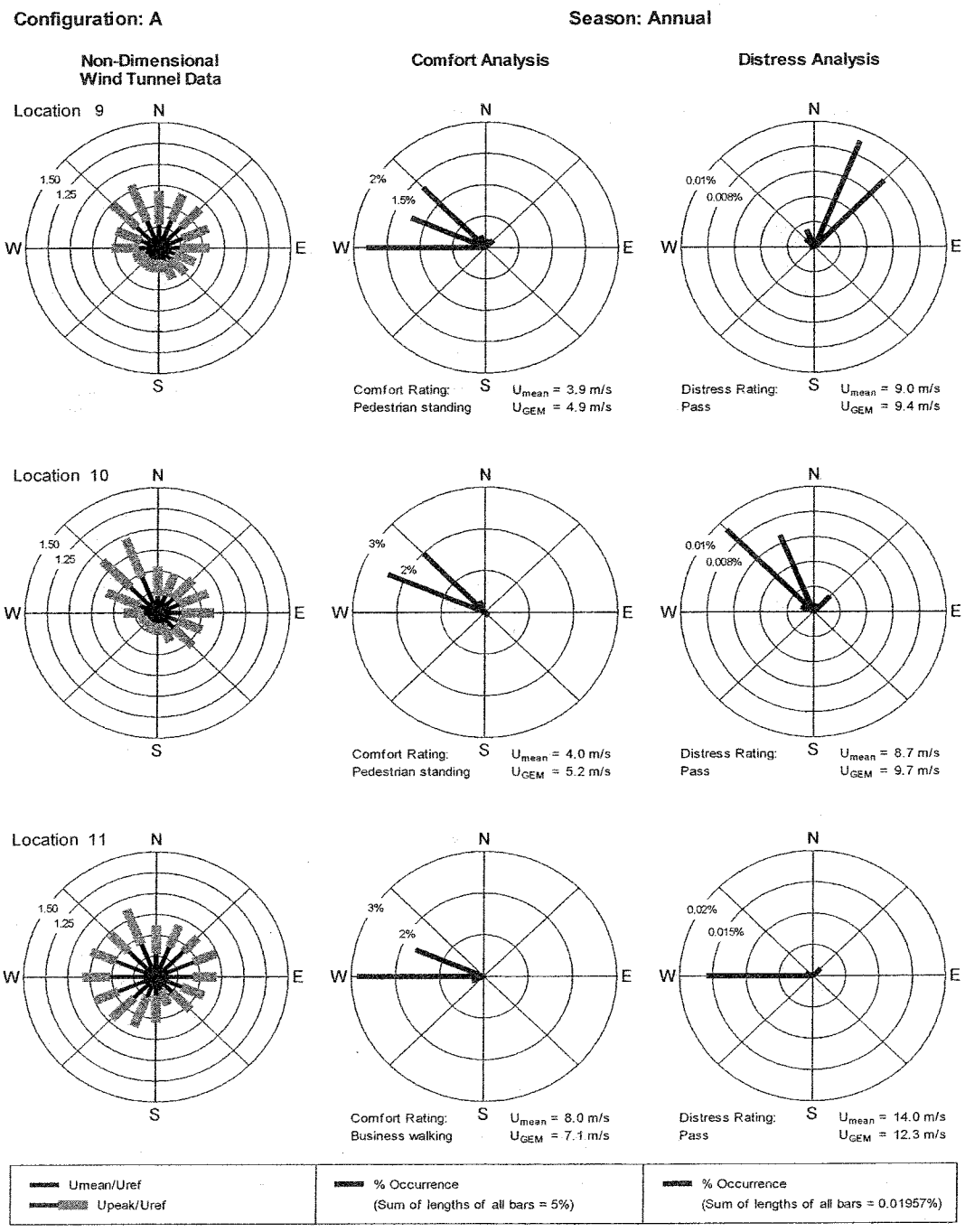


Figure A.1. Combination of wind tunnel data with annual daylight wind climate - Configuration A.

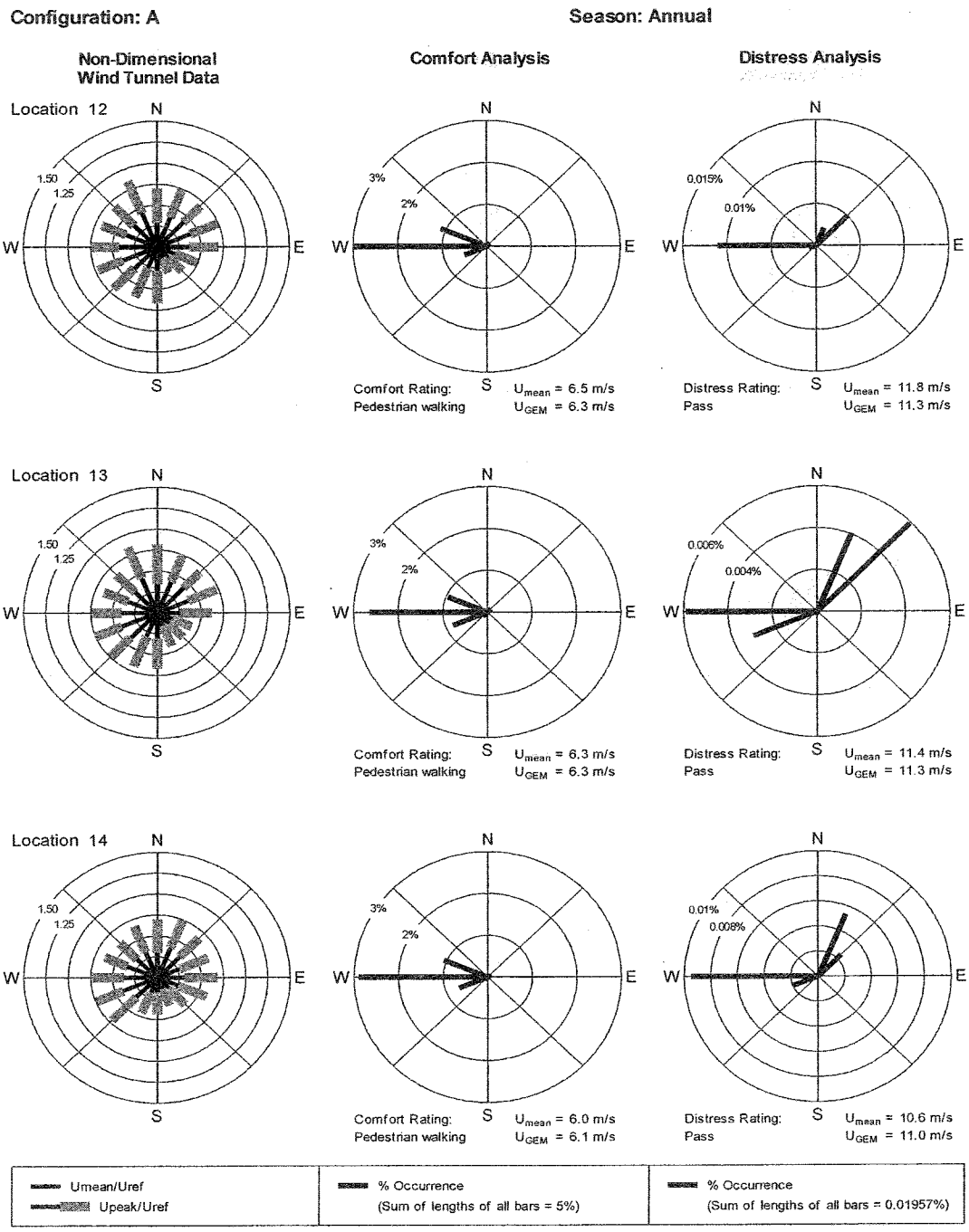


Figure A.1. Combination of wind tunnel data with annual daylight wind climate - Configuration A.

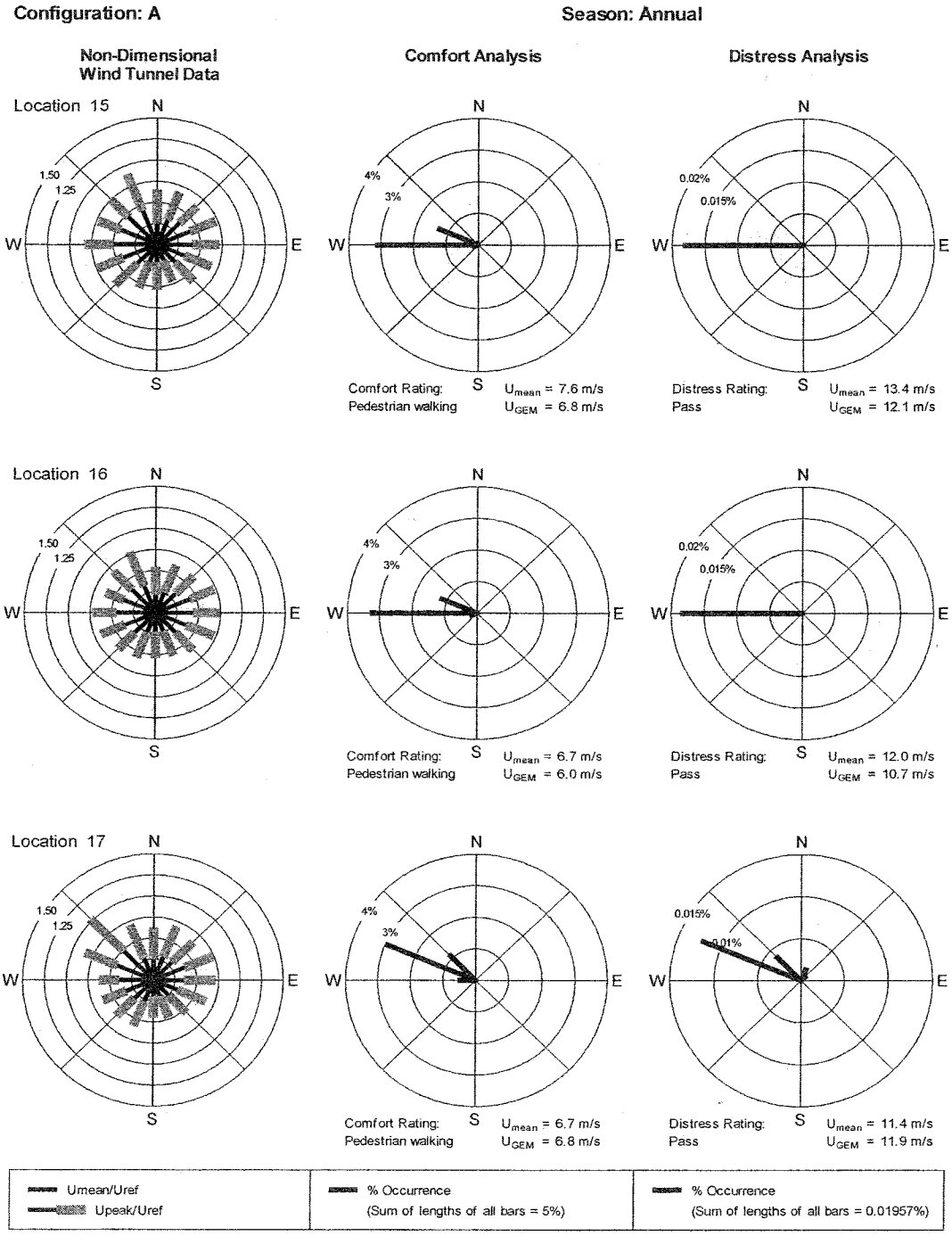


Figure A.1. Combination of wind tunnel data with annual daylight wind climate - Configuration A.

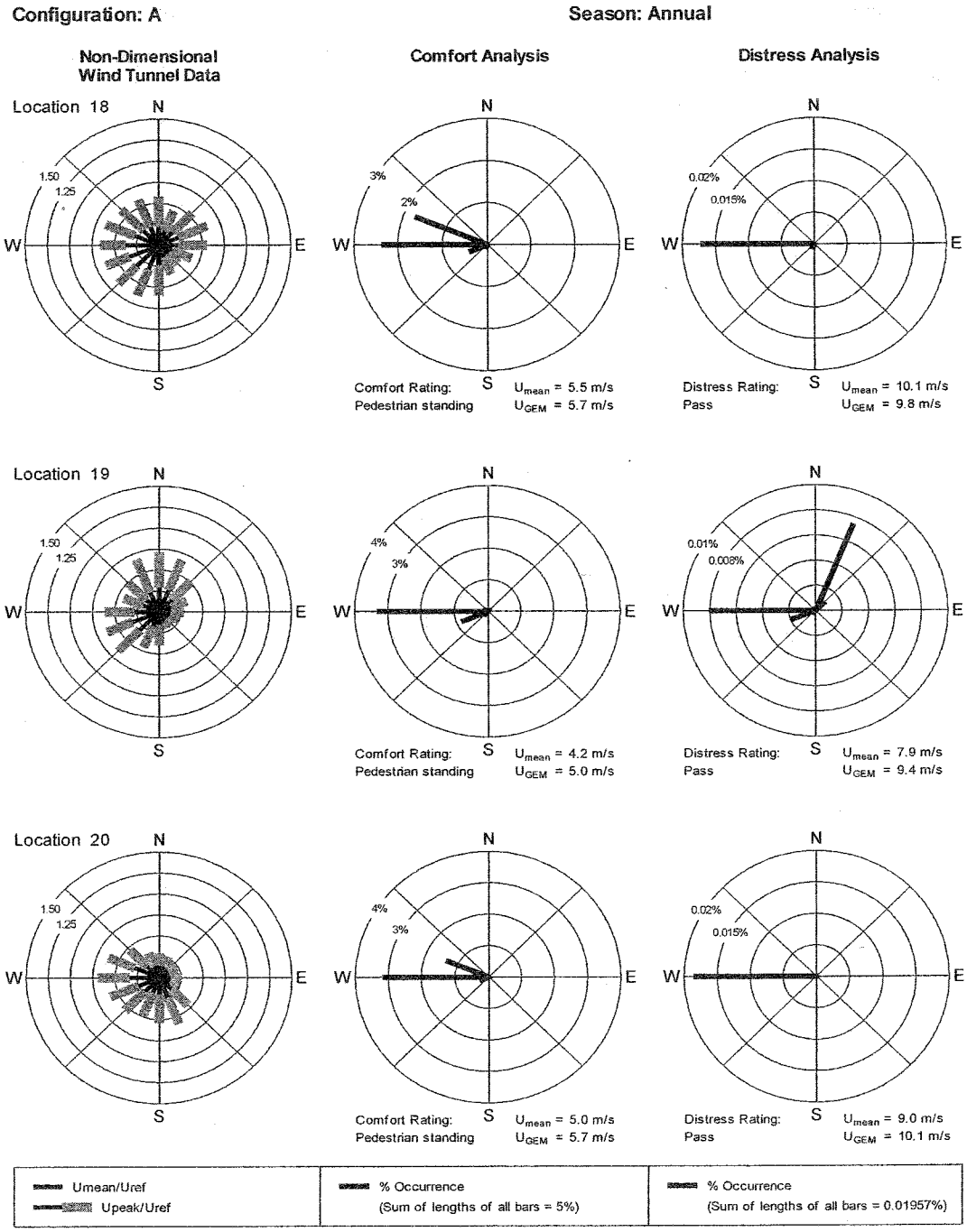


Figure A.1. Combination of wind tunnel data with annual daylight wind climate - Configuration A.

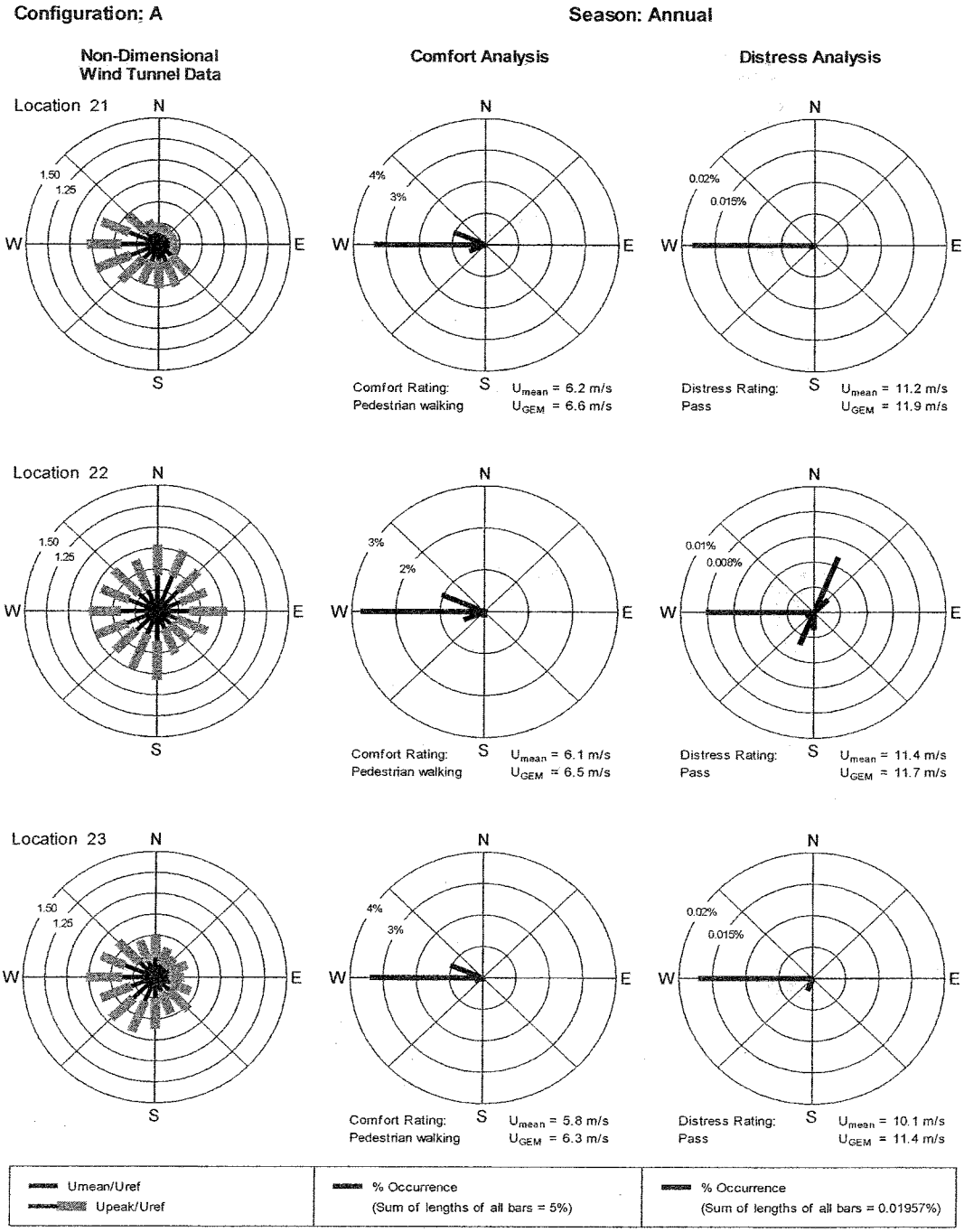


Figure A.1. Combination of wind tunnel data with annual daylight wind climate - Configuration A.

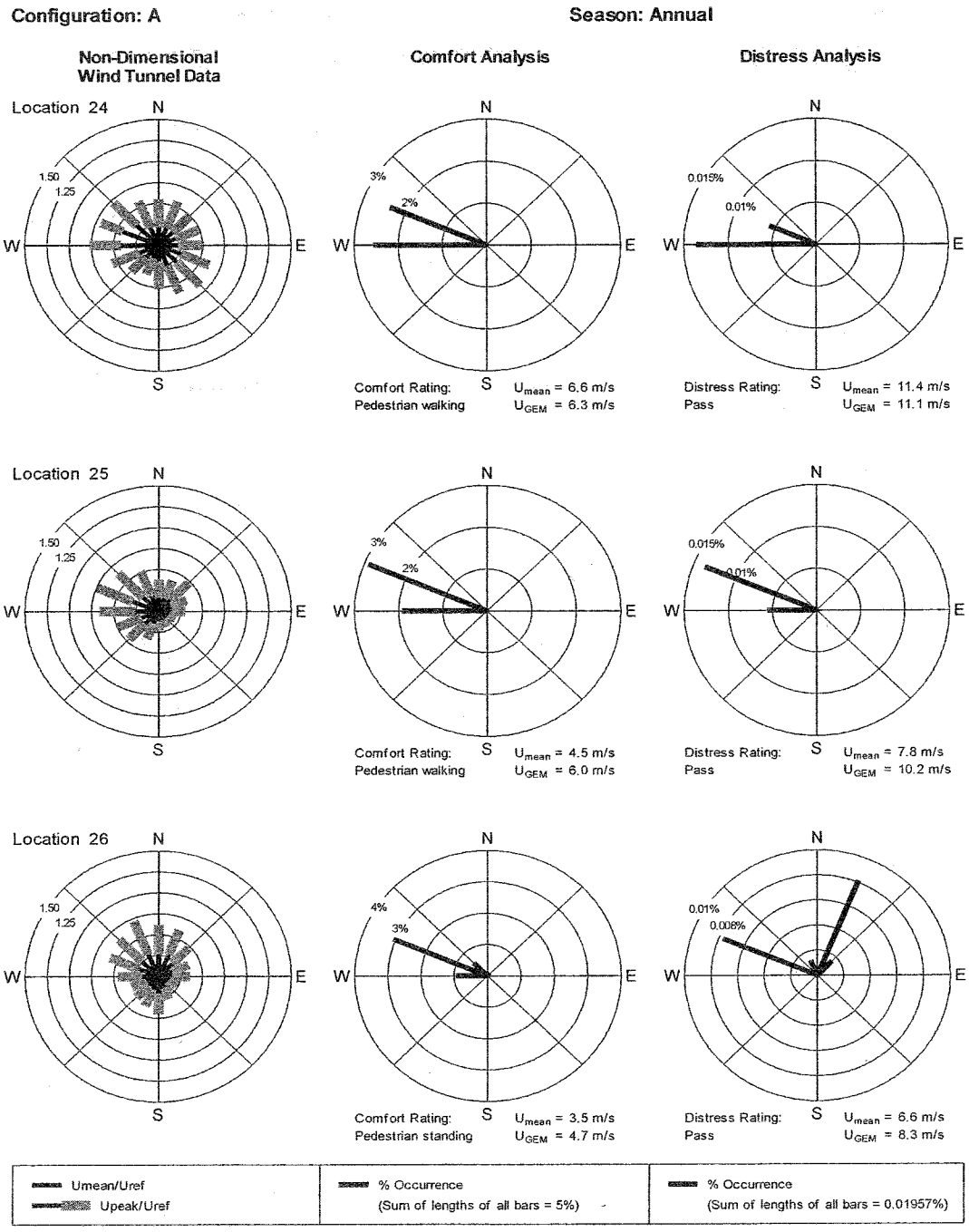


Figure A.1. Combination of wind tunnel data with annual daylight wind climate - Configuration A.

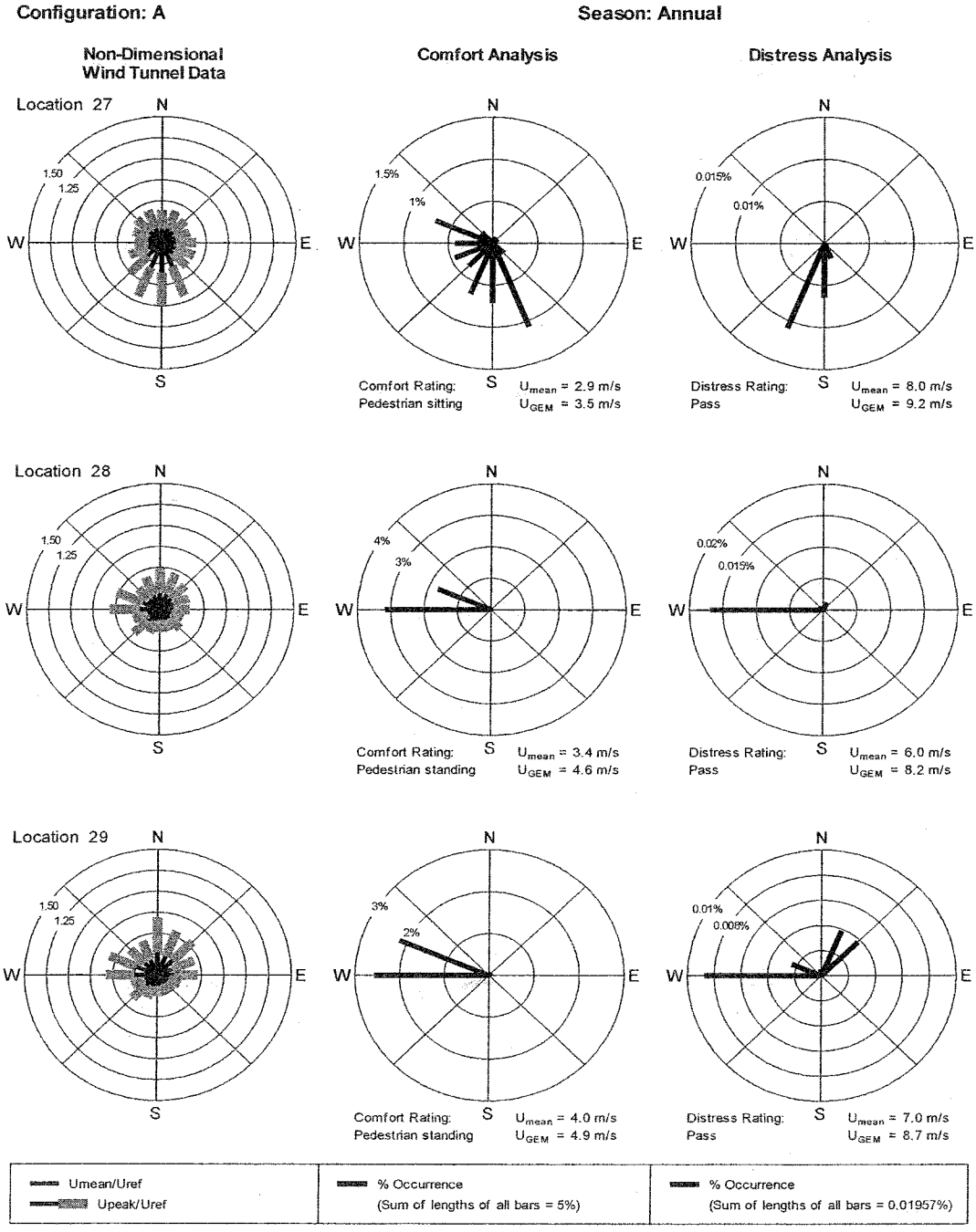


Figure A.1. Combination of wind tunnel data with annual daylight wind climate - Configuration A.

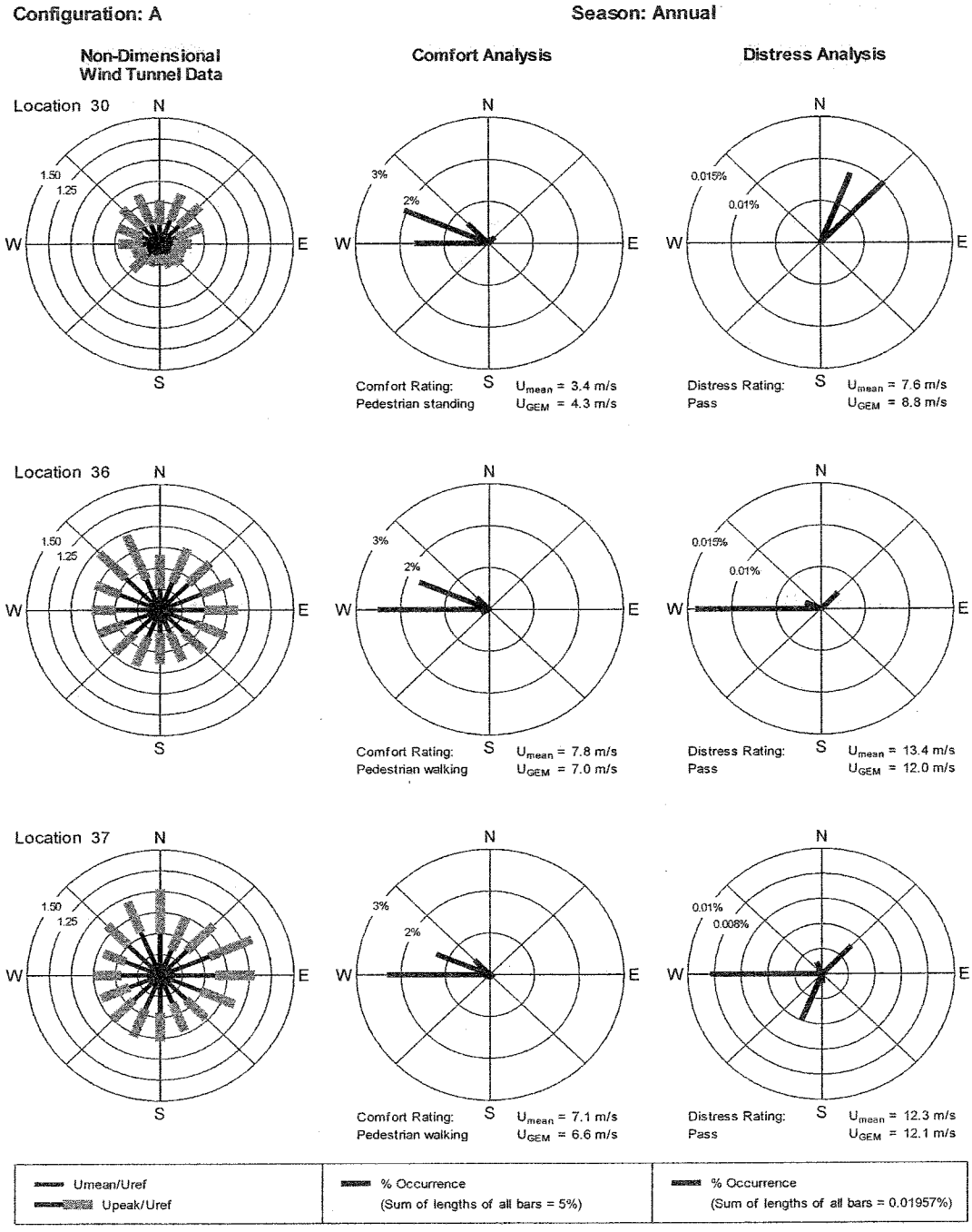


Figure A.1. Combination of wind tunnel data with annual daylight wind climate - Configuration A.

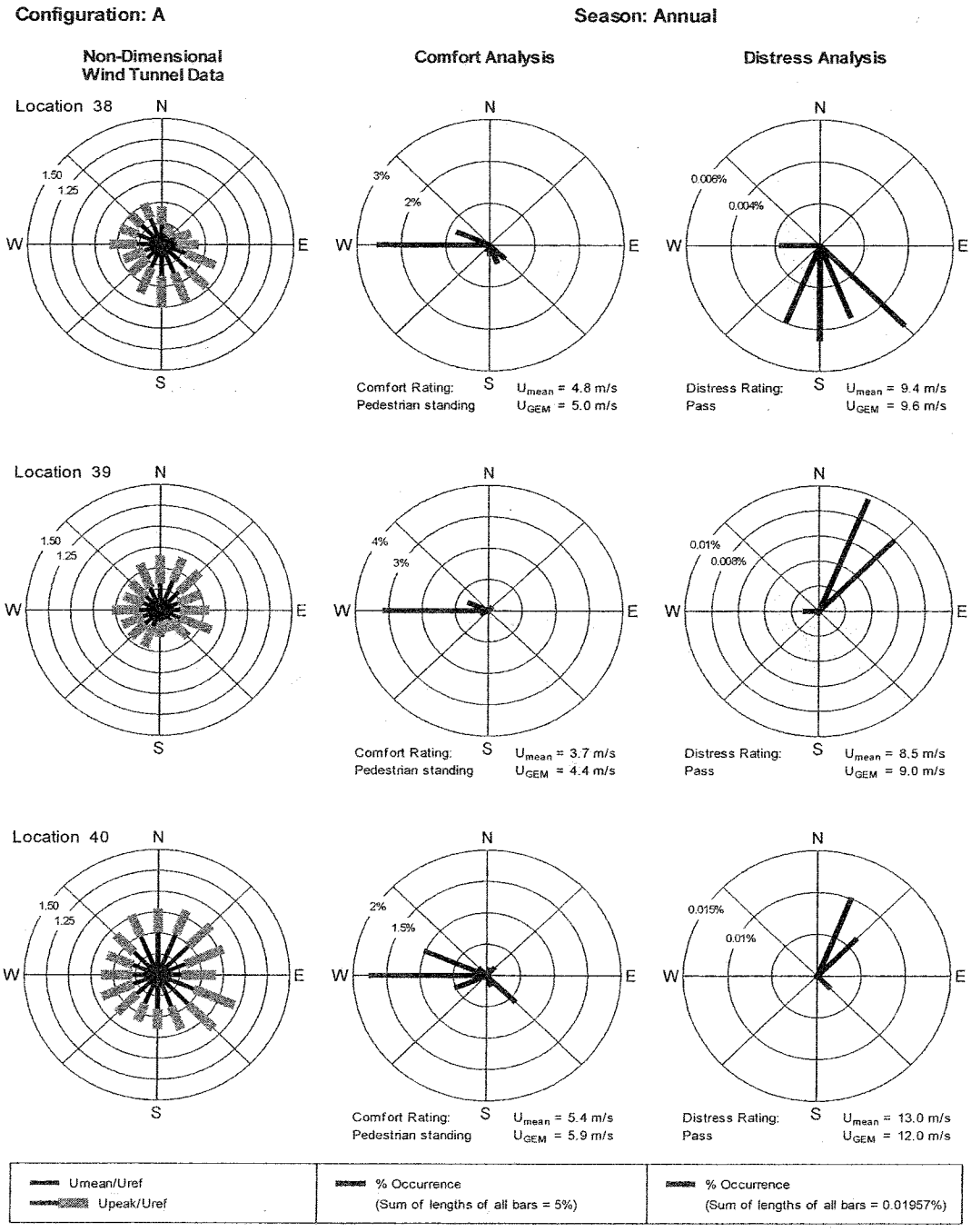


Figure A.1. Combination of wind tunnel data with annual daylight wind climate - Configuration A.

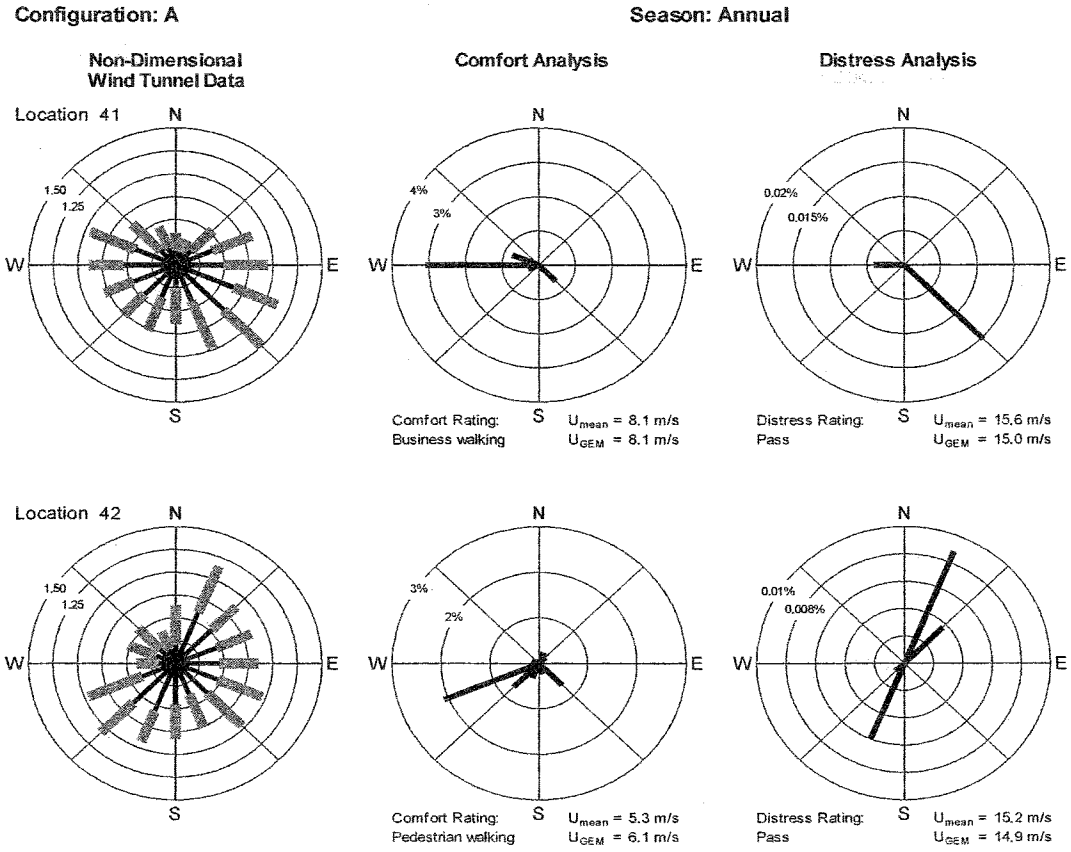


Figure A.1. Combination of wind tunnel data with annual daylight wind climate - Configuration A.

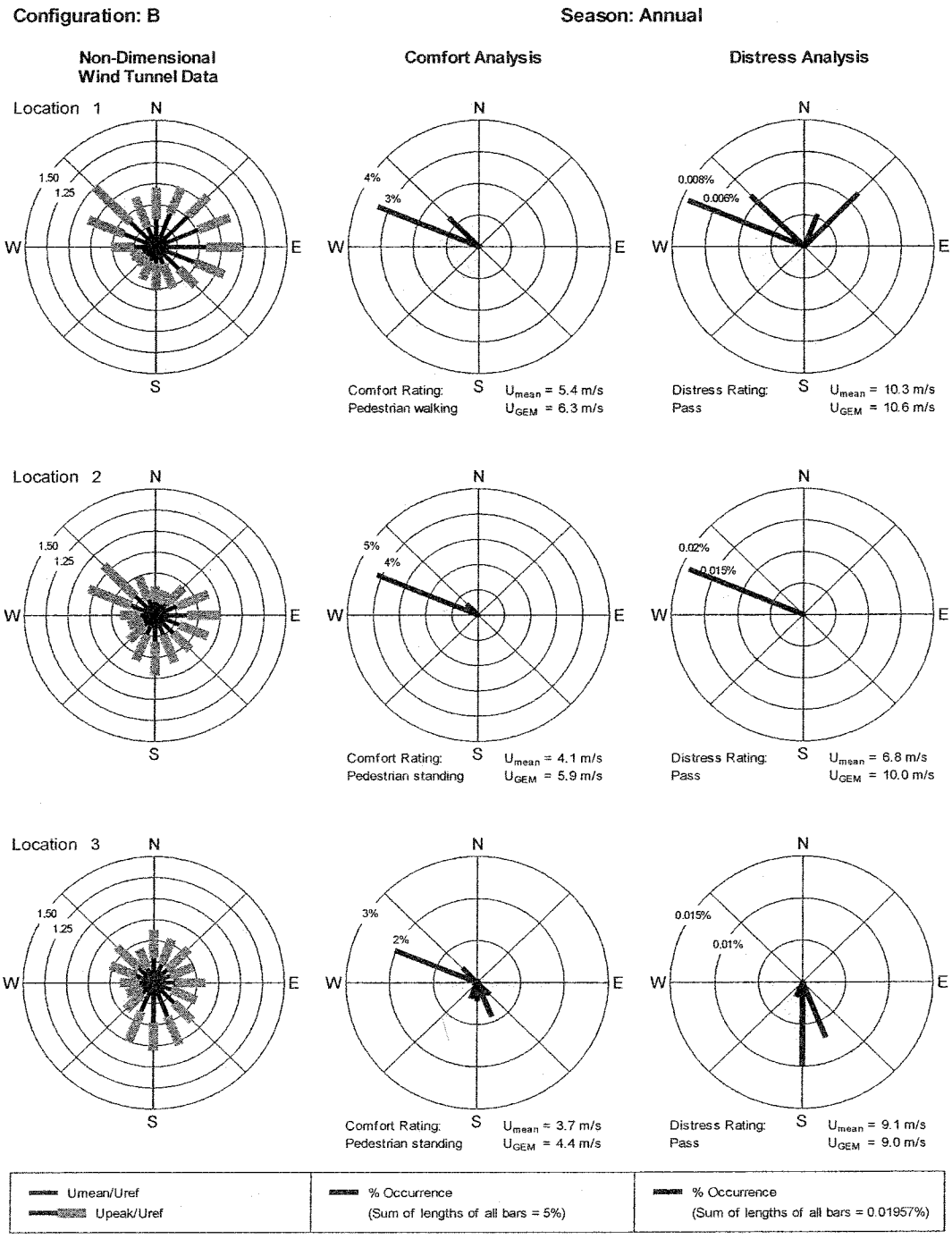


Figure A.2. Combination of wind tunnel data with annual daylight wind climate - Configuration B.

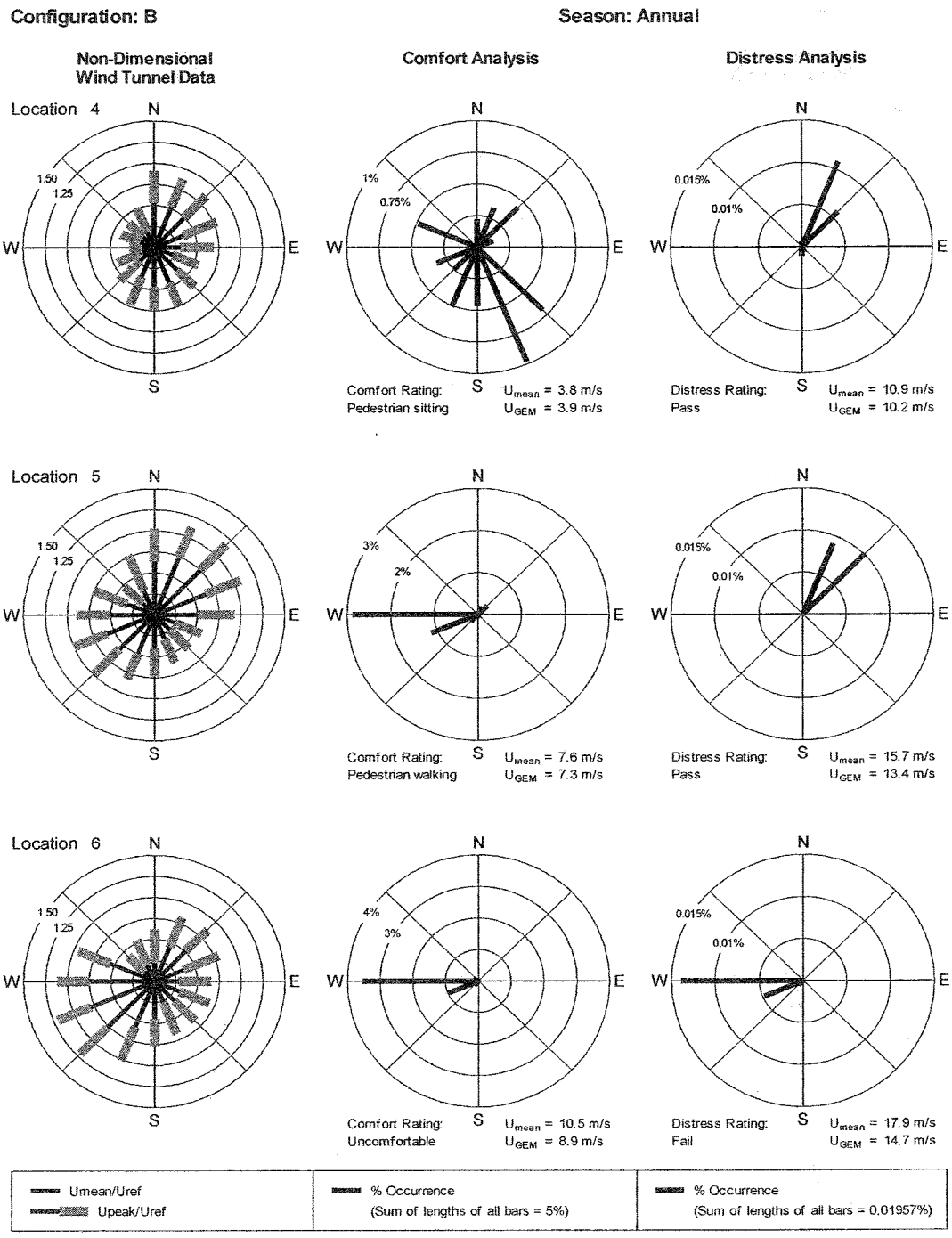


Figure A.2. Combination of wind tunnel data with annual daylight wind climate - Configuration B.

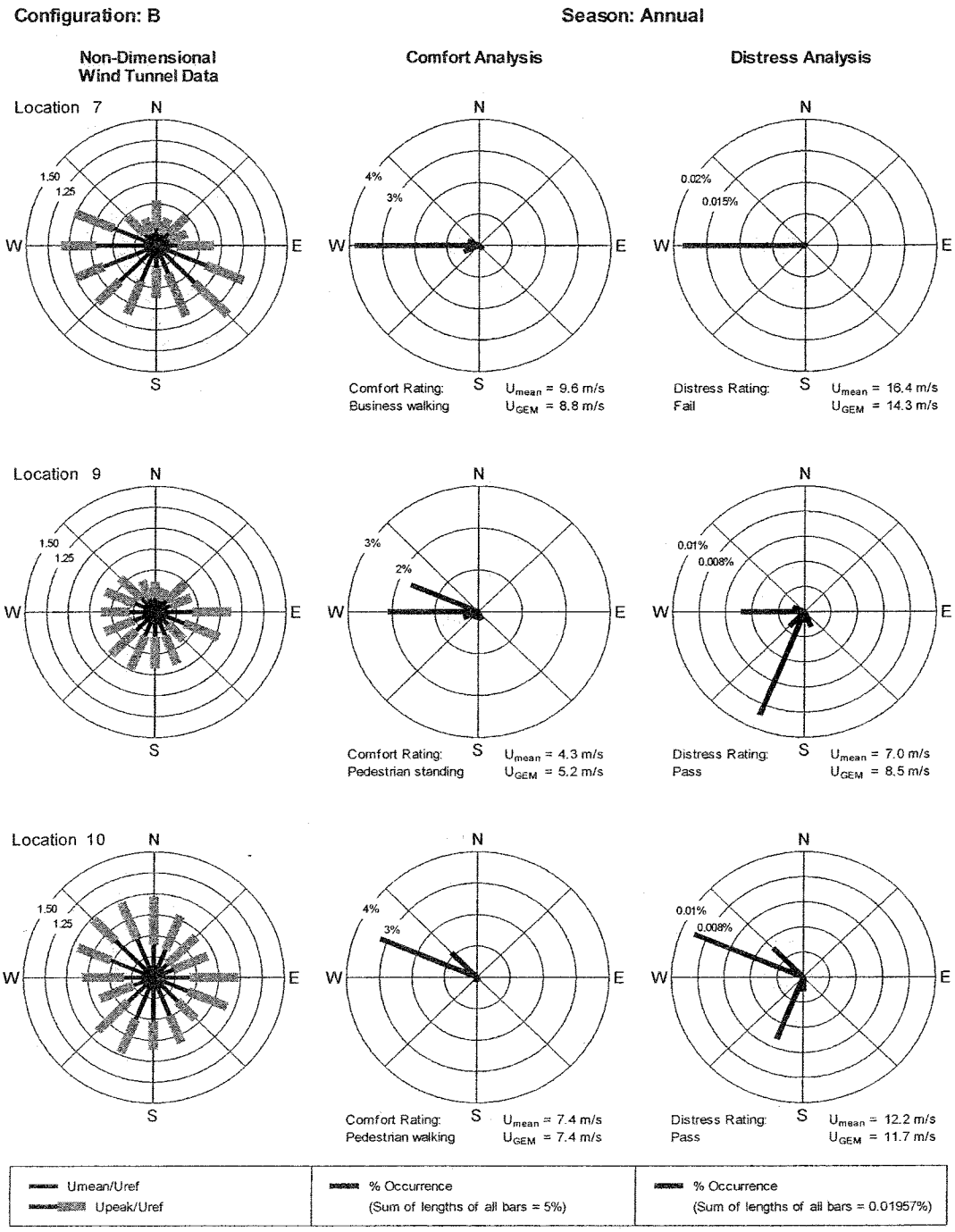


Figure A.2. Combination of wind tunnel data with annual daylight wind climate - Configuration B.

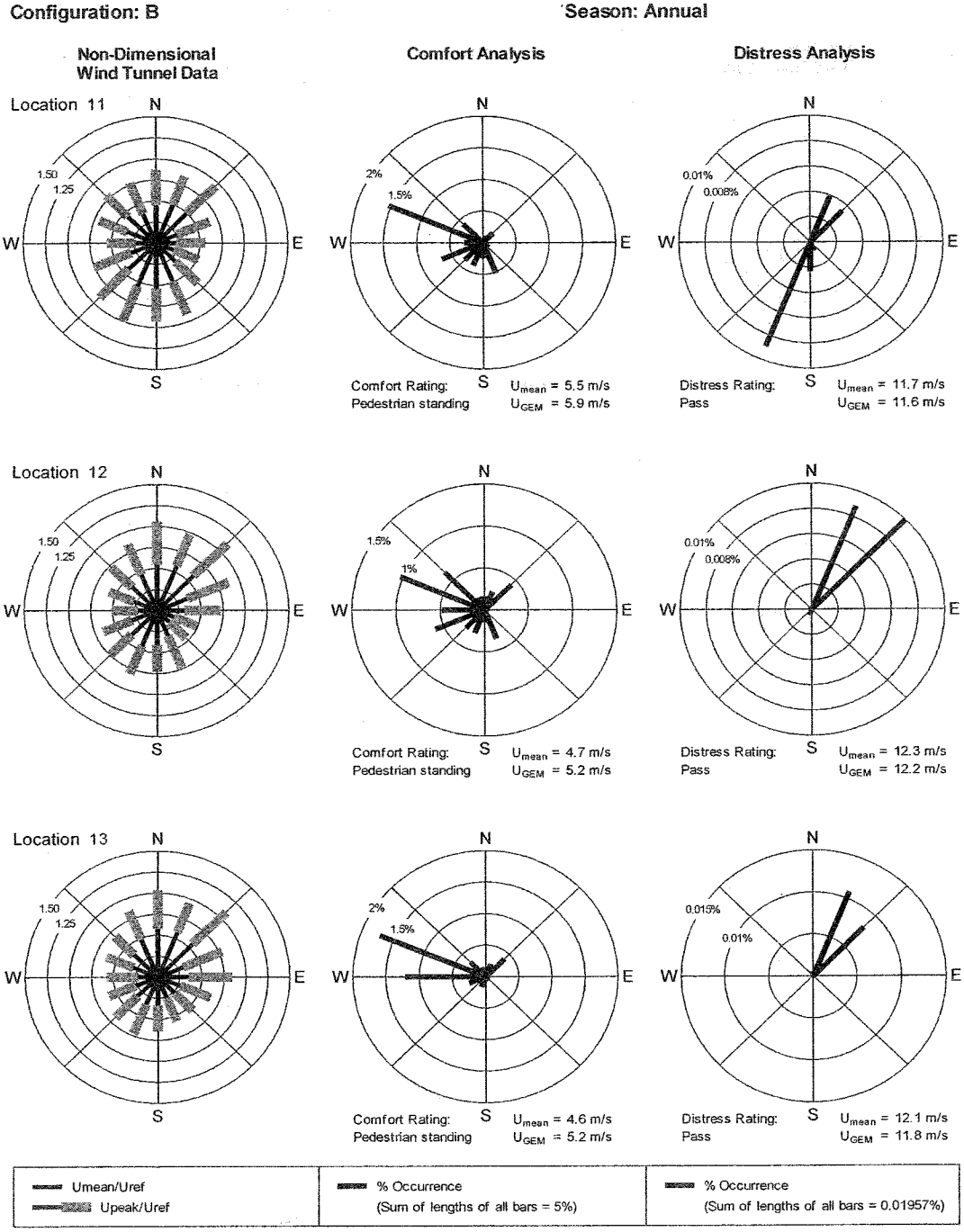


Figure A.2. Combination of wind tunnel data with annual daylight wind climate - Configuration B.

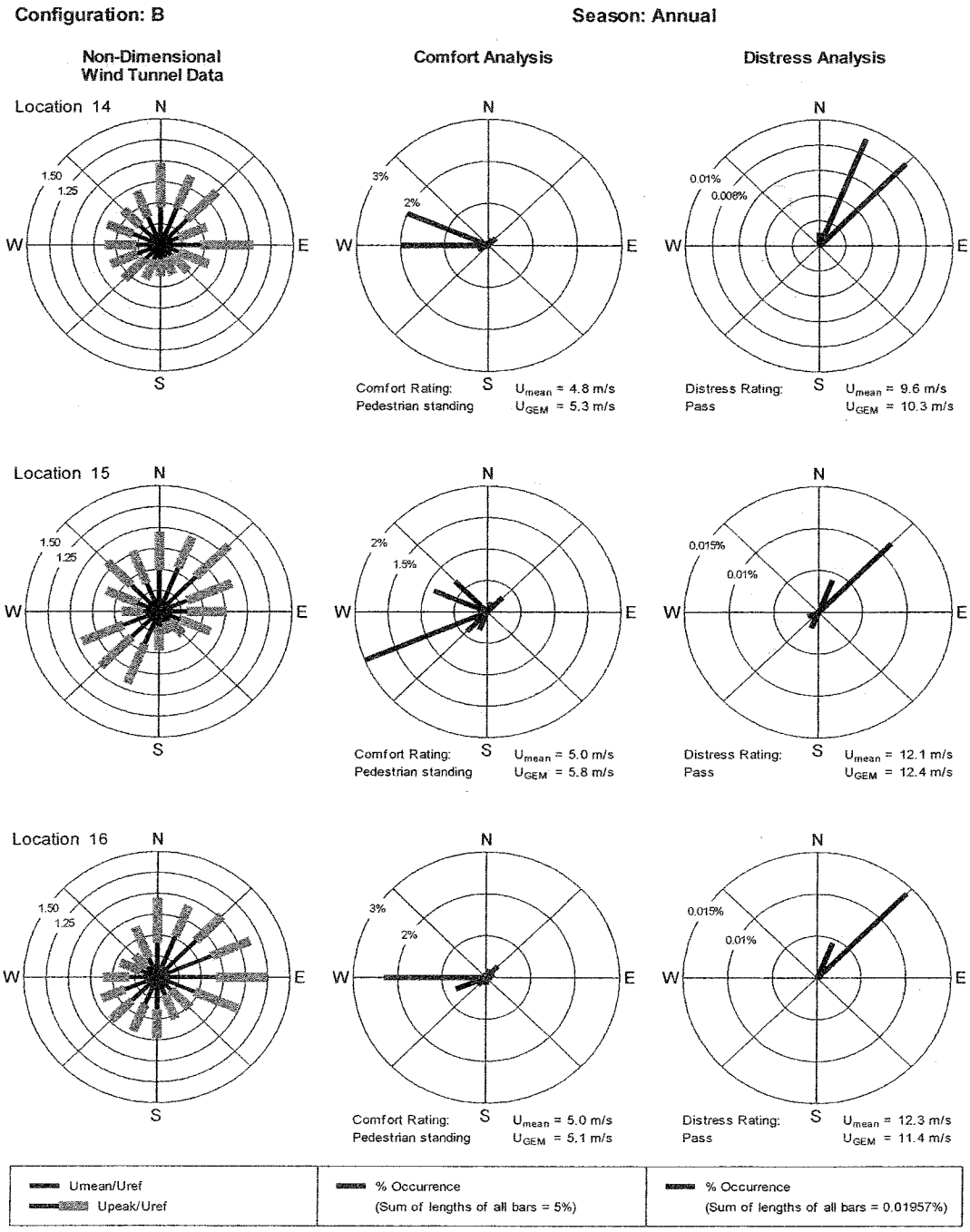


Figure A.2. Combination of wind tunnel data with annual daylight wind climate - Configuration B.

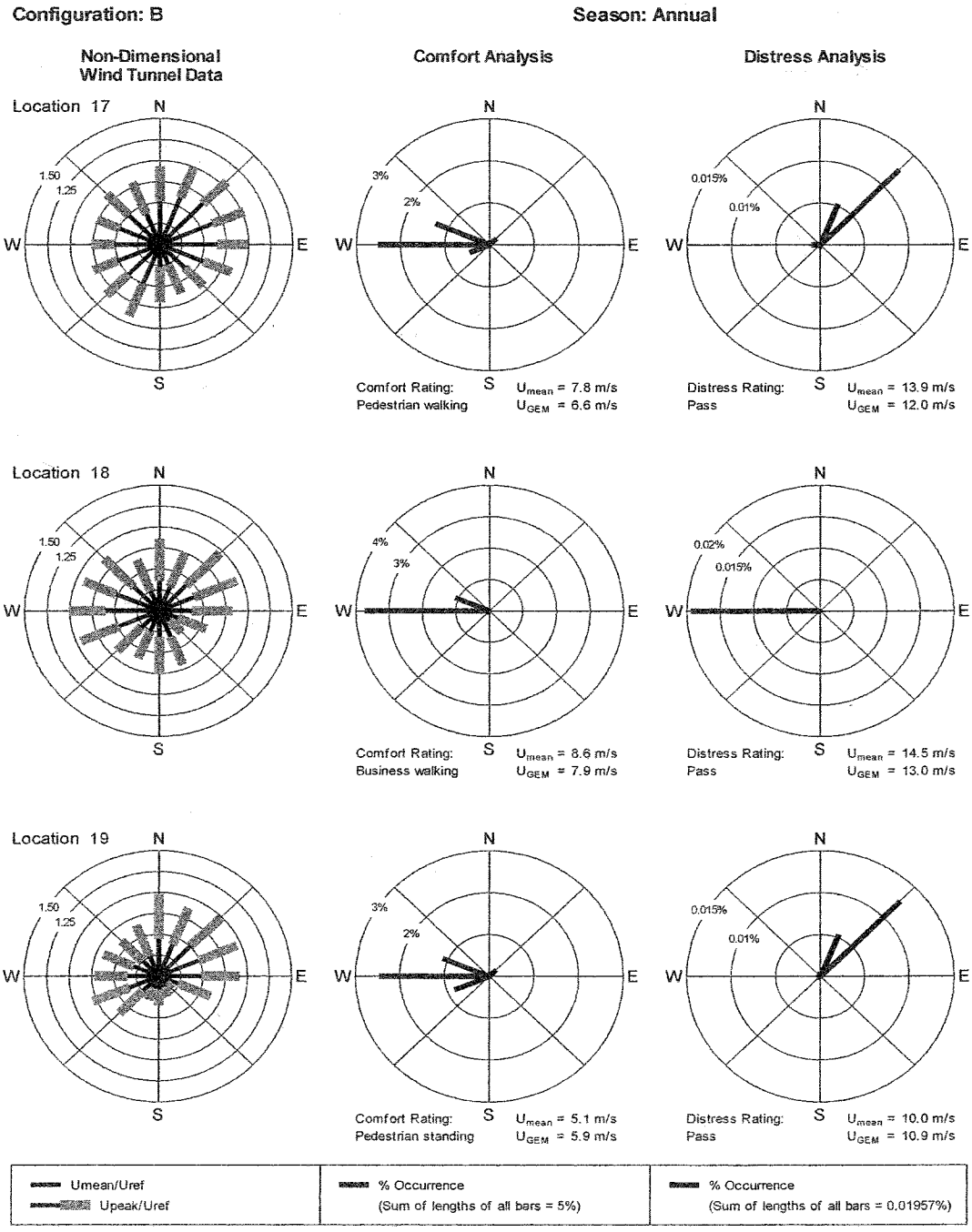


Figure A.2. Combination of wind tunnel data with annual daylight wind climate - Configuration B.

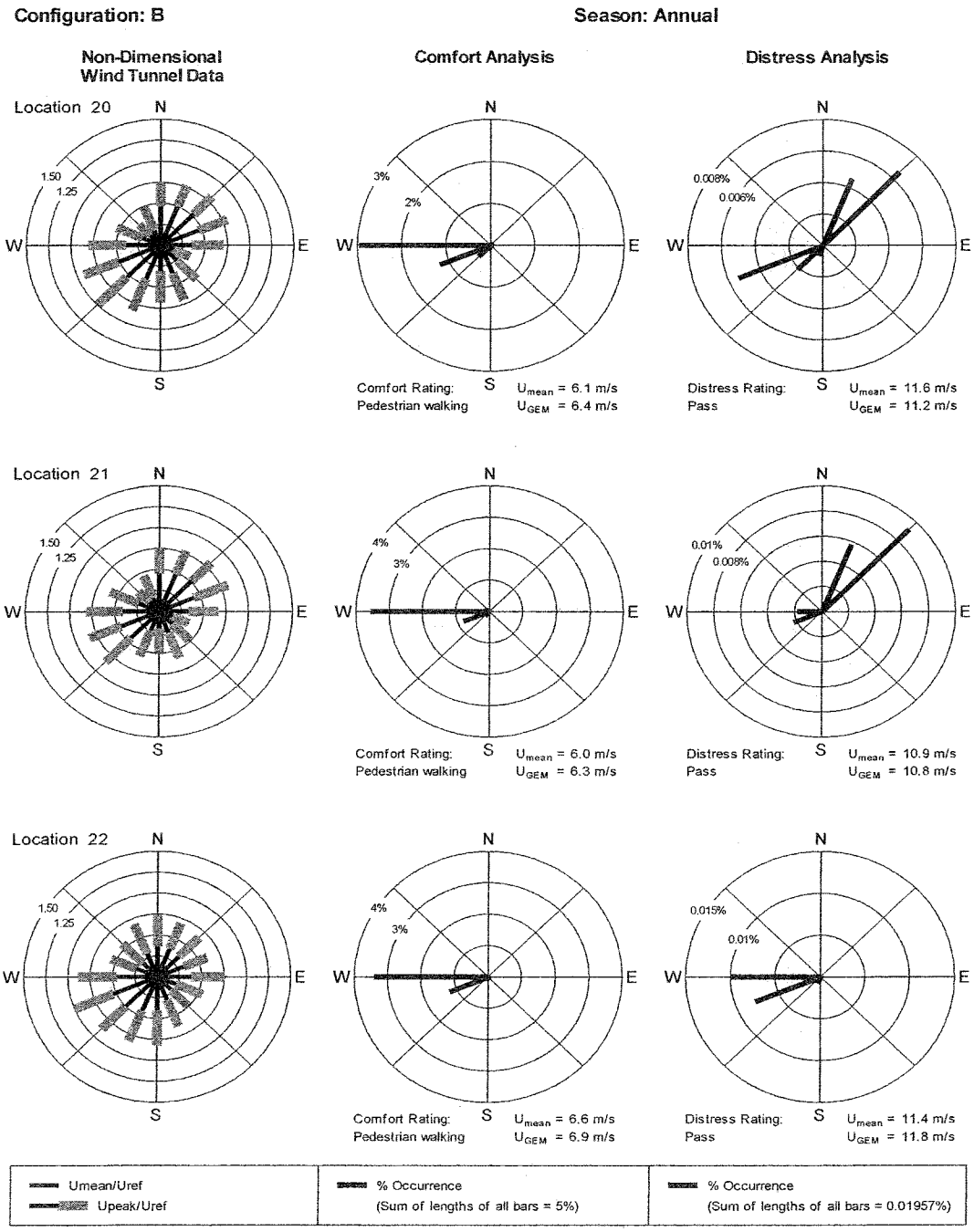


Figure A.2. Combination of wind tunnel data with annual daylight wind climate - Configuration B.

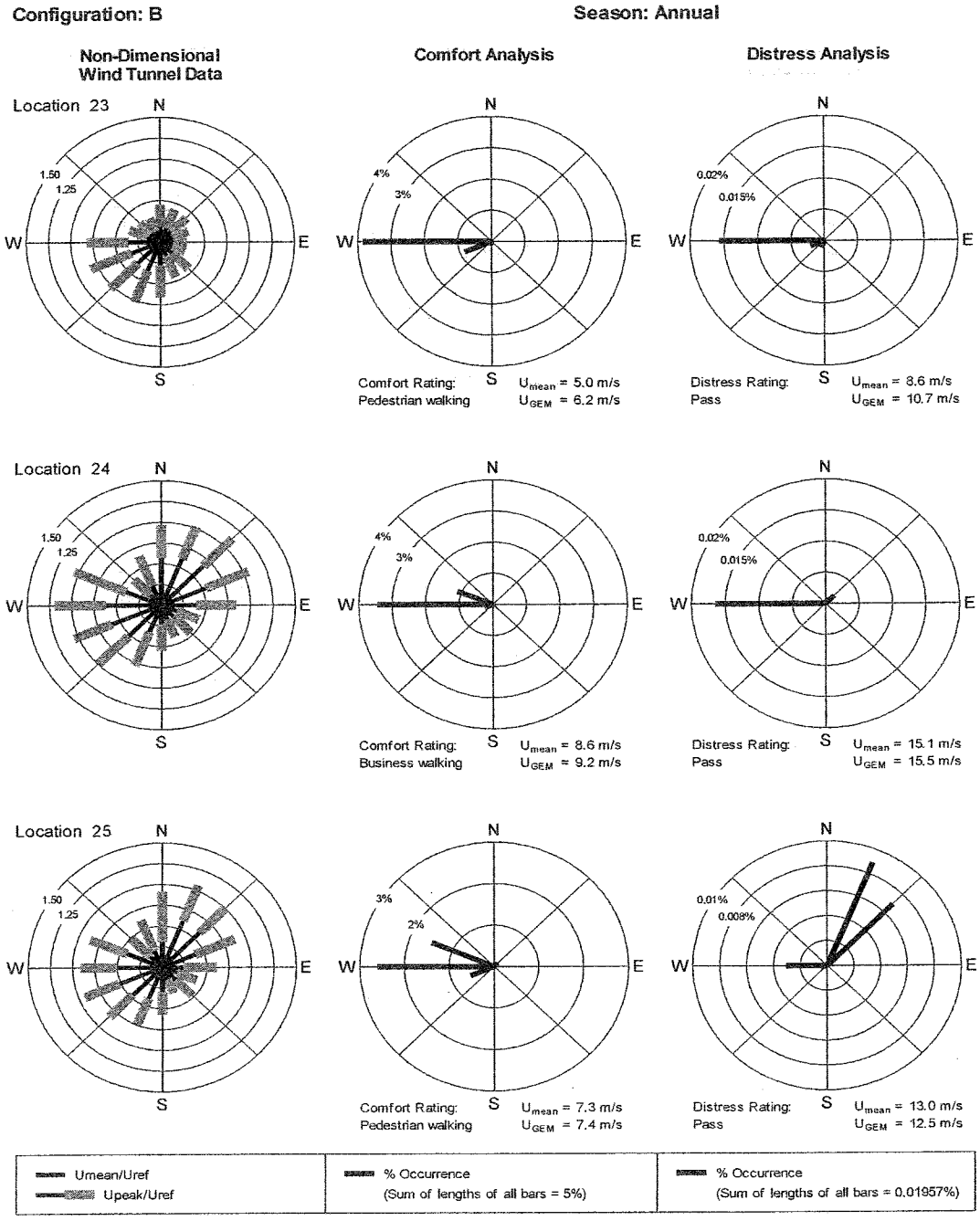


Figure A.2. Combination of wind tunnel data with annual daylight wind climate - Configuration B.

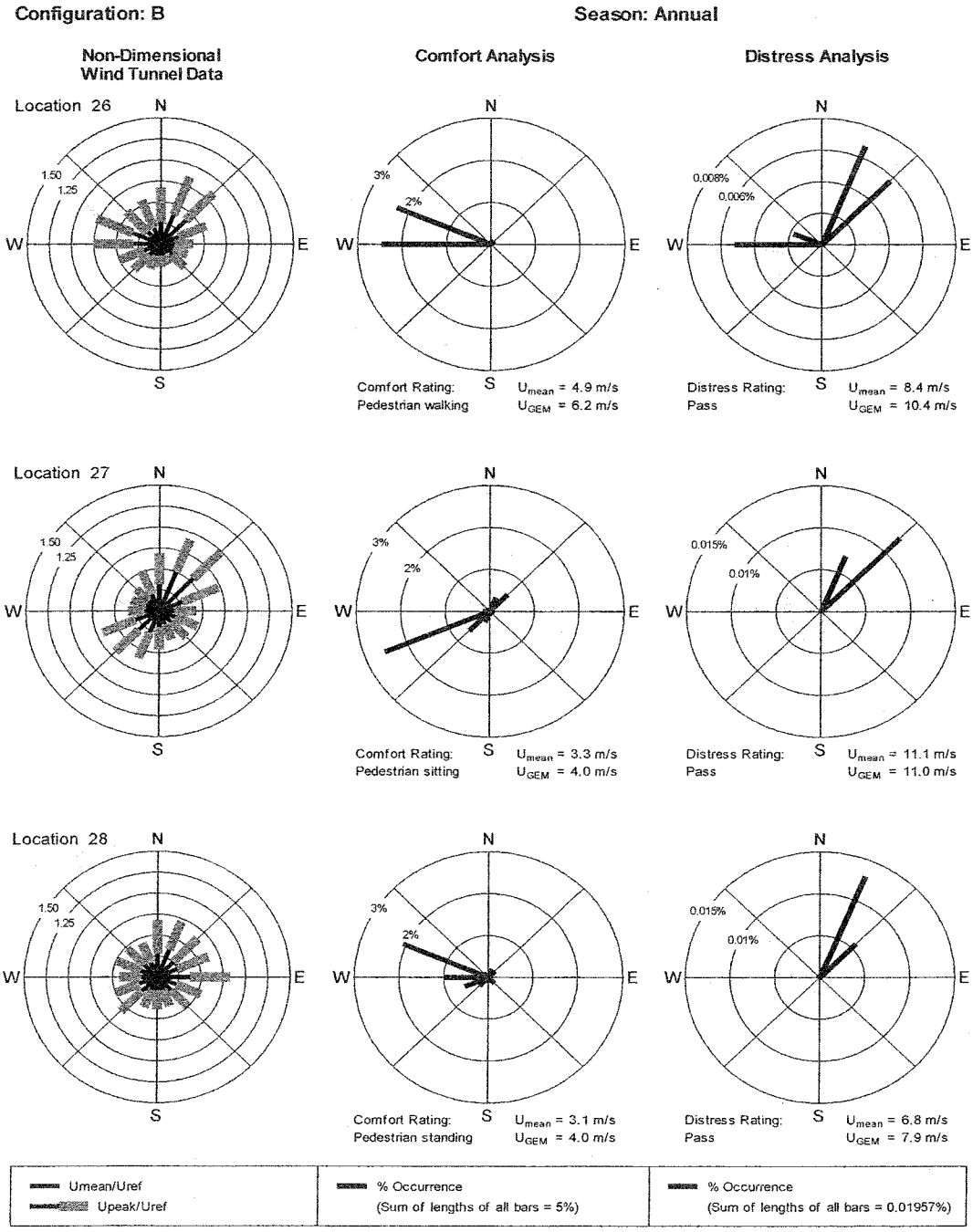


Figure A.2. Combination of wind tunnel data with annual daylight wind climate - Configuration B.

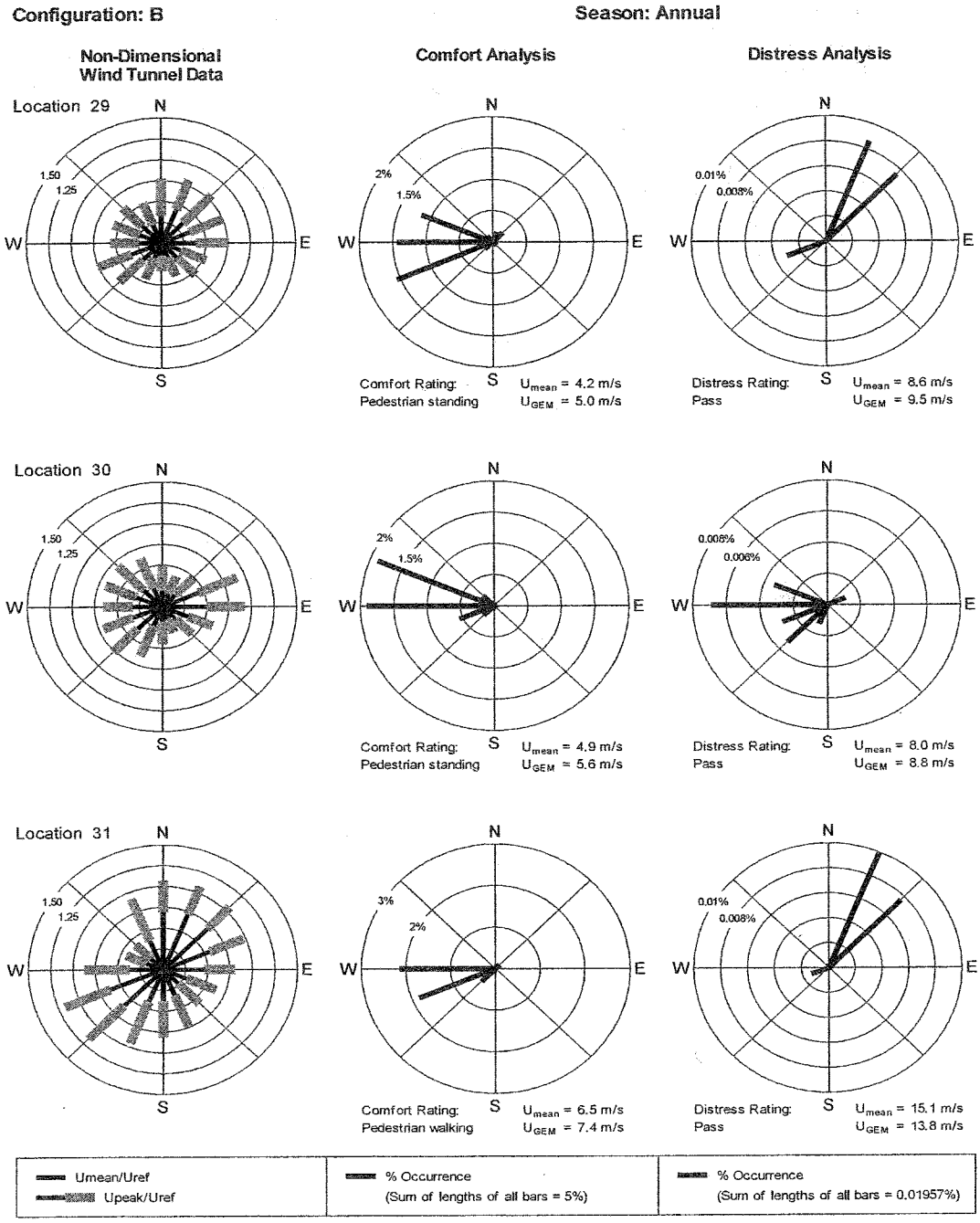


Figure A.2. Combination of wind tunnel data with annual daylight wind climate - Configuration B.

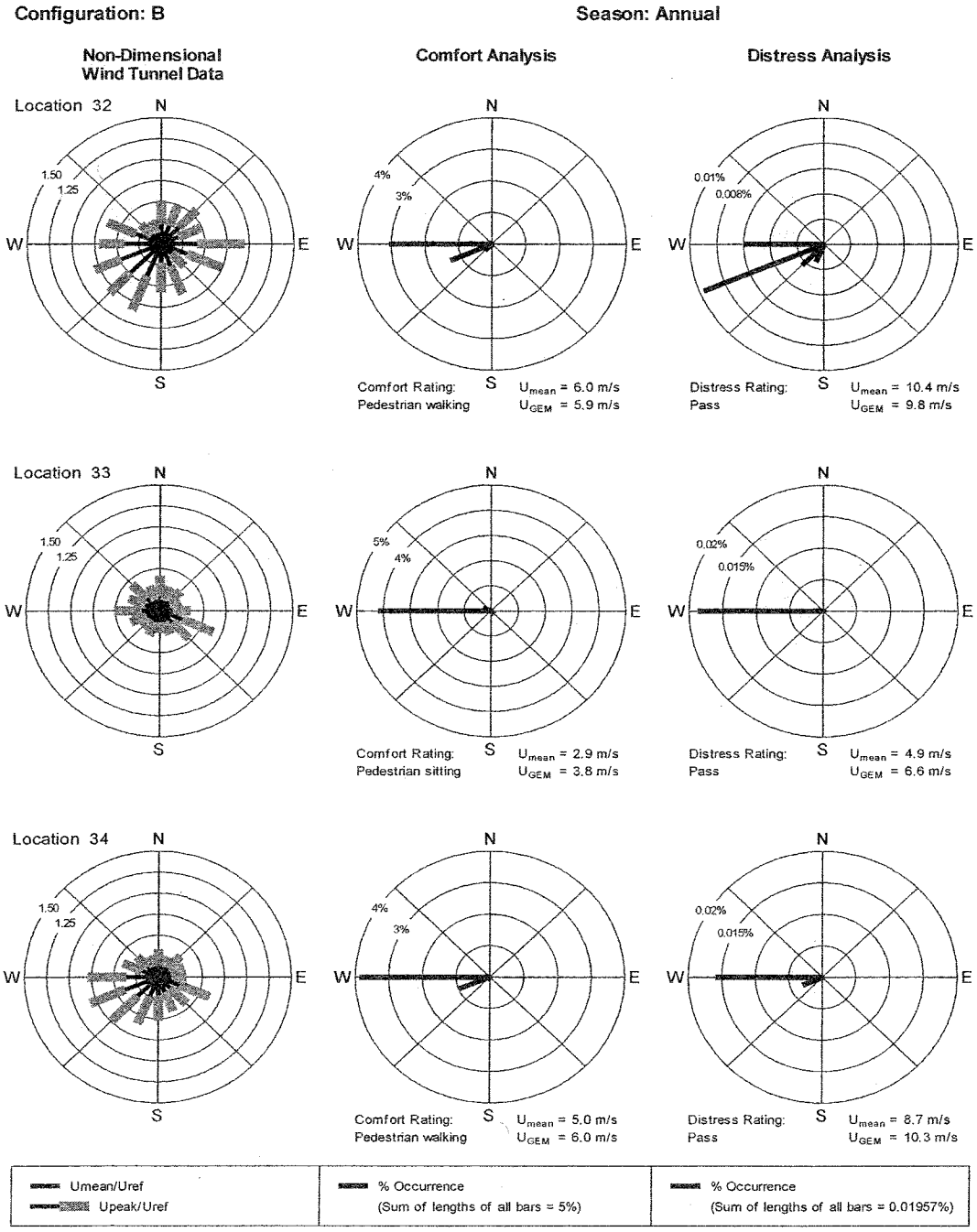


Figure A.2. Combination of wind tunnel data with annual daylight wind climate - Configuration B.

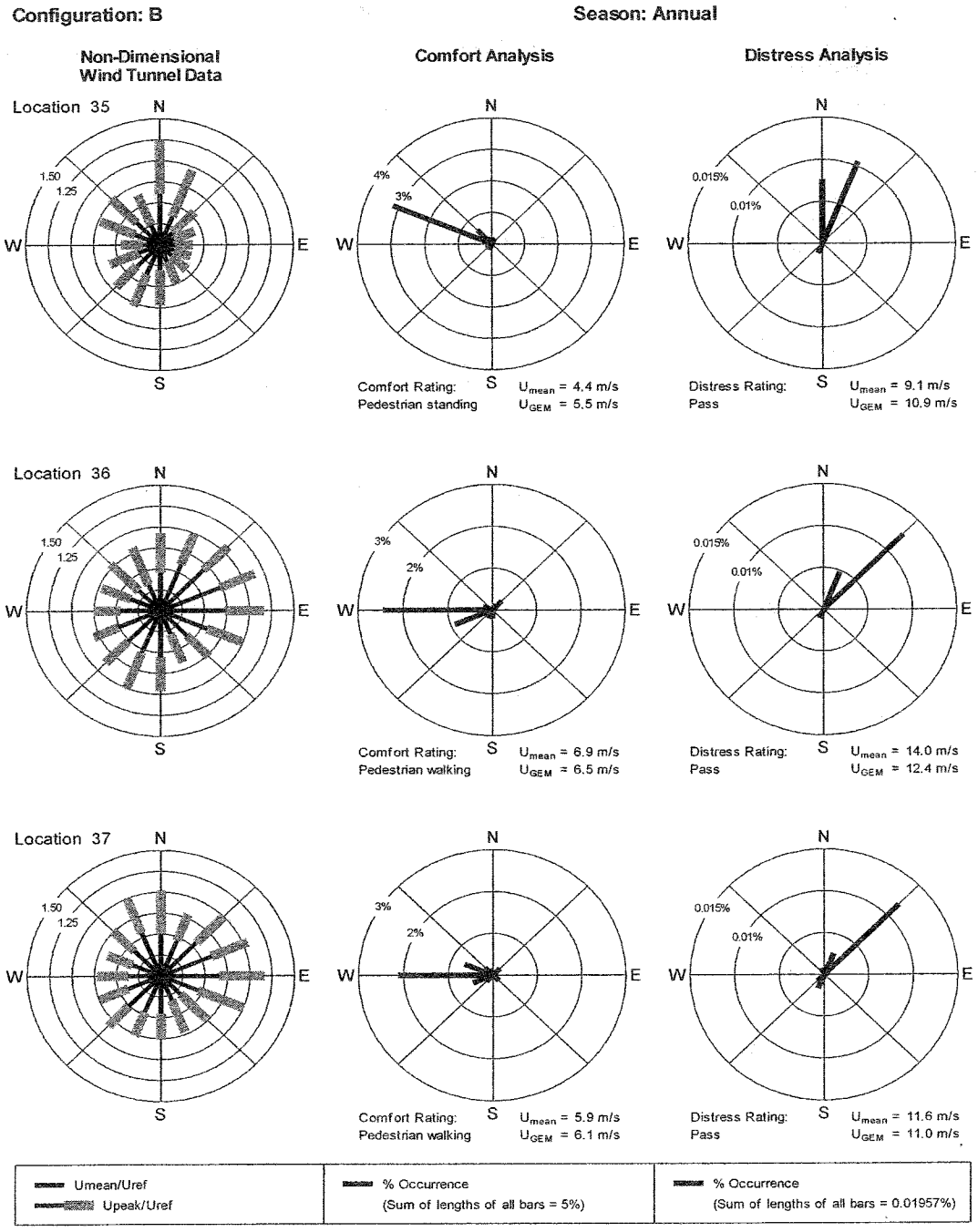


Figure A.2. Combination of wind tunnel data with annual daylight wind climate - Configuration B.

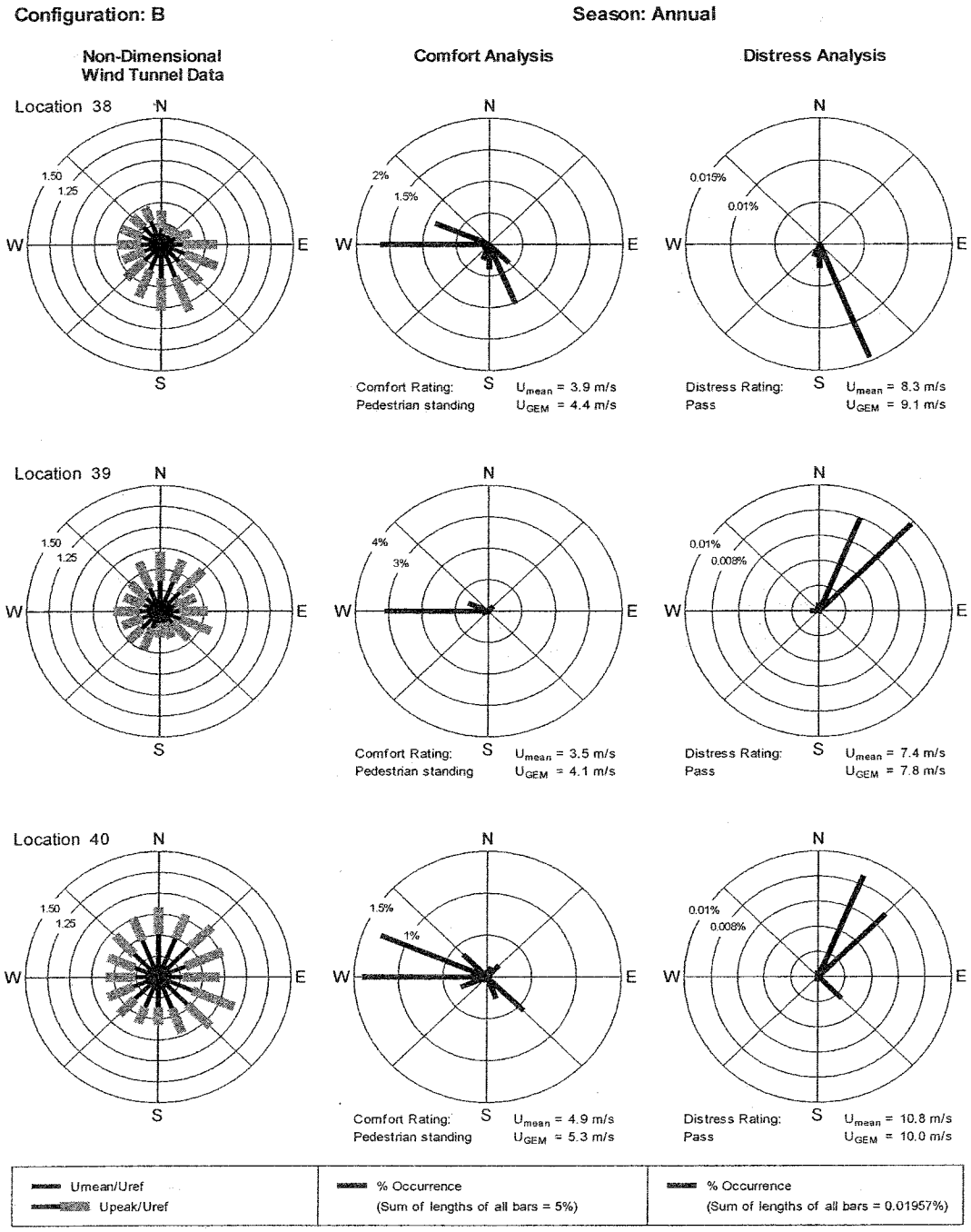


Figure A.2. Combination of wind tunnel data with annual daylight wind climate - Configuration B.

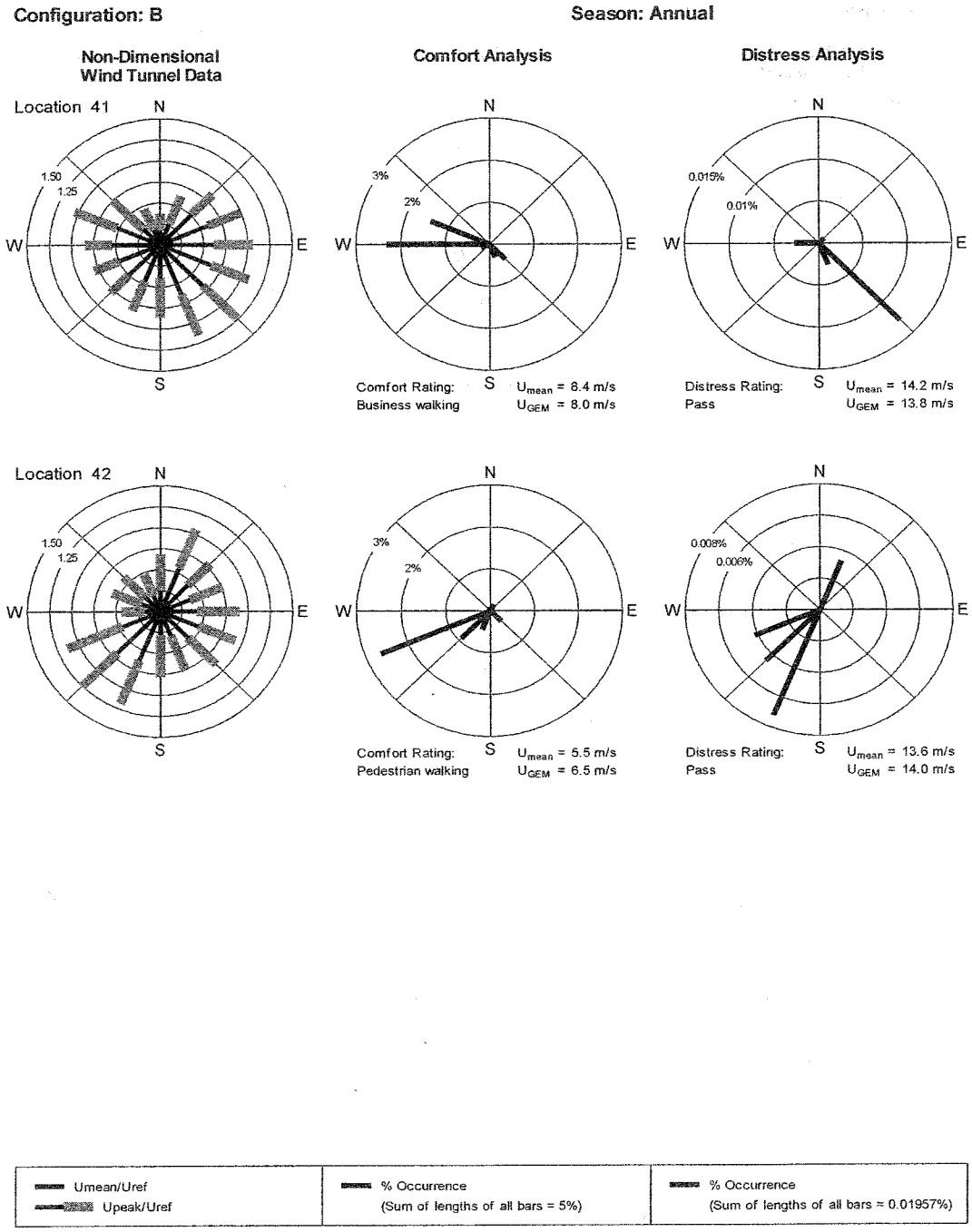


Figure A.2. Combination of wind tunnel data with annual daylight wind climate - Configuration B.

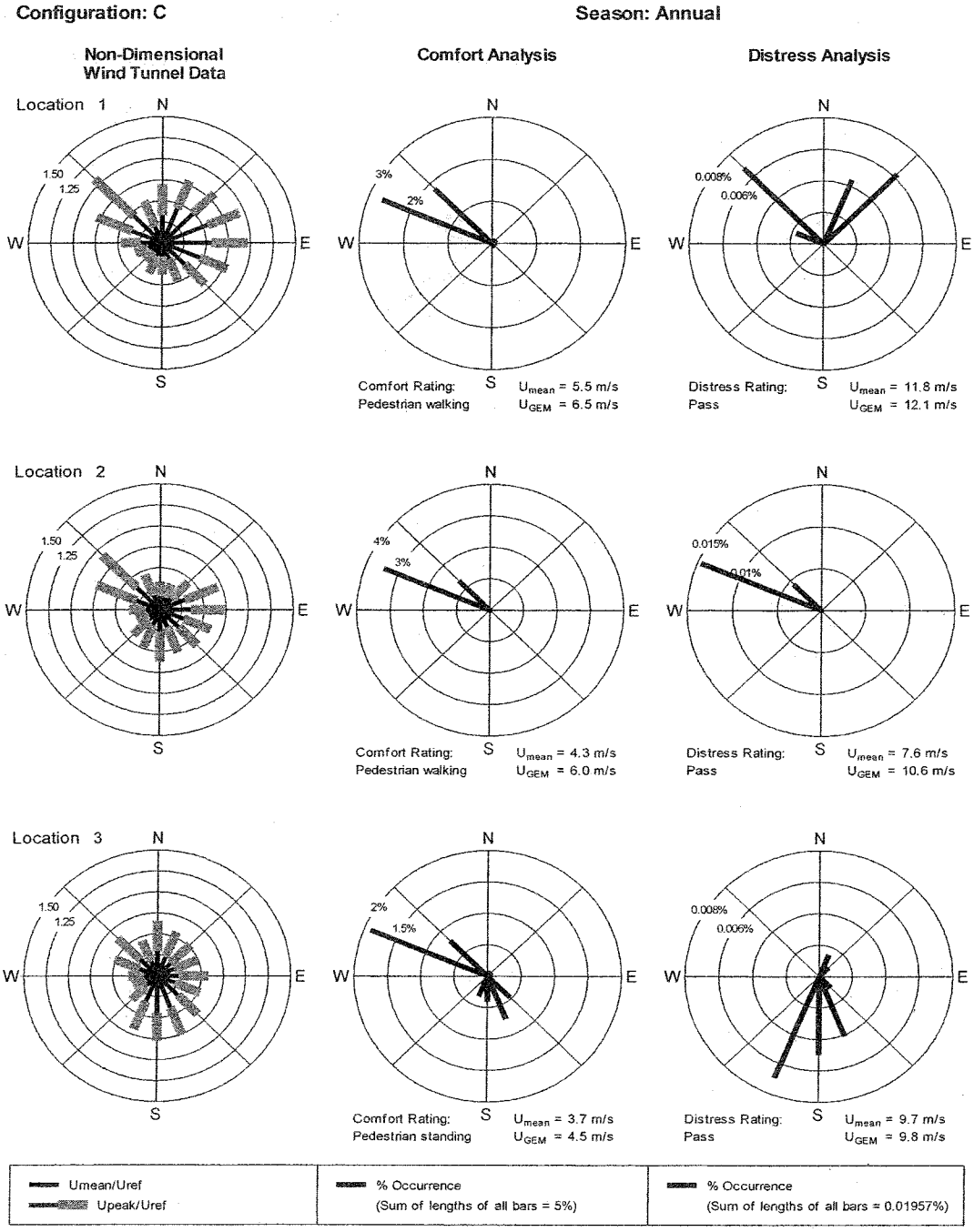


Figure A.3. Combination of wind tunnel data with annual daylight wind climate - Configuration C.

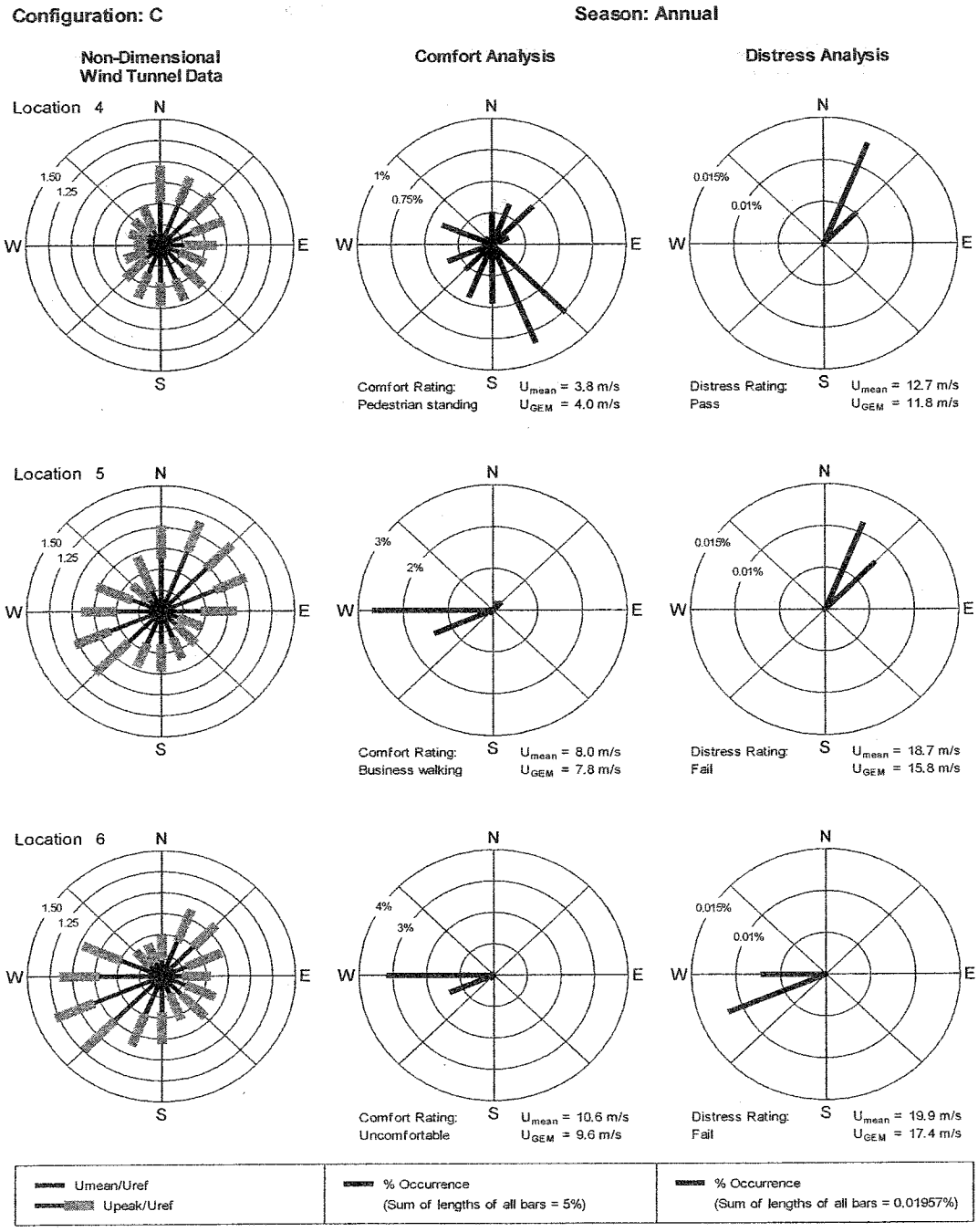


Figure A.3. Combination of wind tunnel data with annual daylight wind climate - Configuration C.

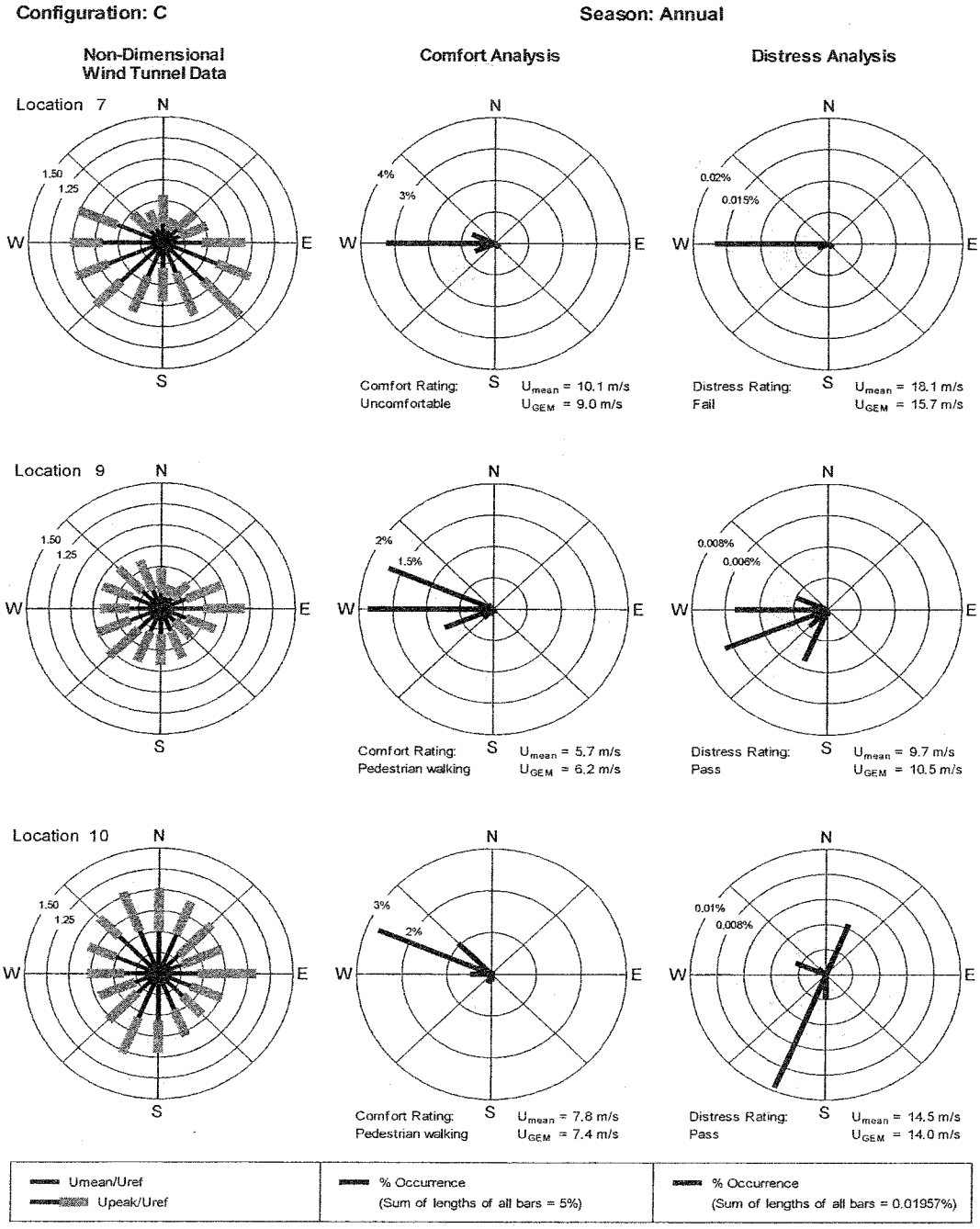


Figure A.3. Combination of wind tunnel data with annual daylight wind climate - Configuration C.

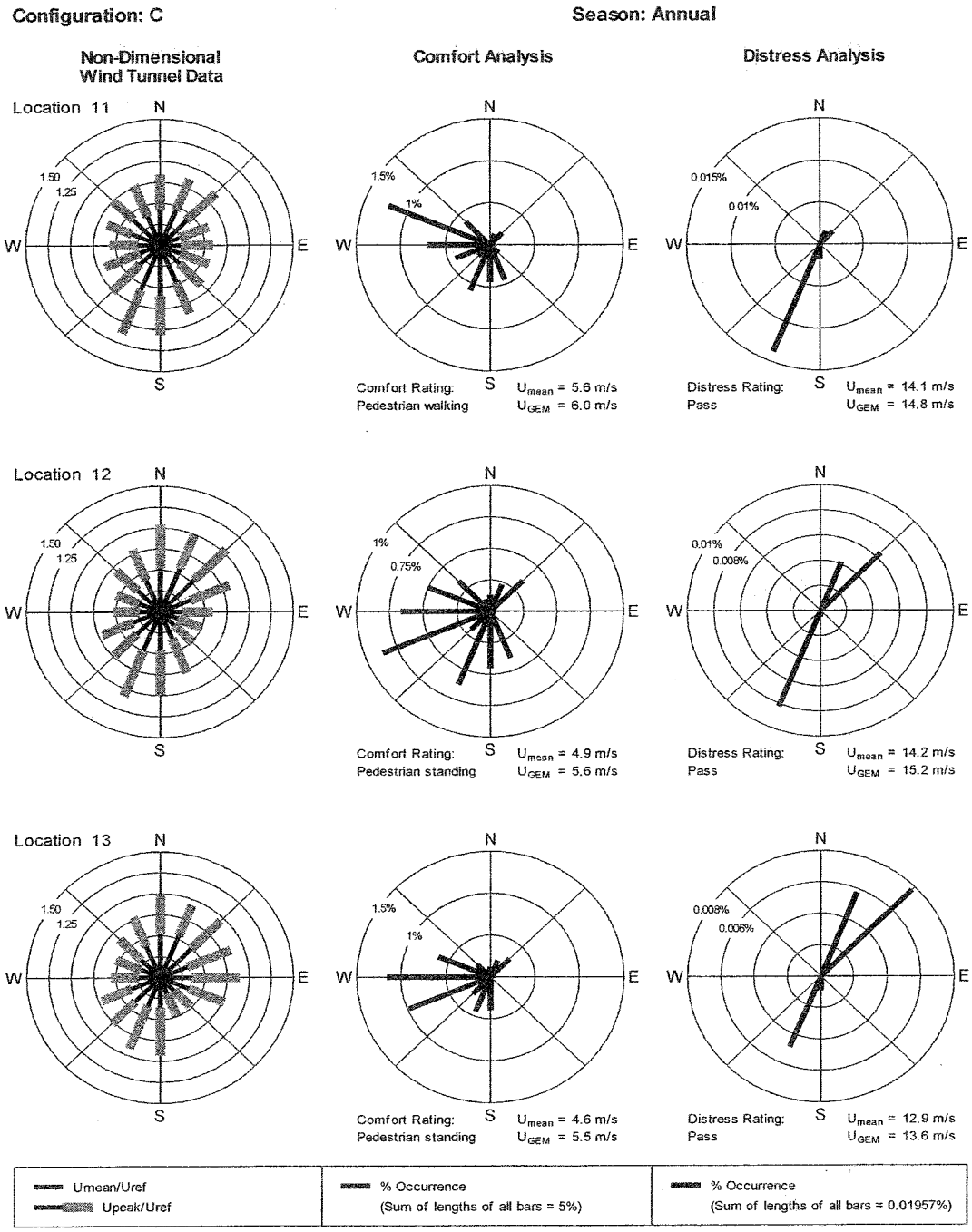


Figure A.3. Combination of wind tunnel data with annual daylight wind climate - Configuration C.

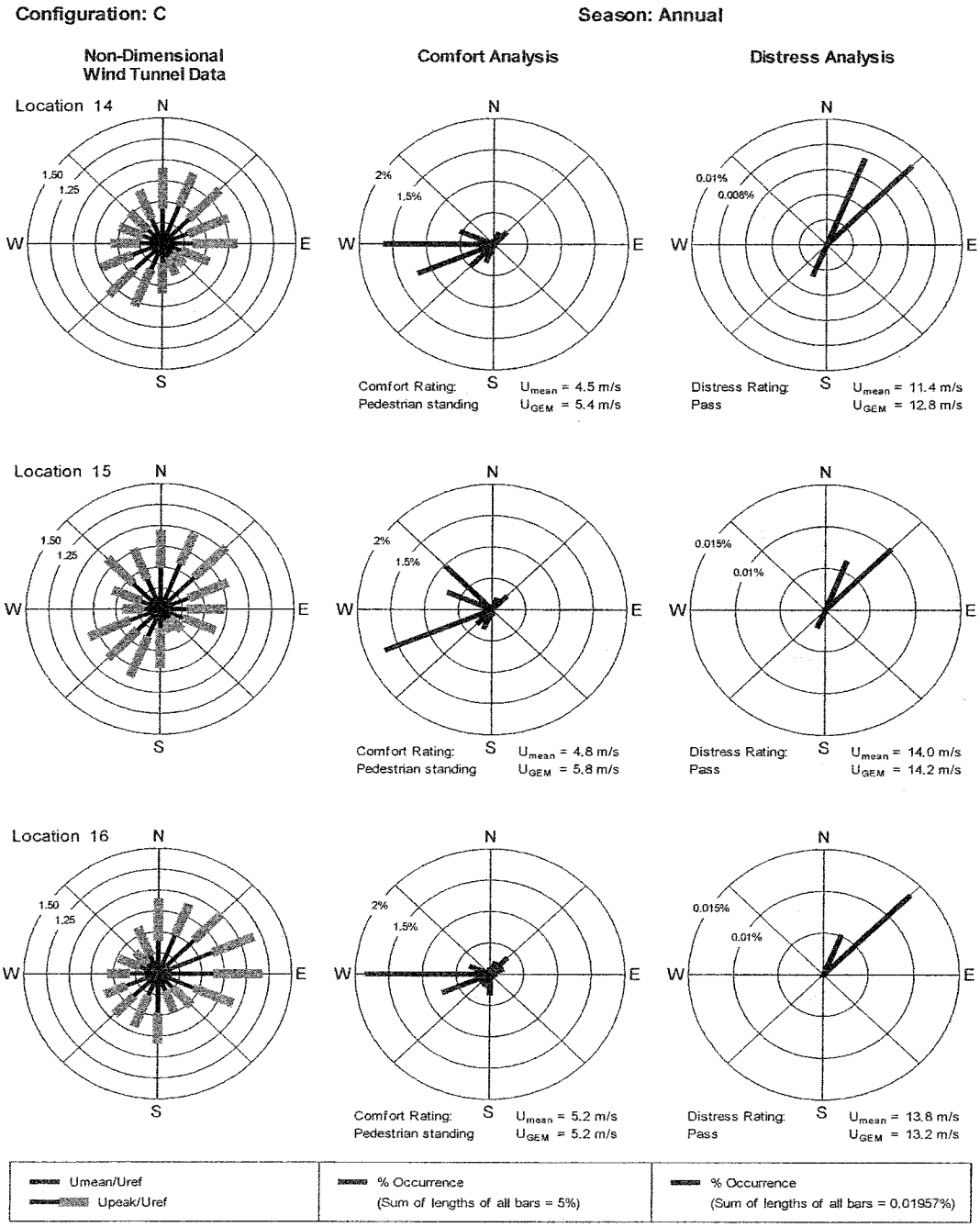


Figure A.3. Combination of wind tunnel data with annual daylight wind climate - Configuration C.

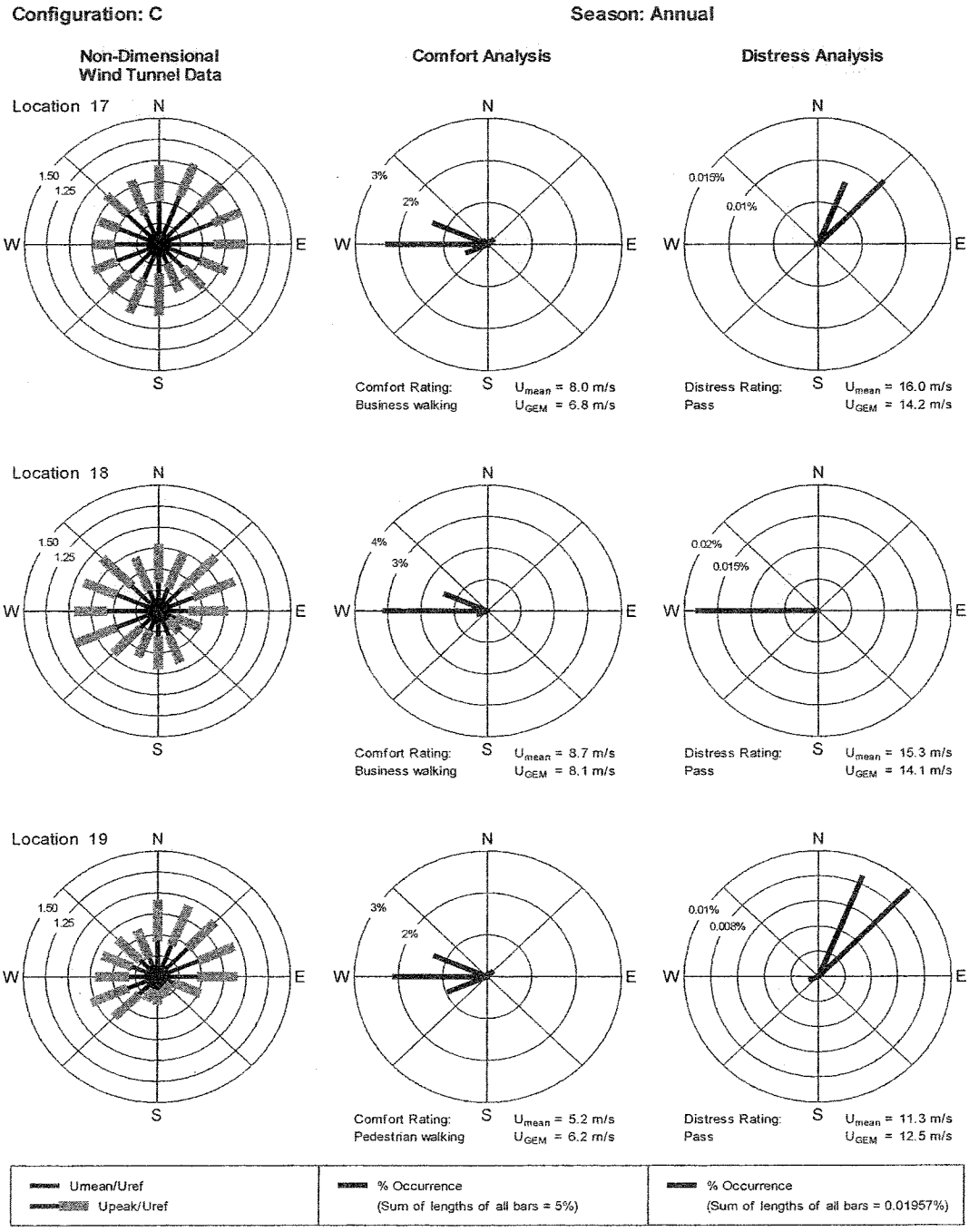


Figure A.3. Combination of wind tunnel data with annual daylight wind climate - Configuration C.

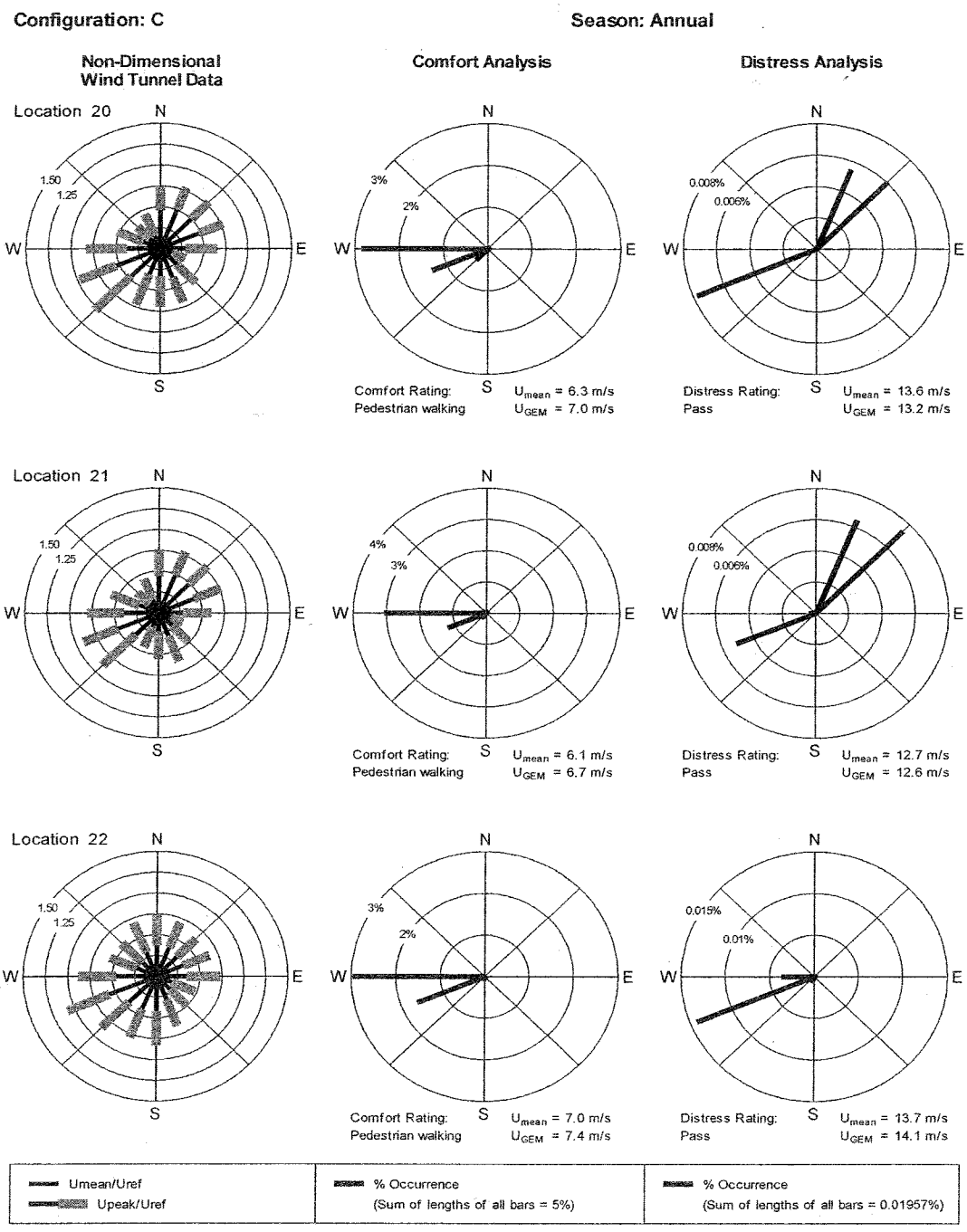


Figure A.3. Combination of wind tunnel data with annual daylight wind climate - Configuration C.

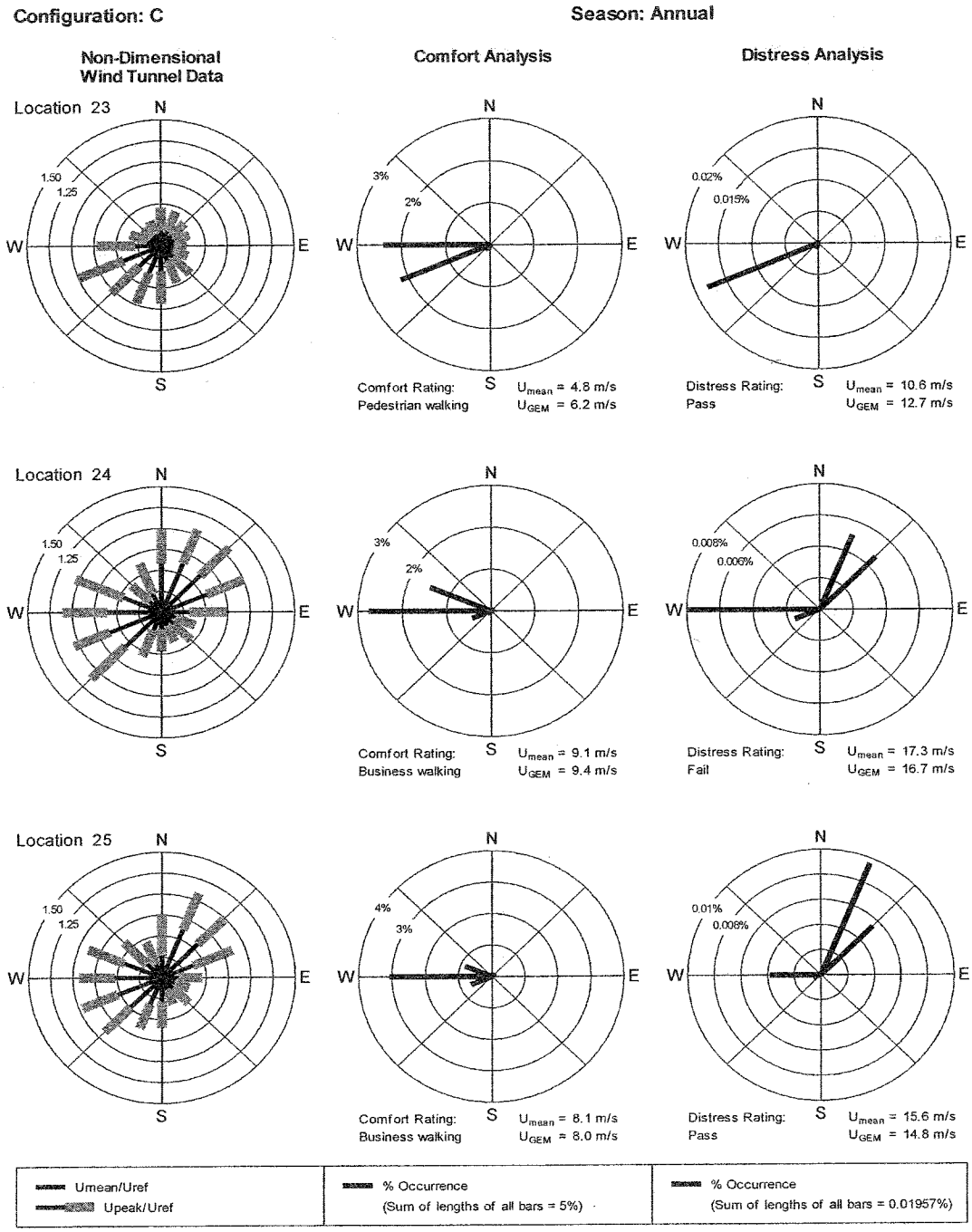


Figure A.3. Combination of wind tunnel data with annual daylight wind climate - Configuration C.

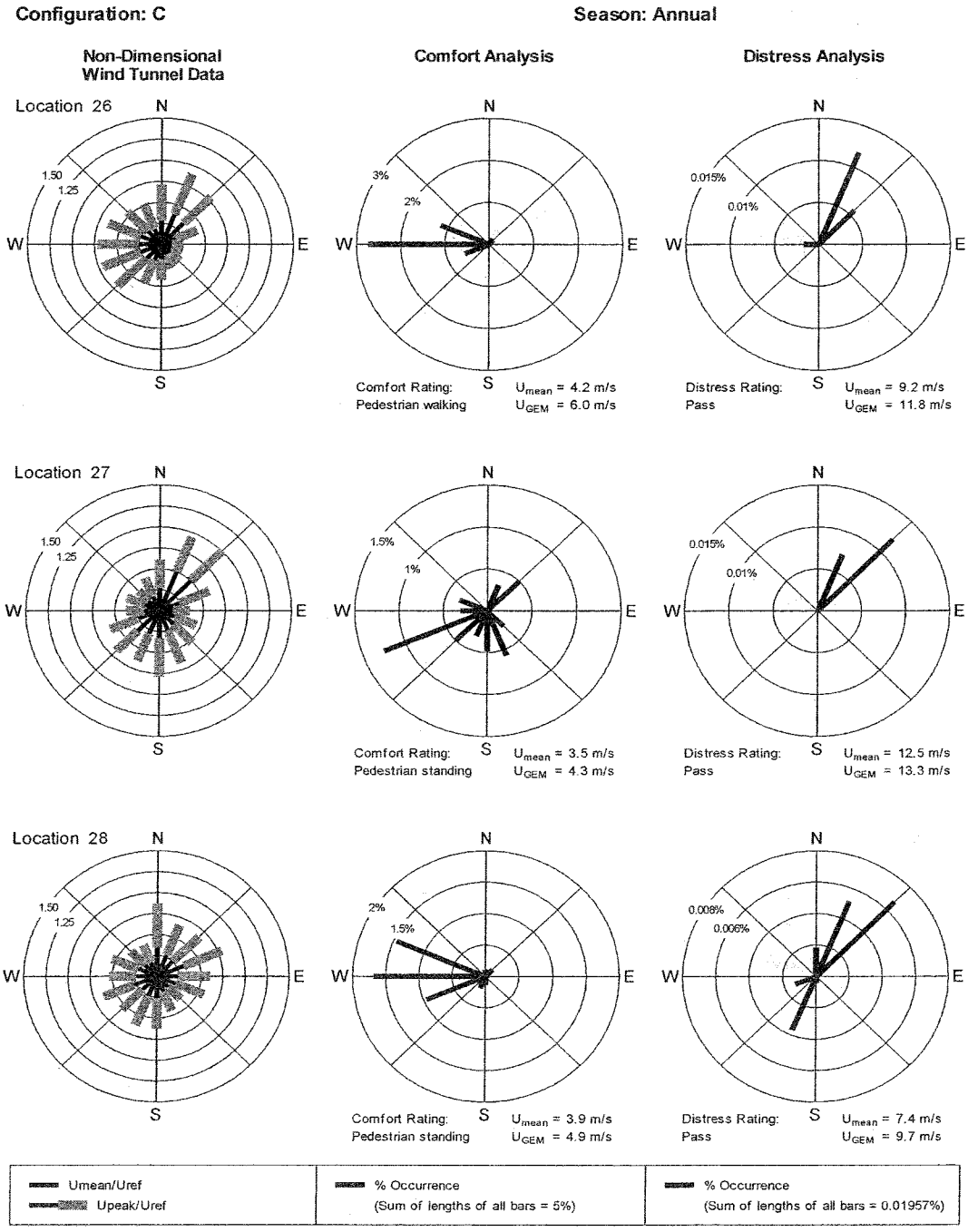


Figure A.3. Combination of wind tunnel data with annual daylight wind climate - Configuration C.

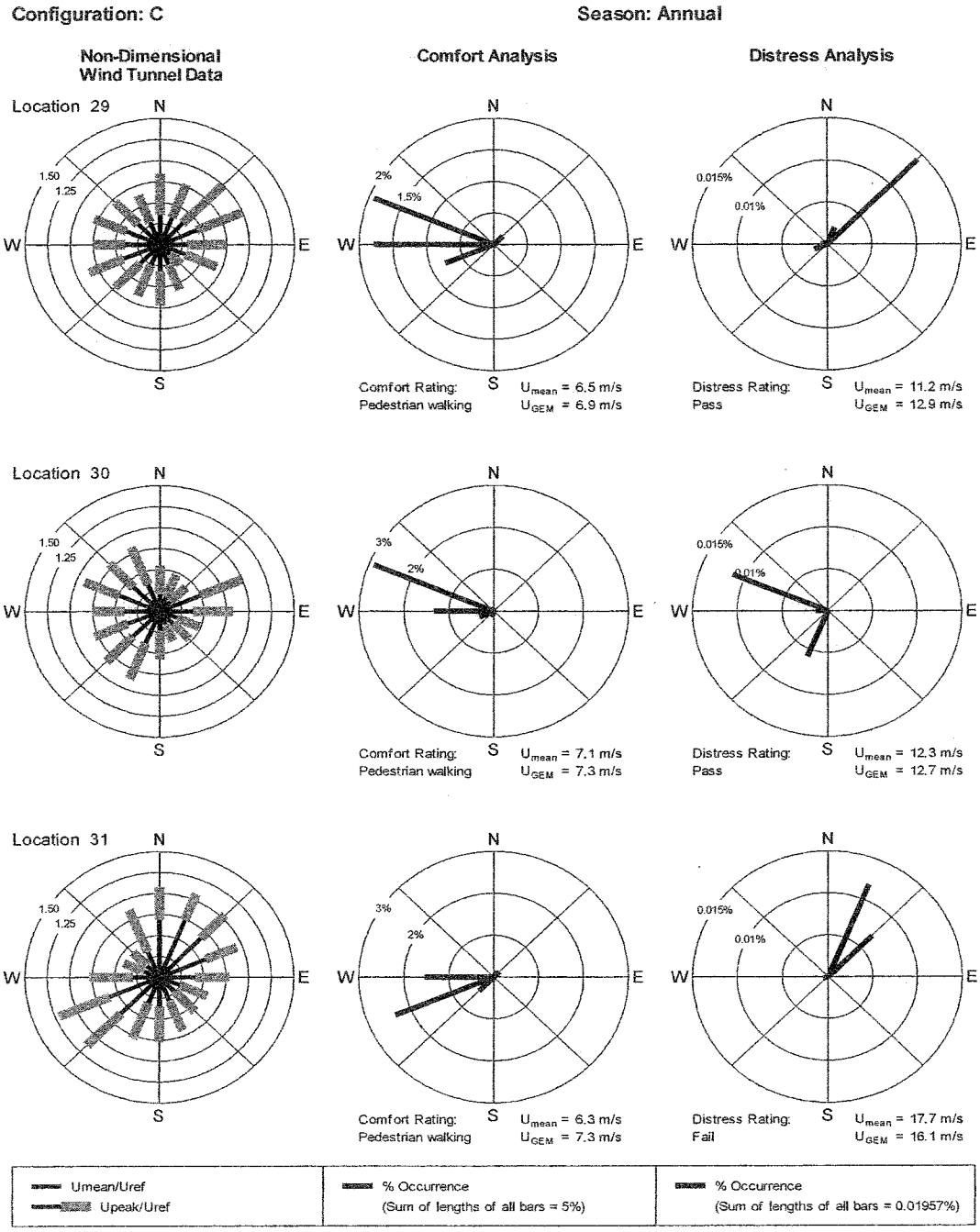


Figure A.3. Combination of wind tunnel data with annual daylight wind climate - Configuration C.

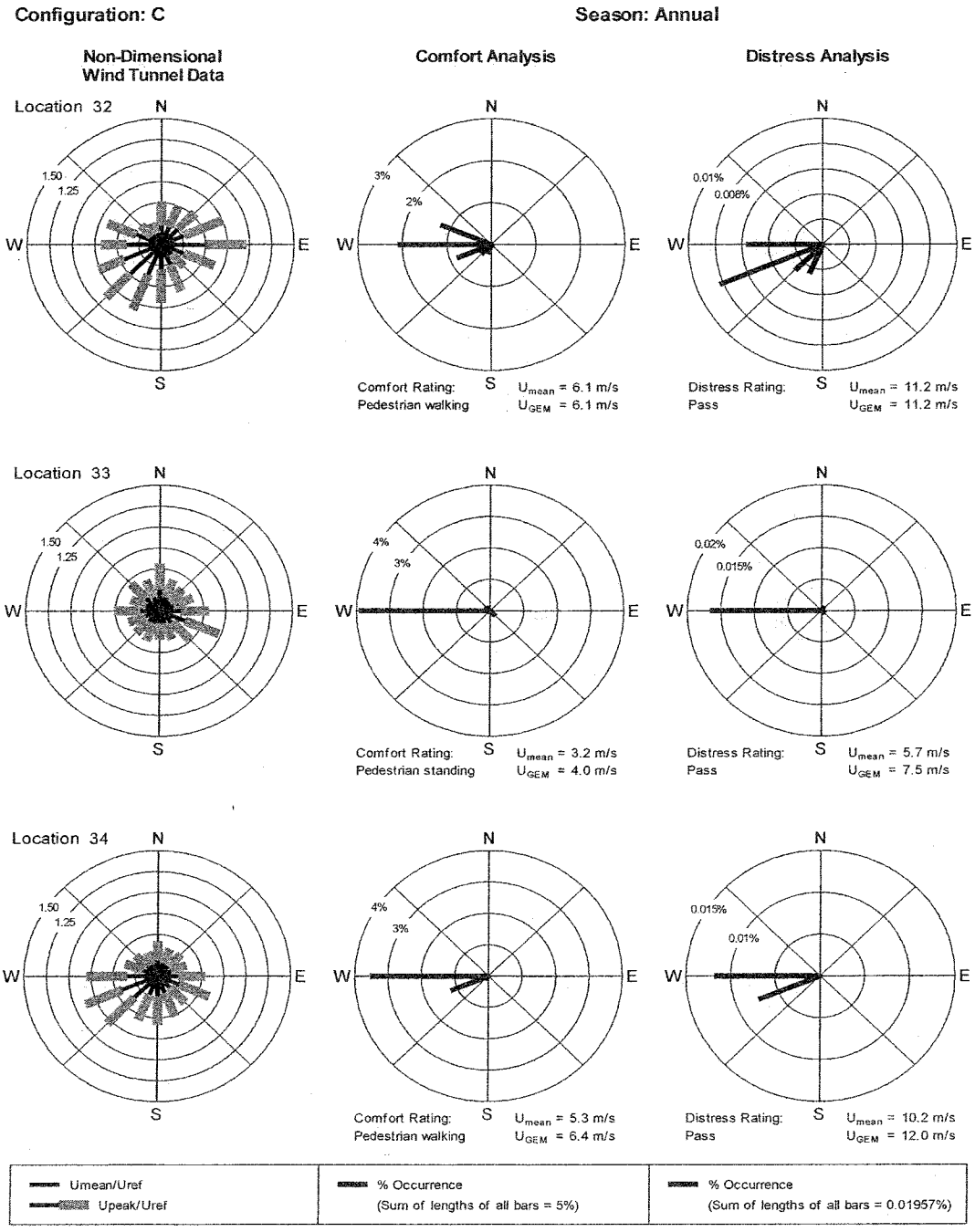


Figure A.3. Combination of wind tunnel data with annual daylight wind climate - Configuration C.

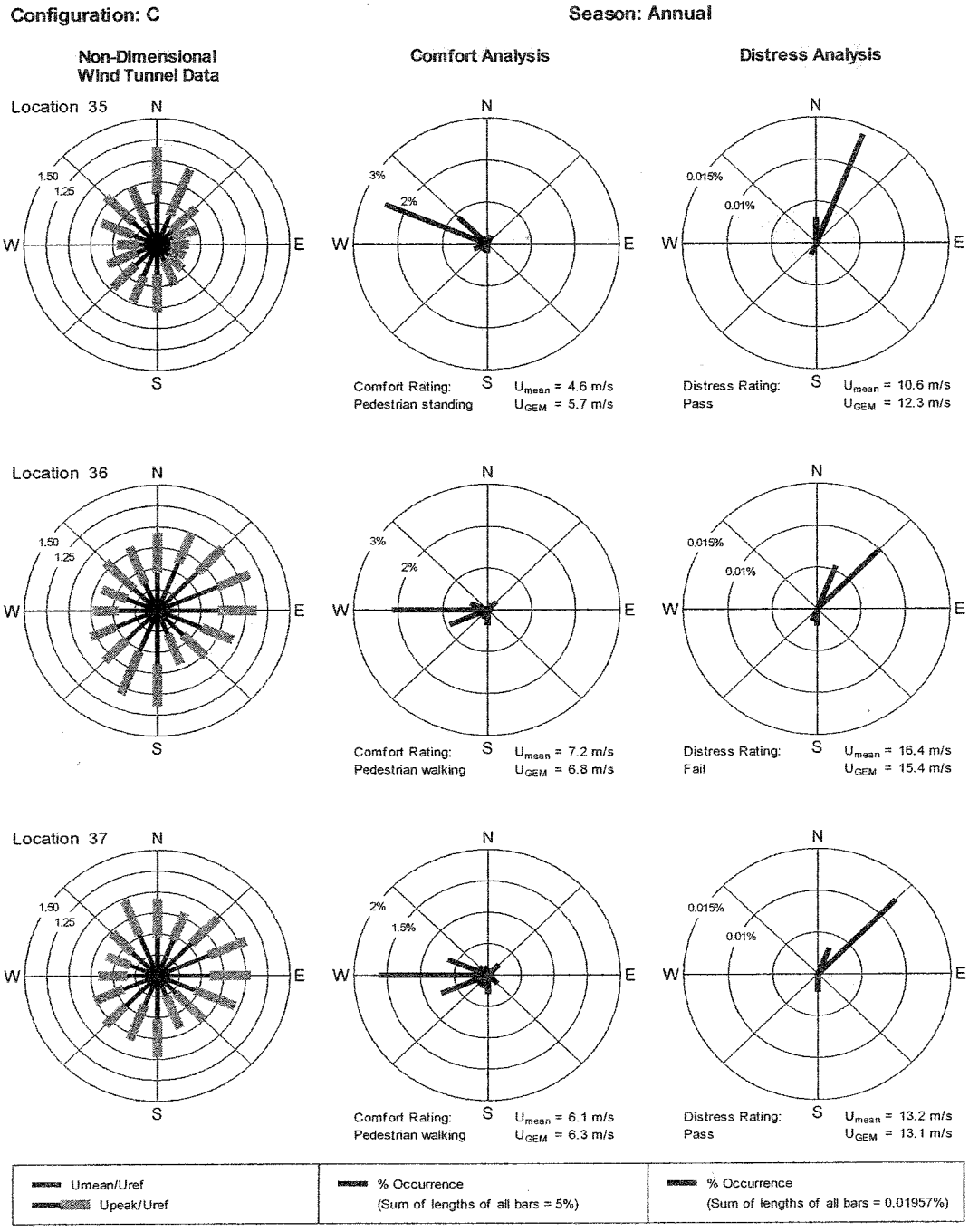
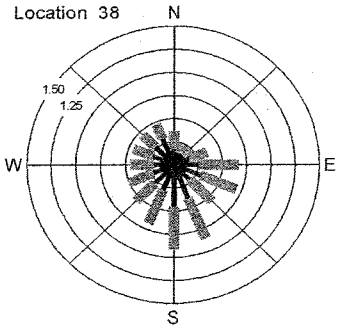


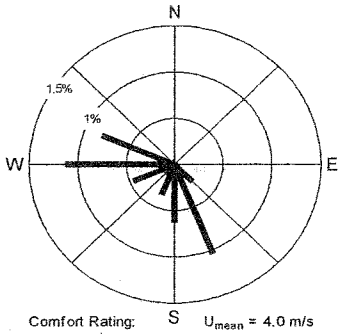
Figure A.3. Combination of wind tunnel data with annual daylight wind climate - Configuration C.

Configuration: C **Season: Annual**

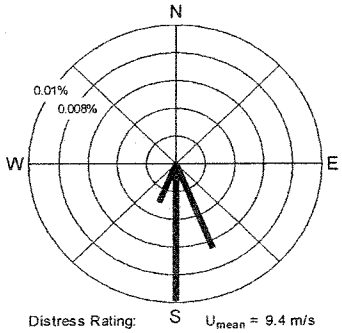
Non-Dimensional Wind Tunnel Data **Comfort Analysis** **Distress Analysis**

Location 38



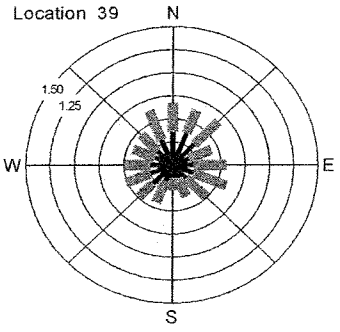


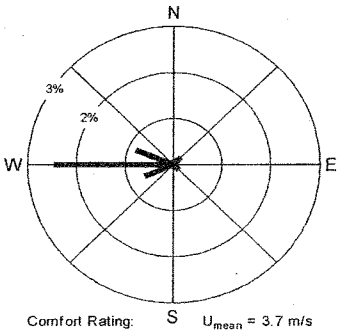
Comfort Rating: Pedestrian standing
U_{mean} = 4.0 m/s
U_{GEM} = 4.5 m/s



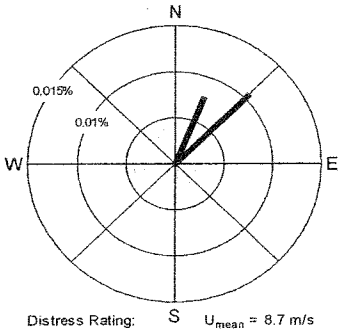
Distress Rating: Pass
U_{mean} = 9.4 m/s
U_{GEM} = 10.8 m/s

Location 39



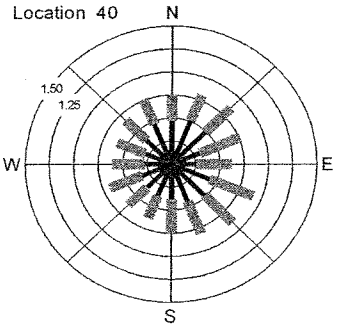


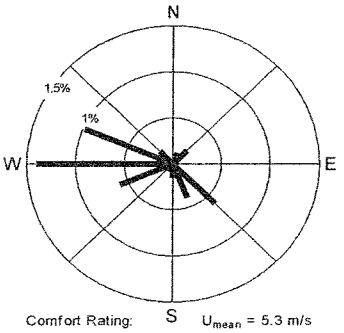
Comfort Rating: Pedestrian standing
U_{mean} = 3.7 m/s
U_{GEM} = 4.3 m/s



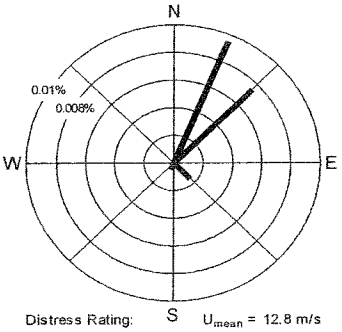
Distress Rating: Pass
U_{mean} = 8.7 m/s
U_{GEM} = 8.9 m/s

Location 40





Comfort Rating: Pedestrian standing
U_{mean} = 5.3 m/s
U_{GEM} = 5.8 m/s



Distress Rating: Pass
U_{mean} = 12.8 m/s
U_{GEM} = 12.1 m/s

Umean/Uref Upeak/Uref	% Occurrence (Sum of lengths of all bars = 5%)	% Occurrence (Sum of lengths of all bars = 0.01957%)

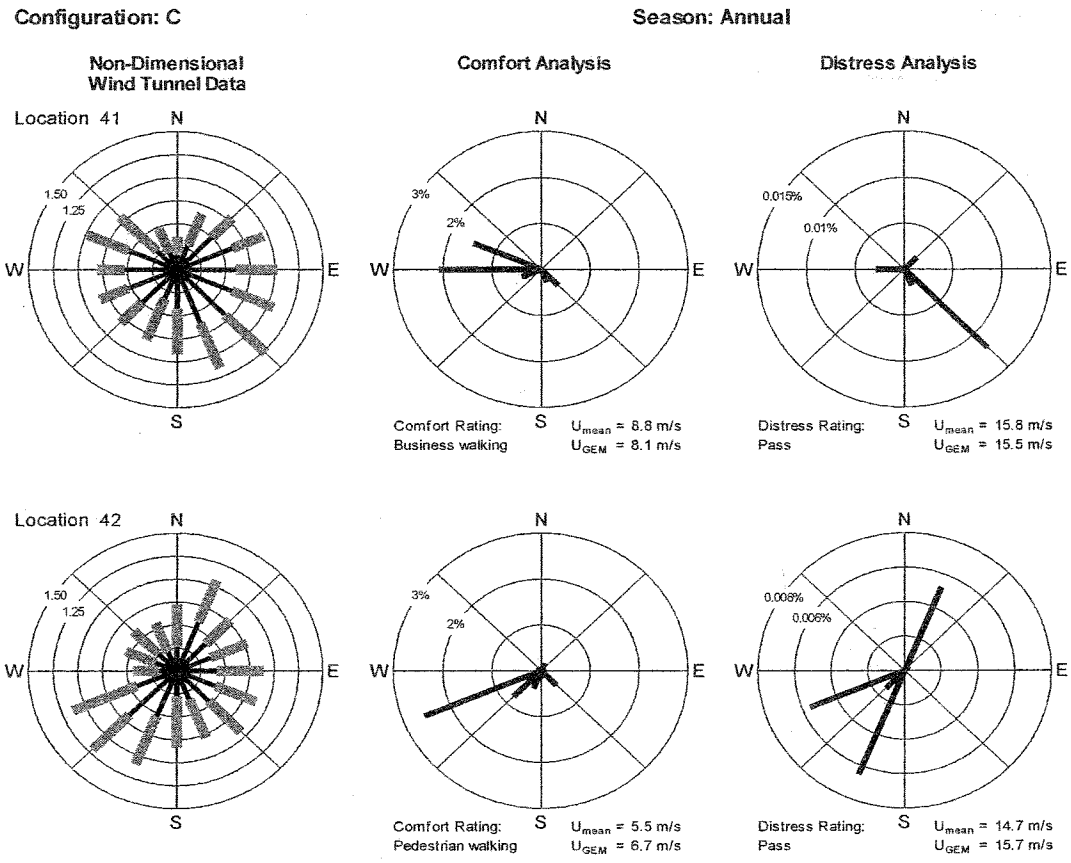


Figure A.3. Combination of wind tunnel data with annual daylight wind climate - Configuration C.

ATTACHMENT D

TRANSPORTATION ASSESSMENT

FEHR PEERS

MEMORANDUM

Date: December 10, 2014

To: Theresa Wallace, LSA

From: Sam Tabibnia

Subject: Lake Merritt Boulevard Apartments – Transportation Assessment

OK14-0017

This memorandum summarizes the focused transportation impact analysis that Fehr & Peers conducted for the proposed Lake Merritt Boulevard Apartments development in the City of Oakland. Fehr & Peers reviewed the proposed project for consistency with the assumptions contained in the Lake Merritt Station Area Plan (LMSAP) EIR for the site, assessed the project site plan for potential impacts on safety, and evaluated project impacts at two intersections that were not analyzed in the LMSAP Draft EIR.

Our analysis assumptions and findings are detailed below.

PROJECT DESCRIPTION

Based on a site plan dated July 11, 2014, the proposed project would consist of a 23-level building providing 298 multi-family dwelling units and 2,000 square feet of restaurant. The project is along the west side of East 12th Street between Lake Merritt Boulevard and Second Avenue in Oakland. The project site is currently vacant. **Figure 1** shows the project site location.

The project would provide a three-level parking garage which would accommodate 209 parking spaces. The garage would be accessed through a full-access gated driveway on Second Avenue approximately 70 feet west of East 12th Street.

CONSISTENCY WITH LMSAP

The proposed project site is located within the LMSAP and the LMSAP EIR included development at the project site (identified as Opportunity Site 44) as part of the project. The LMSAP EIR assumed that Opportunity Site 44 would be developed as 357 multi-family dwelling units and 20,000 square feet of commercial space. As described above, the proposed project is smaller than the assumed development in the LMSAP EIR.

Fehr & Peers also estimated the trip generation for the proposed project using the trip generation methodology developed for LMSAP EIR. As summarized in **Table 1**, the proposed project is estimated to generate 685 daily, 51 AM peak hour, and 54 PM peak hour trips, which is less than the trip generation assumed by the LMSAP EIR for the project site.

Since the uses proposed by the project are consistent with the assumptions in LMSAP EIR and the proposed project would generate fewer automobile trips than assumed in LMSAP EIR, the proposed project would not result in additional impacts on traffic operations at the intersections analyzed in the LMSAP EIR.

SITE PLAN REVIEW

An evaluation of access and circulation for all travel modes, based on the site plan dated July 11, 2014, is summarized below.

Vehicle Access and Circulation

The project would provide a three-level parking garage which would be accessed through a full-access gated driveway on Second Avenue approximately 70 feet west of East 12th Street. The garage would accommodate 209 parking spaces through a combination of regular parking spaces and parking lifts.

Considering the proximity of the driveway on Second Avenue to East 12th Street, motorists exiting the garage may not have adequate sight distance of vehicles turning from East 12th Street onto Second Avenue. In addition, based on preliminary review of the site plan, motorists exiting the garage may not have adequate sight distance of pedestrians on the adjacent sidewalk.

TABLE 1
LAKE MERRITT BOULEVARD APARTMENTS
TRIP GENERATION SUMMARY

Land Use	Units[1]	ITE Code	Daily	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
Residential	298 DU	222[2]	1,252	22	67	89	63	41	104
Mode Split Reduction [3]			-696	-12	-37	-49	-35	-23	-58
Net Trips After Mode Split Reduction			*556*	*10*	*30*	*40*	*28*	*18*	*46*
Restaurant	2.0 KSF	932[4]	254	12	10	22	12	8	20
Mode Split Reduction [5]			-102	-5	-4	-9	-5	-3	-8
Net Trips After Mode Split Reduction			152	7	6	13	7	5	12
Pass-by Reduction [6]			-23	-1	-1	-2	-2	-2	-4
Net Trips After Pass-by Reduction			*129*	*6*	*5*	*11*	*5*	*3*	*8*
Net New Project Trips [7]			**685**	**16**	**35**	**51**	**33**	**21**	**54**
Project Site in LMSAP DEIR [7]			1,024	18	37	55	44	34	78
Net Difference			-339	-2	-2	-4	-11	-13	-24

1. DU = Dwelling Units, KSF = 1,000 square feet.
2. ITE Trip *Generation (9th Edition)* land use category 222 (High-Rise Apartment):
   Daily: T = 4.2 * X
   AM Peak Hour: T) = 0.30* X (25% in, 75% out)
   PM Peak Hour: T) = 0.35* X (61% in, 39% out)
3. Per LMSAP DEIR, mode split reduction of 55.6% for residential uses based on the 2009 summary of commute patterns in the Lake Merritt Station Planning Area.
4. ITE *Trip Generation (9th Edition)* land use category 932 (High-Turnover (Sit-Down) Restaurant):
   Daily: T = 127.15*(X)
   AM Peak Hour: T = 10.81*(X) (55% in, 45% out)
   PM Peak Hour: T = 9.85*(X) (60% in, 40% out)
5. Per LMSAP DEIR, mode split reduction of 40% for daily and PM peak hour trips and 41% for AM peak hour trips based on the results of the 2000 Bay Area Travel Survey for retail trips of areas within one-half mile of a BART station in Alameda County.
6. Per LMSAP DEIR, Pass-by reduction of 15% for daily and AM peak hour trips and 34% for PM peak hour trips based on ITE *Trip Generation Handbook, Second Edition*.
7. The LMSAP EIR also accounted for the internal trips within each opportunity site. Considering the small size of the commercial component of the project, this analysis conservatively does not account for internal trips between the residential and commercial components of the project.
8. Net new trip generation for opportunity site #44 as documented in the LMSAP EIR.

Source: Fehr & Peers, 2014.

Recommendation 1: While not required to address a CEQA impact, the following should be considered as part of the final design for the project:

- To ensure adequate sight distance for vehicles, prohibit on-street parking along project frontage on Second Avenue between the project driveway and East 12th Street and within 20 feet on the west side of the driveway.
- Redesign project driveway on Second Avenue to provide adequate sight distance between motorists exiting the driveway and pedestrians on the sidewalk (Since the recommendation above would prohibit on-street parking adjacent to the project site on Second Avenue, one potential design may be to widen the sidewalk along project frontage and install planter wells adjacent to the project driveway to move pedestrians away from the driveway and ensure adequate sight distance and maintain sidewalk width).

Bicycle Access and Bicycle Parking

Chapter 17.117 of the Oakland Municipal Code requires long-term and short-term bicycle parking for new buildings. Long-term bicycle parking includes lockers or locked enclosures and short-term bicycle parking includes bicycle racks. The Code requires one long-term space for every four multi-family dwelling units and one short-term space for every 20 multi-family dwelling units. Code requires the minimum level of bicycle parking, two long and short-term spaces, for the commercial component of the project.

Table 2 summarizes the bicycle parking requirement for the project. The project is required to provide 77 long-term and 17 short-term parking spaces. The site plan shows long-term bicycle parking for 86 bicycles on the basement level of the garage and does not identify short-term bicycle parking. The long-term bicycle parking on the basement level of the garage can be accessed by stairs or biking through the garage. Using stairs to access bicycle parking on the basement level maybe inconvenient for bicyclists, and riding through the garage may result in potential conflicts between motorists and bicyclists.

TABLE 2
BICYCLE PARKING REQUIREMENTS

Land Use	Size[1]	Long-Term		Short-Term	
		Spaces per Unit	Spaces	Spaces per Unit	Spaces
Apartments	298 DU	1:4 DU	75	1:20 DU	15
Commercial	2.0 KSF	Min.	2	Min.	2
Total Required Bicycle Spaces			77		17
Total Bicycle Parking Provided			86		N/A
Bicycle Parking Surplus/Deficit			**+9**		**-17**

1. DU = dwelling unit; KSF = 1,000 square feet
2. Based on Oakland Municipal Code Sections 17.117.090 and 17.117.110

Source: Fehr & Peers, 2014

Recommendation 2: While not required to address a CEQA impact, the following should be considered as part of the final design for the project:

- Consider relocating the long-term bicycle parking from the basement level to a more convenient location on the ground level.
- Identify location and amount of short-term bicycle parking, consistent with the City of Oakland Bicycle Parking Ordinance. Short-term bicycle parking should be near the entrances to both the commercial and residential components of the project.

Pedestrian Access and Circulation

Primary access to the residential tower would be through a lobby on East 12th Street that includes elevators and a stairwell. Additional stairwells would be provided on Lake Merritt Boulevard and at the corner of East 12th Street and Second Avenue. The proposed project would also provide lofts along the East 12th Street and Lake Merritt Boulevard frontages that would be directly accessed from those streets.

The sidewalks along the project frontage were recently constructed as part of the 12th Street Bridge Reconstruction Project and the two signalized intersections adjacent to the project at Lake Merritt Boulevard/East 12th Street and East 12th Street/2nd Avenue provide striped crosswalks with countdown pedestrian signal heads, adequate crossing time, and directional curb ramps adjacent to the project site. The project would not alter the existing 12-foot sidewalk along East

12th Street and 10-foot sidewalk along Second Avenue. In addition, the proposed building would also have a 10-foot setback along East 12th Street.

Transit Access

Transit service providers in the project vicinity include Bay Area Rapid Transit (BART) and AC Transit.

BART provides regional rail service throughout the East Bay and across the Bay. The nearest BART station to project site is the Lake Merritt BART Station, about 0.5 miles west. The proposed project would not modify access between the project site and the BART Station.

AC Transit is the primary bus service provider in the City of Oakland. AC Transit operates the following routes in the vicinity of the project:

- Routes 1 and 1R operate along International Boulevard with the nearest stop at Second Avenue, about 350 feet east of the project site.
- Routes 11 and 62 operate along 10th Street with the nearest stop at Second Avenue, about 600 feet west of the project site.
- Routes 14, 18, 26, and 40 operate on Lake Merritt Boulevard with the nearest stop between International Boulevard and East 15th Street, about 600 feet east of the project site.

AC Transit is currently designing the East Bay Bus Rapid Transit (BRT) Project along the International Boulevard corridor, which would replace Routes 1 and 1R. The project would generally dedicate one travel lane in each direction to bus operations only in order to provide a quicker and more reliable bus service. Adjacent to the project, BRT would operate along southbound East 12th Street, and convert the two southbound mixed-flow lanes to one bus-only lane and one mixed-flow lane. The BRT project would continue to maintain the existing Class 2 bicycle lanes and parking along East 12th Street adjacent to the project site.

The nearest BRT stop to the project site would be on southbound East 12th Street, just south of Second Avenue. The corresponding northbound stop would be on International Boulevard just south of Second Avenue, about 350 feet east of the project site. Both stops can be accessed from the project site by crossing at protected signalized intersections.

No changes to the other bus routes operating in the vicinity of the project are planned and access between these bus stops and the proposed project would not modify access between the project site and these bus stops.

TRANSPORTATION DEMAND MANAGEMENT

Since the proposed project would generate more than 50 net new PM peak hour trips, The City's Standard Condition of Approval (SCA), which requires the preparation of a Transportation Demand Management (TDM) plan as described below, is applicable.

SCA TRA-1: Parking and Transportation Demand Management. *Prior to issuance of a final inspection of the building permit.*

The project applicant shall submit a Transportation and Parking Demand Management (TDM) plan for review and approval by the City. The intent of the TDM plan shall be to reduce vehicle traffic and parking demand generated by the project to the maximum extent practicable consistent with the potential traffic and parking impacts of the project.

The goal of the TDM shall be to achieve the following project vehicle trip reductions (VTR):

- Projects generating 50 to 99 net new AM or PM peak hour vehicle trips: 10 percent VTR
- Projects generating 100 or more net new AM or PM peak hour vehicle trips: 20 percent VTR

The TDM plan shall include strategies to increase pedestrian, bicycle, transit, and carpool use, and reduce parking demand. All four modes of travel shall be considered, as appropriate. VTR strategies to consider include, but are not limited to, the following:

a) Inclusion of additional long term and short term bicycle parking that meets the design standards set forth in chapter five of the Bicycle Master Plan, and Bicycle Parking Ordinance (chapter 17.117 of the Oakland Planning Code), and shower and locker facilities in commercial developments that exceed the requirement.

b) Construction of and/or access to bikeways per the Bicycle Master Plan; construction of priority Bikeway Projects, on-site signage and bike lane striping.

c) 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 and safe crossing at arterials, in addition to safety elements required to address safety impacts of the project.

d) Installation of amenities such as lighting, street trees, trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan.

e) Construction and development of transit stops/shelters, pedestrian access, way finding signage, and lighting around transit stops per transit agency plans or negotiated improvements.

f) Direct on-site sales of transit passes purchased and sold at a bulk group rate (through programs such as AC Transit Easy Pass or a similar program through another transit agency).

g) Provision of a transit subsidy to employees or residents, determined by the project sponsor and subject to review by the City, if the employees or residents use transit or commute by other alternative modes.

h) Provision of an ongoing contribution to AC Transit service to the area between the development and nearest mass transit station prioritized as follows: 1) Contribution to AC Transit bus service; 2) Contribution to an existing area shuttle or streetcar service; and 3) Establishment of new shuttle or streetcar service. The amount of contribution (for any of the above scenarios) would be based upon the cost of establishing new shuttle service (Scenario3).

i) Guaranteed ride home program for employees, either through 511.org or through separate program.

j) Pre-tax commuter benefits (commuter checks) for employees.

k) Free designated parking spaces for on-site car-sharing program (such as City Car Share, Zip Car, etc.) and/or car-share membership for employees or tenants.

l) Onsite carpooling and/or vanpooling program that includes preferential (discounted or free) parking for carpools and vanpools.

m) Distribution of information concerning alternative transportation options.

n) Parking spaces sold/leased separately for residential units. Charge employees for parking, or provide a cash incentive or transit pass alternative to a free parking space in commercial properties.

o) Parking management strategies; including attendant/valet parking and shared parking spaces.

p) Requiring tenants to provide opportunities and the ability to work off-site.

q) Allow employees or residents to adjust their work schedule in order to complete the basic work requirement of five eight-hour workdays by adjusting their schedule to reduce vehicle trips to the worksite (e.g., working four, ten-hour days; allowing employees to work from home two days per week).

r) Provide or require tenants to provide employees with staggered work hours involving a shift in the set work hours of all employees at the workplace or flexible work hours involving individually determined work hours.

The TDM Plan shall indicate the estimated VTR for each strategy proposed based on published research or guidelines. For TDM Plans containing ongoing operational VTR strategies, the Plan shall include an ongoing monitoring and enforcement program to ensure the Plan is implemented on an ongoing basis during project operation. If an annual compliance report is required, as explained below, the TDM Plan shall also specify the topics to be addressed in the annual report.

The project applicant shall implement the approved TDM Plan on an ongoing basis. For projects that generate 100 or more net new AM or PM peak hour vehicle trips and contain ongoing operational VTR strategies, the project applicant shall submit an annual compliance report for the first five years following completion of the project (or completion of each phase for phased projects) for review and approval by the City. The annual report shall document the status and effectiveness of the TDM program, including the actual VTR. If deemed necessary, the City may elect to have a peer review consultant, paid for by the project applicant, review the annual report. If timely reports are not submitted and/or the annual reports indicate that the project applicant has failed to implement the TDM Plan, the project will be considered in violation of the Conditions of Approval and the City may initiate enforcement action as provided for in these Conditions of Approval. The project shall not be considered in violation of this Condition if the TDM Plan is implemented but the VTR goal is not achieved.

FOCUSED TRAFFIC IMPACT ANALYSIS

This section discusses the impacts of the proposed project on traffic operations under Existing and 2035 conditions on two study intersections that were not analyzed in LMSAP EIR.

Trip Distribution and Assignment

The trip distribution and assignment process estimates how the vehicle trips generated by a project site would distribute across the roadway network. **Figure 2** shows the trip distribution for the project, which is based on the trip distribution documented in the LMSAP EIR, modified to account for the project location.

Trips generated by the proposed project, as shown in Table 1, were assigned to the roadway network according to the trip distribution shown on Figure 2. **Figure 3** shows the resulting trip assignment by roadway segment for the PM peak hour because the PM peak hour has the highest project trip generation.

As shown on Figure 3, the proposed project would add more than 20 peak hour trips to the following two intersections that were not analyzed in the LMSAP EIR:

1. Lake Merritt Boulevard/East 12th Street
2. East 12th Street/2nd Avenue

Therefore, this section assesses potential impacts at these two intersections.

Existing Traffic Conditions

Traffic data, consisting of automobile turning movement, as well as pedestrian and bicycle counts, were collected on clear days, while area schools were in normal session. The traffic data collection was conducted from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM on September 16, 2014. These time periods were selected because trips generated by the proposed project, in combination with background traffic, are expected to represent typical worst traffic conditions.

Figure 4 presents existing intersection lane configurations, traffic control devices, and peak hour traffic volumes. Based on the volumes and roadway configurations presented in Figure 4, Fehr & Peers calculated the Level of Service (LOS)[1] at the study intersections using the 2000 *Highway Capacity Manual* (HCM) methodologies.

Table 3 summarizes the existing intersection analysis results. The technical appendix provides the detailed LOS calculation sheets. Both intersections currently operate at LOS B during both AM and PM peak hours.

Existing Plus Project Conditions

Figure 4 shows traffic volumes under Existing Plus Project conditions, which consist of Existing Conditions traffic volumes plus added traffic volumes generated by the project.

Table 3 summarizes the intersection operations results for the Existing Plus Project conditions. Both study intersections would continue to operate at LOS B during both AM and PM peak hours. Therefore, the project would not result in a significant impact at either of these intersections.

---

[1] The operations of roadway facilities are typically described with the term level of service (LOS), a qualitative description of traffic flow based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels are defined from LOS A, which reflects free-flow conditions where there is very little interaction between vehicles, to LOS F, where the vehicle demand exceeds the capacity and high levels of vehicle delay result. LOS E represents "at-capacity" operations. When traffic volumes exceed the intersection capacity, stop-and-go conditions result and a vehicle may wait through multiple signal cycles before passing through the intersection; these operations are designated as LOS F.

TABLE 3
INTERSECTION LOS SUMMARY
EXISTING AND EXISTING PLUS PROJECT CONDITIONS

Intersection	Traffic Control[1]	Peak Hour	Existing Conditions		Existing Plus Project Conditions		Significant Impact?
			Delay[2] (seconds)	LOS	Delay[2] (seconds)	LOS	
1. Lake Merritt Boulevard/ East 12th Street	Signal	AM	15.8	B	15.9	B	No
		PM	13.1	B	13.7	B	No
2. East 12th Street/ Second Avenue	Signal	AM	11.4	B	13.0	B	No
		PM	15.5	B	16.7	B	No

Bold indicates intersections operating at an unacceptable level. All intersection located in Downtown or on arterials that provide direct access to Downtown where LOS E (not LOS D) is the threshold.

1. Signal = intersection is controlled by a traffic signal
2. For signalized intersections, average intersection delay and LOS based on the 2000 HCM method is shown.

Source: Fehr & Peers, 2014.

2035 Intersection Analysis

2035 conditions at the two study intersections are described below.

Traffic Forecasts

This analysis uses the same methodology used to forecast year 2035 traffic volumes for LMSAP EIR to forecast 2035 No Project volumes at the two study intersections. The forecasts are based on the most recent ACTC Model (released in June 2011), which uses land use data consistent with Association of Bay Area Government (ABAG) *Projection 2009*. The 2035 Plus Project volumes are forecast by adding the project traffic to the 2035 No Project traffic volumes. **Figure 4** shows the traffic volumes for the 2035 No Project and 2035 Plus Project scenarios.

2035 Roadway Network

The 2035 No Project and the 2035 Plus Project conditions assume the completion of the proposed BRT project along East 12th Street. As previously described, the BRT project would convert one-mixed flow lane along southbound East 12th Street to bus-only operations. The BRT Project would also prohibit left-turns on East 12th Street at Second Avenue.

2035 Intersection Operations

Table 4 summarizes intersection LOS calculations for 2035 No Project and 2035 Plus Project conditions. Both study intersections would operate at LOS C or better during both AM and PM peak hours under 2035 No Project and 2035 Plus Project conditions. Therefore, the project would not result in a significant impact at either of these intersections.

TABLE 4
INTERSECTION LOS SUMMARY
2035 CONDITIONS

Intersection	Traffic Control[1]	Peak Hour	2035 No Project Conditions		2035 Plus Project Conditions		Significant Impact?
			Delay[2] (seconds)	LOS	Delay[2] (seconds)	LOS	
1. Lake Merritt Boulevard/ East 12th Street	Signal	AM	20.9	C	20.8	C	No
		PM	19.6	B	20.3	C	No
2. East 12th Street/ Second Avenue	Signal	AM	16.0	B	19.0	B	No
		PM	21.7	C	22.5	C	No

Bold indicates intersections operating at an unacceptable level. All intersection located in Downtown or on arterials that provide direct access to Downtown where LOS E (not LOS D) is the threshold.

1. Signal = intersection is controlled by a traffic signal
2. For signalized intersections, average intersection delay and LOS based on the 2000 HCM method is shown.

Source: Fehr & Peers, 2014.

Project Driveway Operations

As previously described, the driveway for the proposed project would be on Second Avenue, about 70 feet west of East 12th Street. Based on the completed analysis, the 95th percentile queues on eastbound Second Avenue at East 12th Street are expected to spill back beyond the project driveway during both AM and PM peak hours. However, these queues would clear at the end of each signal cycle and allow vehicles to turn into and out of the driveway.

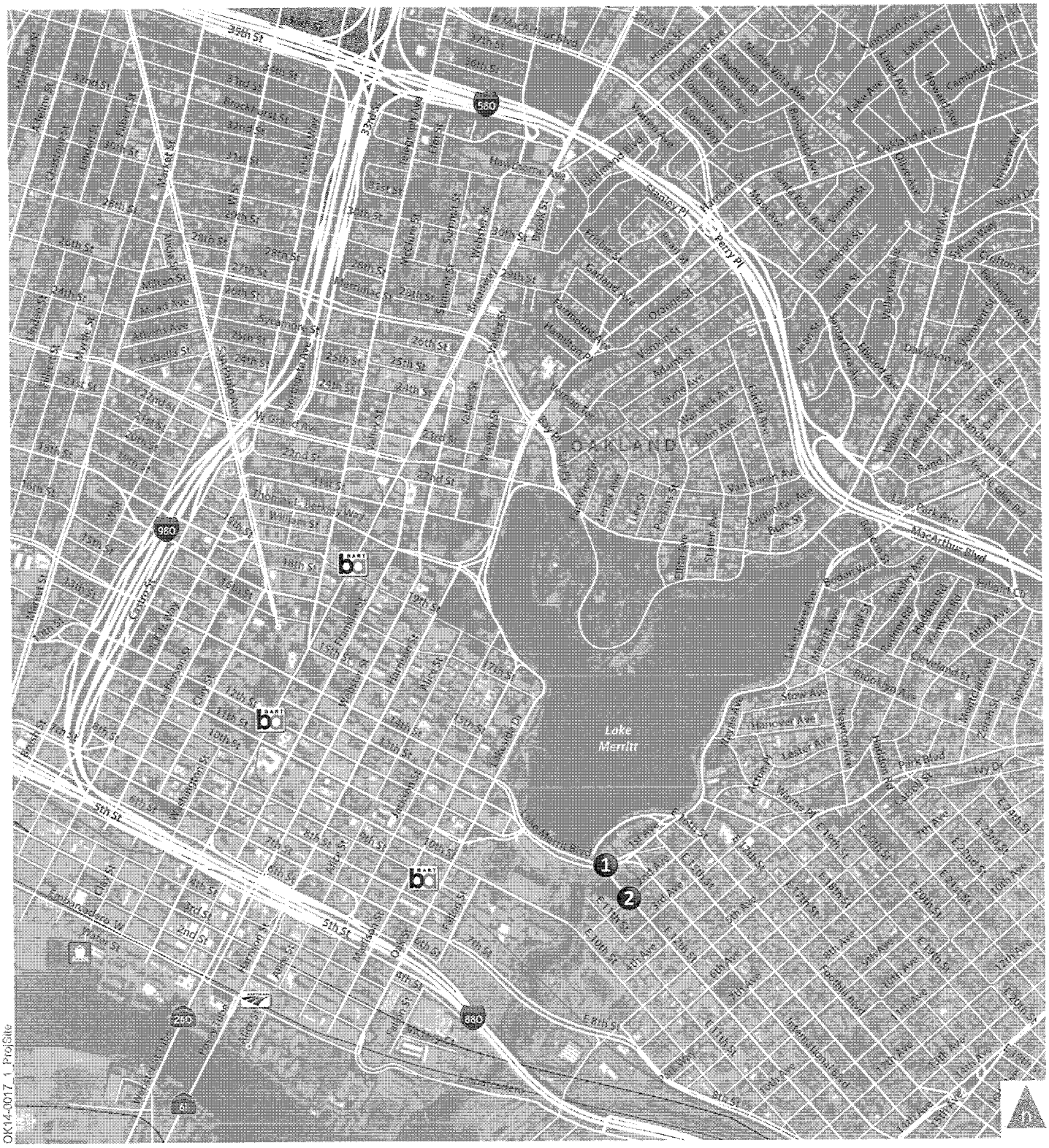
Please contact us with questions or comments.

Attachments:

Figures:

Figure 1 Project Site and Study Intersections
Figure 2 Project Trip Distribution

Appendix:



OK14-0017_1_ProjSite

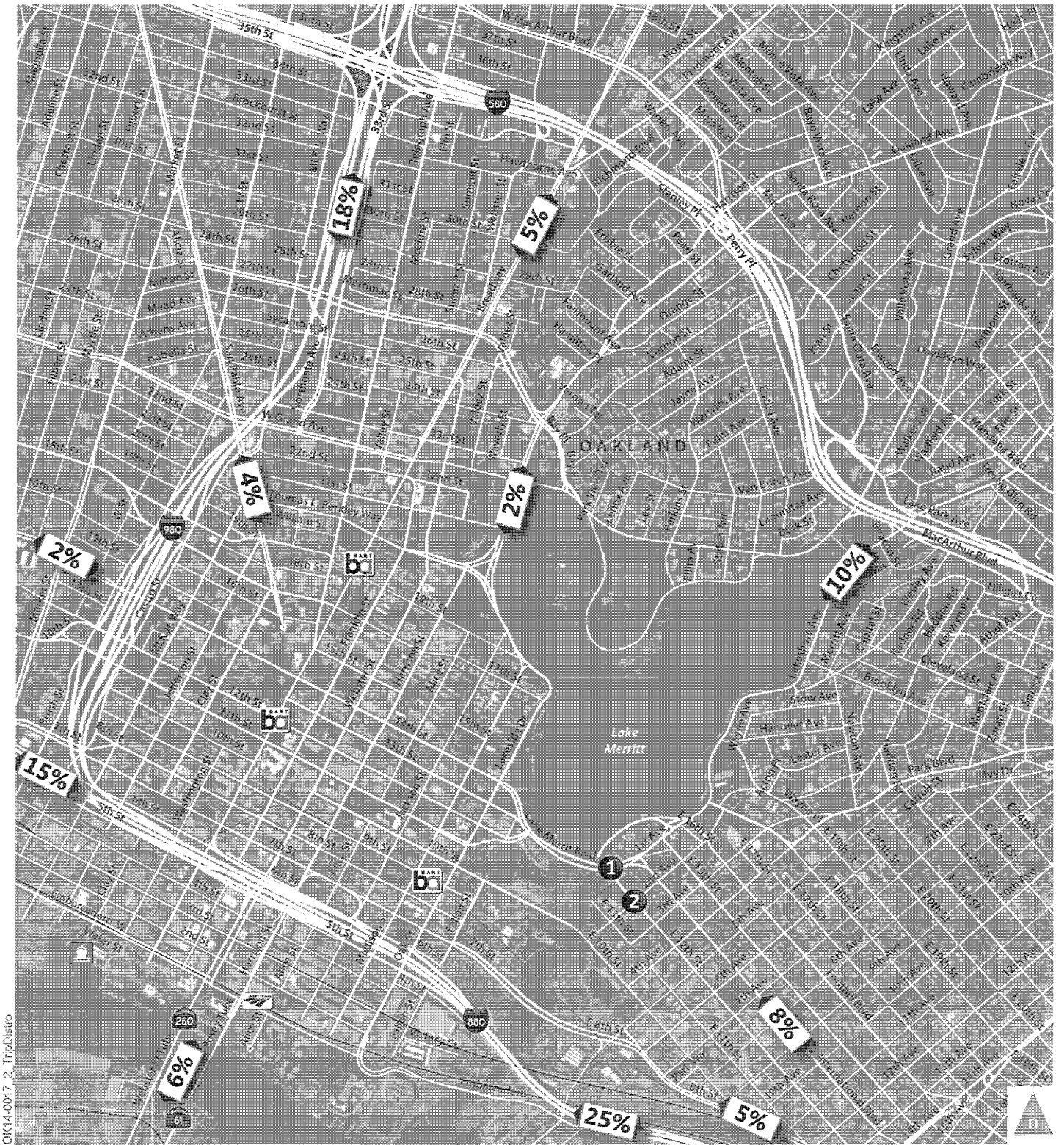
LEGEND

Study Intersection

Project Site

Figure 1

Project Site and Study Intersections



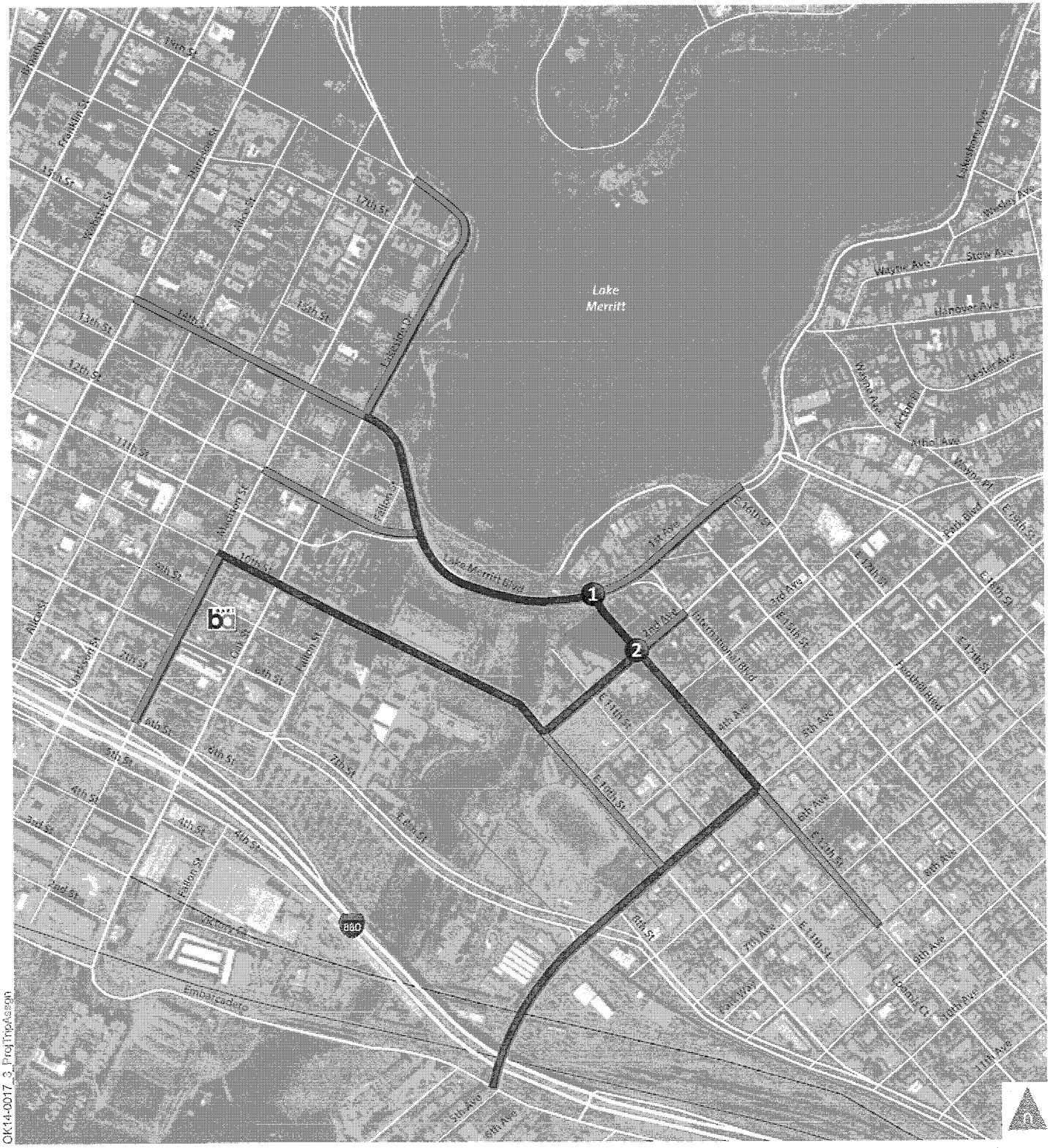
OK14-0017_2_TripDistro

LEGEND

- # Study Intersection
- Project Site
- X% Project Trip Distribution

Figure 2

Project Trip Distribution



OK14-0017_3_ProjTripAssgn

LEGEND

Project Trips

- Greater than 20
- Between 10 and 20
- Between 5 and 10

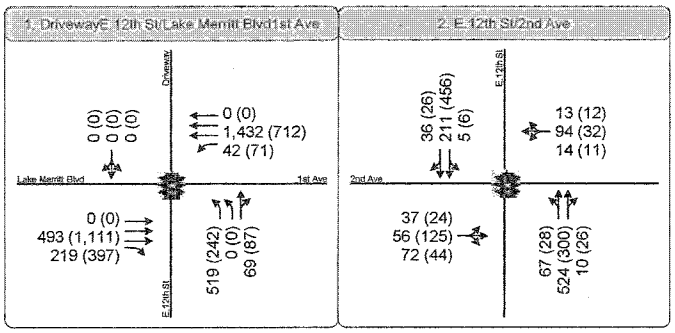
Study Intersection

Project Site

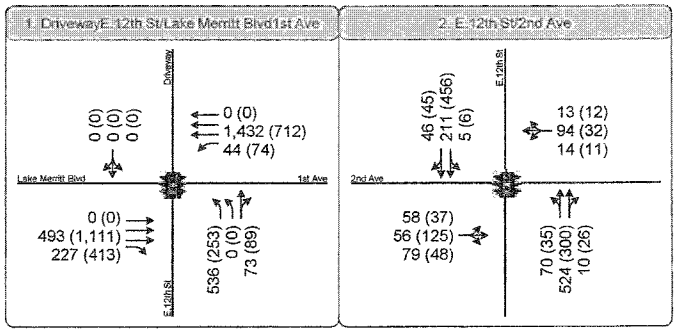
Figure 3

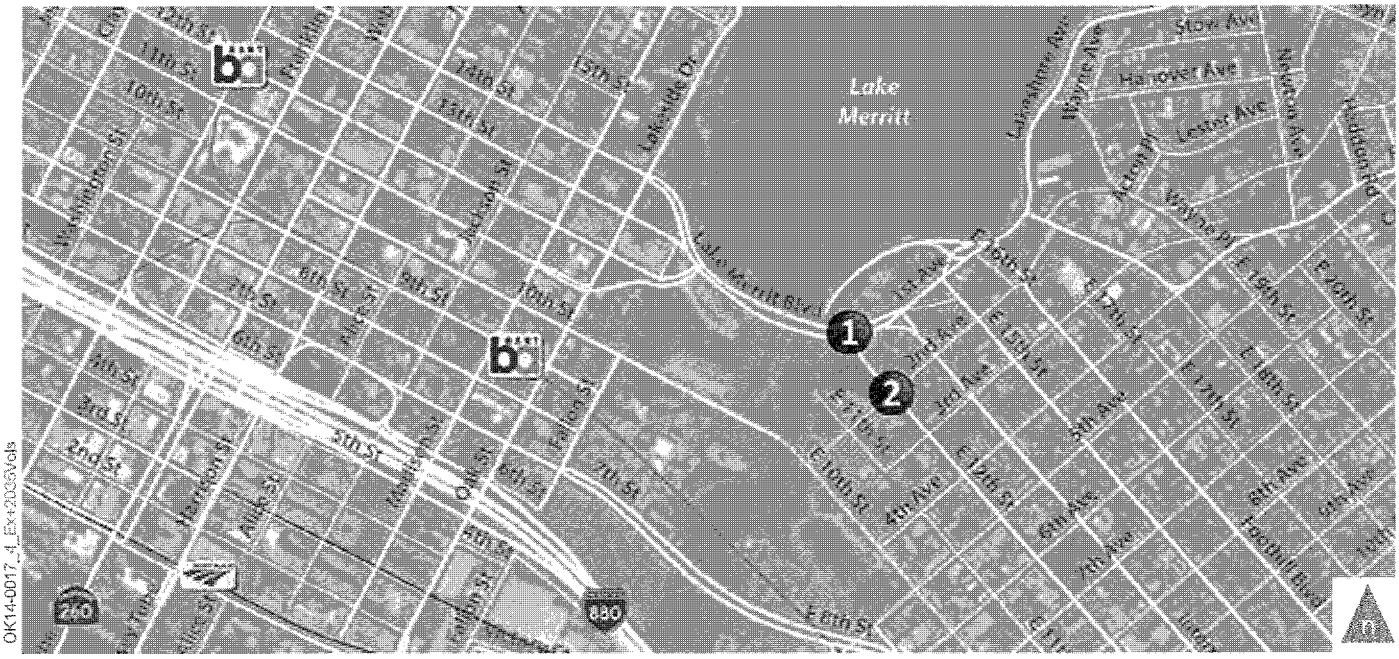
Project Trip Assignment

EXISTING (2014)

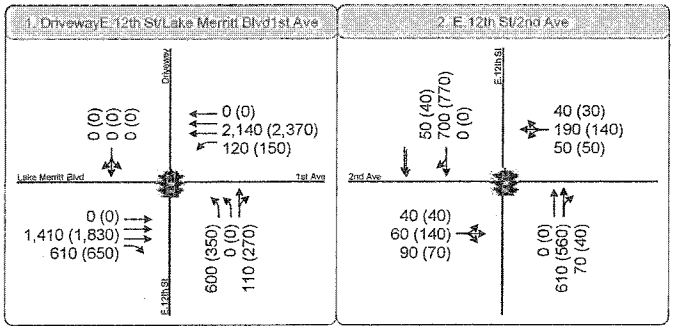


EXISTING PLUS PROJECT (2014)

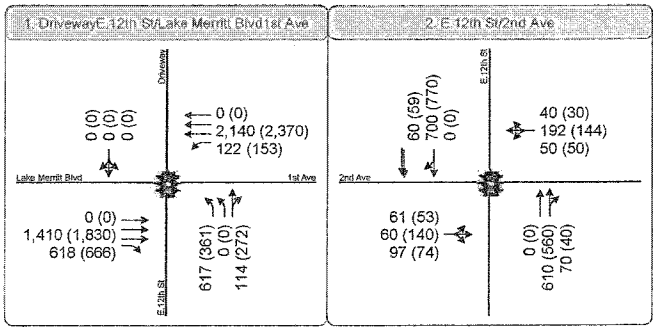




2035 NO PROJECT



2035 PLUS PROJECT



LEGEND

XX (YY) AM (PM) Peak Hour Traffic Volume

Traffic Signal

→ Mixed Flow Lane

⟹ Bus Only Lane

Study Intersection

Project Site

Figure 4

Intersection Configuration and Peak Hour Volumes

Appendix A

LOS Calculations

FEHR & PEERS

HCM Signalized Intersection Capacity Analysis
1: E.12th St/Driveway & Lake Merritt Blvd/1st Ave

Lake Merritt CEQA Project
Existing AM NP

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱	↰	↑↑↑		↰↰	↱			↔	
Volume (vph)	0	493	219	42	1432	0	519	0	69	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Lane Util. Factor		0.91	1.00	1.00	0.91		0.97	1.00				
Frpb, ped/bikes		1.00	0.95	1.00	1.00		1.00	0.97				
Flpb, ped/bikes		1.00	1.00	1.00	1.00		0.99	1.00				
Frt		1.00	0.85	1.00	1.00		1.00	0.85				
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00				
Satd. Flow (prot)		5085	1503	1770	5085		3403	1535				
Flt Permitted		1.00	1.00	0.95	1.00		0.76	1.00				
Satd. Flow (perm)		5085	1503	1770	5085		2713	1535				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	493	219	42	1432	0	519	0	69	0	0	0
RTOR Reduction (vph)	0	0	91	0	0	0	0	53	0	0	0	0
Lane Group Flow (vph)	0	493	128	42	1432	0	519	16	0	0	0	0
Confl. Peds. (#/hr)			32	32			9		20	20		9
Turn Type		NA	Perm	Prot	NA		Perm	NA				
Protected Phases		2		1	6			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		52.6	52.6	3.6	59.2		20.8	20.8				
Effective Green, g (s)		52.6	52.6	3.6	59.2		20.8	20.8				
Actuated g/C Ratio		0.58	0.58	0.04	0.66		0.23	0.23				
Clearance Time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Vehicle Extension (s)		0.2	0.2	0.2	0.2		0.2	0.2				
Lane Grp Cap (vph)		2971	878	70	3344		627	354				
v/s Ratio Prot		0.10		c0.02	c0.28			0.01				
v/s Ratio Perm			0.09				c0.19					
v/c Ratio		0.17	0.15	0.60	0.43		0.83	0.05				
Uniform Delay, d1		8.6	8.5	42.5	7.3		32.9	26.9				
Progression Factor		1.00	1.00	1.00	1.00		1.06	1.00				
Incremental Delay, d2		0.1	0.3	8.9	0.4		8.3	0.0				
Delay (s)		8.7	8.8	51.4	7.7		43.3	26.9				
Level of Service		A	A	D	A		D	C				
Approach Delay (s)		8.8			9.0			41.3			0.0	
Approach LOS		A			A			D			A	

Intersection Summary				
HCM 2000 Control Delay	15.8	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.56			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0	
Intersection Capacity Utilization	58.8%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: E.12th St & 2nd Ave

Lake Merritt CEQA Project
Existing AM NP

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑↑↑			↑↑↑	
Volume (vph)	37	56	72	14	94	13	67	524	10	5	211	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.95			0.99			1.00			0.97	
Flpb, ped/bikes		0.99			0.99			0.99			1.00	
Frt		0.94			0.99			1.00			0.98	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1619			1790			3460			3368	
Flt Permitted		0.91			0.96			0.88			0.95	
Satd. Flow (perm)		1487			1733			3079			3194	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	37	56	72	14	94	13	67	524	10	5	211	36
RTOR Reduction (vph)	0	37	0	0	6	0	0	1	0	0	9	0
Lane Group Flow (vph)	0	128	0	0	115	0	0	600	0	0	243	0
Confl. Peds. (#/hr)	62		80	80		62	46		29	29		46
Confl. Bikes (#/hr)			3			10			9			9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		14.5			14.5			67.5			67.5	
Effective Green, g (s)		14.5			14.5			67.5			67.5	
Actuated g/C Ratio		0.16			0.16			0.75			0.75	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		0.2			0.2			0.2			0.2	
Lane Grp Cap (vph)		239			279			2309			2395	
v/s Ratio Prot												
v/s Ratio Perm		c0.09			0.07			c0.19			0.08	
v/c Ratio		0.54			0.41			0.26			0.10	
Uniform Delay, d1		34.7			33.9			3.5			3.0	
Progression Factor		1.00			1.00			1.00			0.80	
Incremental Delay, d2		1.2			0.4			0.3			0.1	
Delay (s)		35.8			34.3			3.8			2.5	
Level of Service		D			C			A			A	
Approach Delay (s)		35.8			34.3			3.8			2.5	
Approach LOS		D			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	11.4	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.31			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	56.0%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: E.12th St/Driveway & Lake Merritt Blvd/1st Ave

9/24/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱	↰	↑↑↑		↰↰	↱			↕	
Volume (vph)	0	1111	397	71	712	0	242	0	87	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Lane Util. Factor		0.91	1.00	1.00	0.91		0.97	1.00				
Frpb, ped/bikes		1.00	0.95	1.00	1.00		1.00	0.97				
Flpb, ped/bikes		1.00	1.00	1.00	1.00		0.99	1.00				
Frt		1.00	0.85	1.00	1.00		1.00	0.85				
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00				
Satd. Flow (prot)		5085	1506	1770	5085		3393	1543				
Flt Permitted		1.00	1.00	0.95	1.00		0.76	1.00				
Satd. Flow (perm)		5085	1506	1770	5085		2704	1543				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1111	397	71	712	0	242	0	87	0	0	0
RTOR Reduction (vph)	0	0	121	0	0	0	0	75	0	0	0	0
Lane Group Flow (vph)	0	1111	276	71	712	0	242	12	0	0	0	0
Confl. Peds. (#/hr)			25				10		12	12		10
Turn Type		NA	Perm	Prot	NA		Perm	NA				
Protected Phases		2		1	6			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		76.6	76.6	5.4	85.0		15.0	15.0				
Effective Green, g (s)		76.6	76.6	5.4	85.0		15.0	15.0				
Actuated g/C Ratio		0.70	0.70	0.05	0.77		0.14	0.14				
Clearance Time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Vehicle Extension (s)		0.2	0.2	0.2	0.2		0.2	0.2				
Lane Grp Cap (vph)		3541	1048	86	3929		368	210				
v/s Ratio Prot		c0.22		c0.04	0.14			0.01				
v/s Ratio Perm			0.18				c0.09					
v/c Ratio		0.31	0.26	0.83	0.18		0.66	0.06				
Uniform Delay, d1		6.5	6.2	51.8	3.3		45.1	41.3				
Progression Factor		1.00	1.00	1.00	1.00		0.97	1.00				
Incremental Delay, d2		0.2	0.6	43.2	0.1		3.2	0.0				
Delay (s)		6.7	6.8	95.0	3.4		47.1	41.4				
Level of Service		A	A	F	A		D	D				
Approach Delay (s)		6.7			11.7			45.6			0.0	
Approach LOS		A			B			D			A	

Intersection Summary				
HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.39			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.0	
Intersection Capacity Utilization	53.4%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
2: E.12th St & 2nd Ave

9/24/2014

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↑			↕↑	
Volume (vph)	24	125	44	11	32	12	28	300	26	6	456	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.98			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			0.99			0.99			1.00	
Frt		0.97			0.97			0.99			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1753			1753			3431			3476	
Flt Permitted		0.96			0.86			0.90			0.95	
Satd. Flow (perm)		1691			1526			3084			3309	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	24	125	44	11	32	12	28	300	26	6	456	26
RTOR Reduction (vph)	0	11	0	0	10	0	0	3	0	0	2	0
Lane Group Flow (vph)	0	182	0	0	45	0	0	351	0	0	486	0
Confl. Peds. (#/hr)	33		34	34		33	32		29	29		32
Confl. Bikes (#/hr)			5			1			9			14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		15.1			15.1			86.9			86.9	
Effective Green, g (s)		15.1			15.1			86.9			86.9	
Actuated g/C Ratio		0.14			0.14			0.79			0.79	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		0.2			0.2			0.2			0.2	
Lane Grp Cap (vph)		232			209			2436			2614	
v/s Ratio Prot												
v/s Ratio Perm		c0.11			0.03			0.11			c0.15	
v/c Ratio		0.78			0.21			0.14			0.19	
Uniform Delay, d1		45.9			42.2			2.7			2.8	
Progression Factor		1.00			1.00			1.00			1.26	
Incremental Delay, d2		14.6			0.2			0.1			0.1	
Delay (s)		60.5			42.4			2.9			3.8	
Level of Service		E			D			A			A	
Approach Delay (s)		60.5			42.4			2.9			3.8	
Approach LOS		E			D			A			A	

Intersection Summary				
HCM 2000 Control Delay	15.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.27			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	50.2%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱	↰	↑↑↑		↰↰	↑			↕	
Volume (vph)	0	493	227	44	1432	0	536	0	73	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Lane Util. Factor		0.91	1.00	1.00	0.91		0.97	1.00				
Frpb, ped/bikes		1.00	0.95	1.00	1.00		1.00	0.97				
Flpb, ped/bikes		1.00	1.00	1.00	1.00		0.99	1.00				
Frt		1.00	0.85	1.00	1.00		1.00	0.85				
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00				
Satd. Flow (prot)		5085	1503	1770	5085		3403	1535				
Flt Permitted		1.00	1.00	0.95	1.00		0.76	1.00				
Satd. Flow (perm)		5085	1503	1770	5085		2713	1535				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	493	227	44	1432	0	536	0	73	0	0	0
RTOR Reduction (vph)	0	0	95	0	0	0	0	56	0	0	0	0
Lane Group Flow (vph)	0	493	132	44	1432	0	536	17	0	0	0	0
Confl. Peds. (#/hr)			32	32			9		20	20		9
Turn Type		NA	Perm	Prot	NA		Perm	NA				
Protected Phases		2		1	6			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		52.2	52.2	3.6	58.8		21.2	21.2				
Effective Green, g (s)		52.2	52.2	3.6	58.8		21.2	21.2				
Actuated g/C Ratio		0.58	0.58	0.04	0.65		0.24	0.24				
Clearance Time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Vehicle Extension (s)		0.2	0.2	0.2	0.2		0.2	0.2				
Lane Grp Cap (vph)		2949	871	70	3322		639	361				
v/s Ratio Prot		0.10		c0.02	c0.28			0.01				
v/s Ratio Perm			0.09				c0.20					
v/c Ratio		0.17	0.15	0.63	0.43		0.84	0.05				
Uniform Delay, d1		8.8	8.7	42.5	7.5		32.8	26.6				
Progression Factor		1.00	1.00	1.00	1.00		1.01	1.00				
Incremental Delay, d2		0.1	0.4	12.0	0.4		8.8	0.0				
Delay (s)		8.9	9.1	54.6	7.9		42.1	26.6				
Level of Service		A	A	D	A		D	C				
Approach Delay (s)		9.0			9.3			40.2			0.0	
Approach LOS		A			A			D			A	

Intersection Summary				
HCM 2000 Control Delay	15.9	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.57			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0	
Intersection Capacity Utilization	59.0%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕↑			↕↑	
Volume (vph)	58	56	79	14	94	13	70	524	10	5	211	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.95			0.99			1.00			0.97	
Flpb, ped/bikes		0.98			0.99			0.99			1.00	
Frt		0.94			0.99			1.00			0.97	
Flt Protected		0.99			0.99			0.99			1.00	
Satd. Flow (prot)		1618			1791			3458			3331	
Flt Permitted		0.84			0.95			0.88			0.95	
Satd. Flow (perm)		1375			1720			3060			3160	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	58	56	79	14	94	13	70	524	10	5	211	46
RTOR Reduction (vph)	0	33	0	0	6	0	0	1	0	0	12	0
Lane Group Flow (vph)	0	160	0	0	115	0	0	603	0	0	250	0
Confl. Peds. (#/hr)	62		80	80		62	46		29	29		46
Confl. Bikes (#/hr)			3			10			9			9
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		15.0			15.0			67.0			67.0	
Effective Green, g (s)		15.0			15.0			67.0			67.0	
Actuated g/C Ratio		0.17			0.17			0.74			0.74	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		0.2			0.2			0.2			0.2	
Lane Grp Cap (vph)		229			286			2278			2352	
v/s Ratio Prot												
v/s Ratio Perm		c0.12			0.07			c0.20			0.08	
v/c Ratio		0.70			0.40			0.26			0.11	
Uniform Delay, d1		35.4			33.5			3.7			3.2	
Progression Factor		1.00			1.00			1.00			0.80	
Incremental Delay, d2		7.3			0.3			0.3			0.1	
Delay (s)		42.6			33.8			3.9			2.6	
Level of Service		D			C			A			A	
Approach Delay (s)		42.6			33.8			3.9			2.6	
Approach LOS		D			C			A			A	

Intersection Summary				
HCM 2000 Control Delay	13.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.34			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	57.5%	ICU Level of Service	B	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱	↰	↑↑↑		↰↰	↱			↔	
Volume (vph)	0	1111	413	74	712	0	253	0	89	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Lane Util. Factor		0.91	1.00	1.00	0.91		0.97	1.00				
Frpb, ped/bikes		1.00	0.95	1.00	1.00		1.00	0.97				
Flpb, ped/bikes		1.00	1.00	1.00	1.00		0.99	1.00				
Frt		1.00	0.85	1.00	1.00		1.00	0.86				
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00				
Satd. Flow (prot)		5085	1506	1770	5085		3393	1543				
Flt Permitted		1.00	1.00	0.95	1.00		0.76	1.00				
Satd. Flow (perm)		5085	1506	1770	5085		2704	1543				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1111	413	74	712	0	253	0	89	0	0	0
RTOR Reduction (vph)	0	0	127	0	0	0	0	77	0	0	0	0
Lane Group Flow (vph)	0	1111	286	74	712	0	253	12	0	0	0	0
Confl. Peds. (#/hr)			25				10		12	12		10
Turn Type		NA	Perm	Prot	NA		Perm	NA				
Protected Phases		2		1	6			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		76.3	76.3	5.4	84.7		15.3	15.3				
Effective Green, g (s)		76.3	76.3	5.4	84.7		15.3	15.3				
Actuated g/C Ratio		0.69	0.69	0.05	0.77		0.14	0.14				
Clearance Time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Vehicle Extension (s)		0.2	0.2	0.2	0.2		0.2	0.2				
Lane Grp Cap (vph)		3527	1044	86	3915		376	214				
v/s Ratio Prot		c0.22		c0.04	0.14			0.01				
v/s Ratio Perm			0.19				c0.09					
v/c Ratio		0.31	0.27	0.86	0.18		0.67	0.06				
Uniform Delay, d1		6.6	6.4	51.9	3.4		45.0	41.1				
Progression Factor		1.00	1.00	1.00	1.00		0.98	1.00				
Incremental Delay, d2		0.2	0.7	52.6	0.1		3.7	0.0				
Delay (s)		6.8	7.0	104.5	3.5		47.7	41.1				
Level of Service		A	A	F	A		D	D				
Approach Delay (s)		6.9			13.0			46.0			0.0	
Approach LOS		A			B			D			A	

Intersection Summary				
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.40			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.0	
Intersection Capacity Utilization	53.8%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑↑↑			↑↑↑	
Volume (vph)	37	125	48	11	32	12	35	300	26	6	456	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			0.95	
Frpb, ped/bikes		0.98			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			0.99			0.99			1.00	
Frt		0.97			0.97			0.99			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1745			1754			3426			3438	
Flt Permitted		0.94			0.87			0.87			0.95	
Satd. Flow (perm)		1648			1544			3008			3273	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	37	125	48	11	32	12	35	300	26	6	456	45
RTOR Reduction (vph)	0	12	0	0	10	0	0	3	0	0	4	0
Lane Group Flow (vph)	0	198	0	0	45	0	0	358	0	0	503	0
Confl. Peds. (#/hr)	33		34	34		33	32		29	29		32
Confl. Bikes (#/hr)			5			1			9			14
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4			6			2		
Actuated Green, G (s)		16.2			16.2			85.8			85.8	
Effective Green, g (s)		16.2			16.2			85.8			85.8	
Actuated g/C Ratio		0.15			0.15			0.78			0.78	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		0.2			0.2			0.2			0.2	
Lane Grp Cap (vph)		242			227			2346			2552	
v/s Ratio Prot												
v/s Ratio Perm		c0.12			0.03			0.12			c0.15	
v/c Ratio		0.82			0.20			0.15			0.20	
Uniform Delay, d1		45.5			41.2			3.0			3.1	
Progression Factor		1.00			1.00			1.00			1.31	
Incremental Delay, d2		18.1			0.2			0.1			0.2	
Delay (s)		63.5			41.3			3.2			4.3	
Level of Service		E			D			A			A	
Approach Delay (s)		63.5			41.3			3.2			4.3	
Approach LOS		E			D			A			A	

Intersection Summary				
HCM 2000 Control Delay	16.7	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.30			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	51.6%	ICU Level of Service	A	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1410	610	120	2140	0	600	0	110	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Lane Util. Factor		0.91	1.00	1.00	0.91		0.97	1.00				
Frpb, ped/bikes		1.00	0.92	1.00	1.00		1.00	0.97				
Flpb, ped/bikes		1.00	1.00	1.00	1.00		0.99	1.00				
Frt		1.00	0.85	1.00	1.00		1.00	0.85				
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00				
Satd. Flow (prot)		5085	1450	1770	5085		3403	1535				
Flt Permitted		1.00	1.00	0.95	1.00		0.76	1.00				
Satd. Flow (perm)		5085	1450	1770	5085		2713	1535				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1410	610	120	2140	0	600	0	110	0	0	0
RTOR Reduction (vph)	0	0	247	0	0	0	0	82	0	0	0	0
Lane Group Flow (vph)	0	1410	363	120	2140	0	600	28	0	0	0	0
Confl. Peds. (#/hr)			32	32			9		20	20		9
Turn Type		NA	Perm	Prot	NA		Perm	NA				
Protected Phases		2		1	6			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		47.3	47.3	6.8	57.1		22.9	22.9				
Effective Green, g (s)		47.3	47.3	6.8	57.1		22.9	22.9				
Actuated g/C Ratio		0.53	0.53	0.08	0.63		0.25	0.25				
Clearance Time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Vehicle Extension (s)		0.2	0.2	0.2	0.2		0.2	0.2				
Lane Grp Cap (vph)		2672	762	133	3226		690	390				
v/s Ratio Prot		0.28		c0.07	c0.42			0.02				
v/s Ratio Perm			0.25				c0.22					
v/c Ratio		0.53	0.48	0.90	0.66		0.87	0.07				
Uniform Delay, d1		14.0	13.5	41.3	10.4		32.1	25.5				
Progression Factor		1.00	1.00	1.00	1.00		1.04	4.32				
Incremental Delay, d2		0.8	2.1	48.6	1.1		10.7	0.0				
Delay (s)		14.8	15.6	89.9	11.5		44.0	110.1				
Level of Service		B	B	F	B		D	F				
Approach Delay (s)		15.0			15.6			54.3			0.0	
Approach LOS		B			B			D			A	

Intersection Summary				
HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0	
Intersection Capacity Utilization	73.7%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	60	90	50	190	40	0	610	70	0	700	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			1.00	
Frpb, ped/bikes		0.99			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			0.98			1.00			1.00	
Frt		0.94			0.98			0.98			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1549			1749			3441			1824	
Flt Permitted		0.79			0.88			1.00			1.00	
Satd. Flow (perm)		1231			1551			3441			1824	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	60	90	50	190	40	0	610	70	0	700	50
RTOR Reduction (vph)	0	41	0	0	8	0	0	7	0	0	2	0
Lane Group Flow (vph)	0	149	0	0	272	0	0	673	0	0	748	0
Confl. Peds. (#/hr)	62		80	80		62	46		29	29		46
Confl. Bikes (#/hr)			3			10			9			9
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4								
Actuated Green, G (s)		18.3			18.3			63.7			63.7	
Effective Green, g (s)		18.3			18.3			63.7			63.7	
Actuated g/C Ratio		0.20			0.20			0.71			0.71	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		0.2			0.2			0.2			0.2	
Lane Grp Cap (vph)		250			315			2435			1290	
v/s Ratio Prot								0.20			c0.41	
v/s Ratio Perm		0.12			c0.18							
v/c Ratio		0.60			0.86			0.28			0.58	
Uniform Delay, d1		32.5			34.6			4.8			6.5	
Progression Factor		1.00			1.00			1.00			0.78	
Incremental Delay, d2		2.6			20.3			0.3			1.5	
Delay (s)		35.1			55.0			5.1			6.6	
Level of Service		D			D			A			A	
Approach Delay (s)		35.1			55.0			5.1			6.6	
Approach LOS		D			D			A			A	

Intersection Summary				
HCM 2000 Control Delay	16.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.64			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	56.8%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1830	650	150	2370	0	350	0	270	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Lane Util. Factor		0.91	1.00	1.00	0.91		0.97	1.00				
Frpb, ped/bikes		1.00	0.92	1.00	1.00		1.00	0.97				
Flpb, ped/bikes		1.00	1.00	1.00	1.00		0.99	1.00				
Frt		1.00	0.85	1.00	1.00		1.00	0.85				
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00				
Satd. Flow (prot)		5085	1455	1770	5085		3393	1543				
Flt Permitted		1.00	1.00	0.95	1.00		0.76	1.00				
Satd. Flow (perm)		5085	1455	1770	5085		2704	1543				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1830	650	150	2370	0	350	0	270	0	0	0
RTOR Reduction (vph)	0	0	149	0	0	0	0	102	0	0	0	0
Lane Group Flow (vph)	0	1830	501	150	2370	0	350	168	0	0	0	0
Confl. Peds. (#/hr)			25				10		12	12		10
Turn Type		NA	Perm	Prot	NA		Perm	NA				
Protected Phases		2		1	6			6			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		71.6	71.6	7.0	81.6		18.4	18.4				
Effective Green, g (s)		71.6	71.6	7.0	81.6		18.4	18.4				
Actuated g/C Ratio		0.65	0.65	0.06	0.74		0.17	0.17				
Clearance Time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Vehicle Extension (s)		0.2	0.2	0.2	0.2		0.2	0.2				
Lane Grp Cap (vph)		3309	947	112	3772		452	258				
v/s Ratio Prot		0.36		c0.08	c0.47			0.11				
v/s Ratio Perm			0.34				c0.13					
v/c Ratio		0.55	0.53	1.34	0.63		0.77	0.65				
Uniform Delay, d1		10.5	10.2	51.5	6.9		43.8	42.8				
Progression Factor		1.00	1.00	1.00	1.00		0.87	0.78				
Incremental Delay, d2		0.7	2.1	200.9	0.8		7.2	4.3				
Delay (s)		11.1	12.3	252.4	7.7		45.2	37.5				
Level of Service		B	B	F	A		D	D				
Approach Delay (s)		11.5			22.2			41.9			0.0	
Approach LOS		B			C			D			A	

Intersection Summary				
HCM 2000 Control Delay	19.6	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.72			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.0	
Intersection Capacity Utilization	75.3%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	40	140	70	50	140	30	0	560	40	0	770	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			1.00	
Frpb, ped/bikes		0.97			0.99			0.99			0.99	
Flpb, ped/bikes		1.00			0.99			1.00			1.00	
Frt		0.96			0.98			0.99			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1712			1773			3470			1836	
Flt Permitted		0.92			0.85			1.00			1.00	
Satd. Flow (perm)		1595			1531			3470			1836	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	40	140	70	50	140	30	0	560	40	0	770	40
RTOR Reduction (vph)	0	13	0	0	5	0	0	5	0	0	2	0
Lane Group Flow (vph)	0	237	0	0	215	0	0	595	0	0	808	0
Confl. Peds. (#/hr)	33		34	34		33	32		29	29		32
Confl. Bikes (#/hr)			5			1			8			14
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4								
Actuated Green, G (s)		31.0			31.0			71.0			71.0	
Effective Green, g (s)		31.0			31.0			71.0			71.0	
Actuated g/C Ratio		0.28			0.28			0.65			0.65	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		0.2			0.2			0.2			0.2	
Lane Grp Cap (vph)		449			431			2239			1185	
v/s Ratio Prot								0.17			c0.44	
v/s Ratio Perm		c0.15			0.14							
v/c Ratio		0.53			0.50			0.27			0.68	
Uniform Delay, d1		33.3			33.0			8.3			12.4	
Progression Factor		1.00			1.00			1.00			1.73	
Incremental Delay, d2		0.5			4.1			0.3			2.2	
Delay (s)		33.8			37.1			8.6			23.5	
Level of Service		C			D			A			C	
Approach Delay (s)		33.8			37.1			8.6			23.5	
Approach LOS		C			D			A			C	

Intersection Summary				
HCM 2000 Control Delay	21.7	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.64			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	68.4%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis
1: E.12th St/Driveway & Lake Merritt Blvd/1st Ave

Lake Merritt CEQA Project
2035 AM WP

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	1410	618	122	2140	0	617	0	114	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Lane Util. Factor		0.91	1.00	1.00	0.91		0.97	1.00				
Frpb, ped/bikes		1.00	0.92	1.00	1.00		1.00	0.97				
Flpb, ped/bikes		1.00	1.00	1.00	1.00		0.99	1.00				
Frt		1.00	0.85	1.00	1.00		1.00	0.85				
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00				
Satd. Flow (prot)		5085	1450	1770	5085		3403	1535				
Flt Permitted		1.00	1.00	0.95	1.00		0.76	1.00				
Satd. Flow (perm)		5085	1450	1770	5085		2713	1535				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1410	618	122	2140	0	617	0	114	0	0	0
RTOR Reduction (vph)	0	0	253	0	0	0	0	84	0	0	0	0
Lane Group Flow (vph)	0	1410	365	122	2140	0	617	30	0	0	0	0
Confl. Peds. (#/hr)			32	32			9		20	20		9
Turn Type		NA	Perm	Prot	NA		Perm	NA				
Protected Phases		2		1	6			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		46.8	46.8	6.9	56.7		23.3	23.3				
Effective Green, g (s)		46.8	46.8	6.9	56.7		23.3	23.3				
Actuated g/C Ratio		0.52	0.52	0.08	0.63		0.26	0.26				
Clearance Time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Vehicle Extension (s)		0.2	0.2	0.2	0.2		0.2	0.2				
Lane Grp Cap (vph)		2644	754	135	3203		702	397				
v/s Ratio Prot		0.28		c0.07	c0.42			0.02				
v/s Ratio Perm			0.25				c0.23					
v/c Ratio		0.53	0.48	0.90	0.67		0.88	0.07				
Uniform Delay, d1		14.3	13.9	41.2	10.6		32.0	25.2				
Progression Factor		1.00	1.00	1.00	1.00		1.00	3.58				
Incremental Delay, d2		0.8	2.2	48.4	1.1		11.4	0.0				
Delay (s)		15.1	16.1	89.7	11.8		43.5	90.2				
Level of Service		B	B	F	B		D	F				
Approach Delay (s)		15.4			16.0			50.8			0.0	
Approach LOS		B			B			D			A	

Intersection Summary				
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.77			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.0	
Intersection Capacity Utilization	73.9%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group

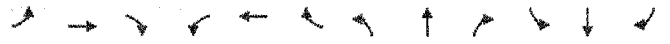
HCM Signalized Intersection Capacity Analysis
2: E.12th St & 2nd Ave

Lake Merritt CEQA Project
2035 AM WP

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	61	60	97	50	192	40	0	610	70	0	700	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			1.00	
Frpb, ped/bikes		0.91			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			0.98			1.00			1.00	
Frt		0.94			0.98			0.98			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1556			1753			3441			1817	
Flt Permitted		0.68			0.87			1.00			1.00	
Satd. Flow (perm)		1075			1531			3441			1817	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	61	60	97	50	192	40	0	610	70	0	700	60
RTOR Reduction (vph)	0	37	0	0	7	0	0	7	0	0	3	0
Lane Group Flow (vph)	0	181	0	0	275	0	0	673	0	0	757	0
Confl. Peds. (#/hr)	62		80	80		62	46		29	29		46
Confl. Bikes (#/hr)			3			10			9			9
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4								
Actuated Green, G (s)		18.4			18.4			63.6			63.6	
Effective Green, g (s)		18.4			18.4			63.6			63.6	
Actuated g/C Ratio		0.20			0.20			0.71			0.71	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		0.2			0.2			0.2			0.2	
Lane Grp Cap (vph)		219			313			2431			1284	
v/s Ratio Prot								0.20			c0.42	
v/s Ratio Perm		0.17			c0.18							
v/c Ratio		0.83			0.88			0.28			0.59	
Uniform Delay, d1		34.3			34.7			4.8			6.6	
Progression Factor		1.00			1.00			1.00			0.78	
Incremental Delay, d2		21.1			22.5			0.3			1.5	
Delay (s)		55.4			57.2			5.1			6.7	
Level of Service		E			E			A			A	
Approach Delay (s)		55.4			57.2			5.1			6.7	
Approach LOS		E			E			A			A	

Intersection Summary				
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B	
HCM 2000 Volume to Capacity ratio	0.65			
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	69.9%	ICU Level of Service	C	
Analysis Period (min)	15			

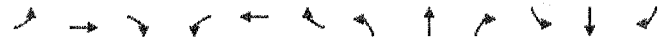
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑↑	↱	↰	↑↑↑		↰↰	↱			↔	
Volume (vph)	0	1830	666	153	2370	0	361	0	272	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Lane Util. Factor		0.91	1.00	1.00	0.91		0.97	1.00				
Frpb, ped/bikes		1.00	0.92	1.00	1.00		1.00	0.97				
Flpb, ped/bikes		1.00	1.00	1.00	1.00		0.99	1.00				
Frt		1.00	0.85	1.00	1.00		1.00	0.85				
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00				
Satd. Flow (prot)		5085	1455	1770	5085		3393	1543				
Flt Permitted		1.00	1.00	0.95	1.00		0.76	1.00				
Satd. Flow (perm)		5085	1455	1770	5085		2704	1543				
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	0	1830	666	153	2370	0	361	0	272	0	0	0
RTOR Reduction (vph)	0	0	154	0	0	0	0	101	0	0	0	0
Lane Group Flow (vph)	0	1830	512	153	2370	0	361	171	0	0	0	0
Confl. Peds. (#/hr)			25				10		12	12		10
Turn Type		NA	Perm	Prot	NA		Perm	NA				
Protected Phases		2		1	6			8			4	
Permitted Phases			2				8			4		
Actuated Green, G (s)		71.3	71.3	7.0	81.3		18.7	18.7				
Effective Green, g (s)		71.3	71.3	7.0	81.3		18.7	18.7				
Actuated g/C Ratio		0.65	0.65	0.06	0.74		0.17	0.17				
Clearance Time (s)		5.0	5.0	3.0	5.0		5.0	5.0				
Vehicle Extension (s)		0.2	0.2	0.2	0.2		0.2	0.2				
Lane Grp Cap (vph)		3296	943	112	3758		459	262				
v/s Ratio Prot		0.36		c0.09	c0.47			0.11				
v/s Ratio Perm			0.35				c0.13					
v/c Ratio		0.56	0.54	1.37	0.63		0.79	0.65				
Uniform Delay, d1		10.6	10.5	51.5	7.0		43.7	42.6				
Progression Factor		1.00	1.00	1.00	1.00		0.88	0.79				
Incremental Delay, d2		0.7	2.2	211.5	0.8		7.8	4.2				
Delay (s)		11.3	12.7	263.0	7.8		46.1	37.8				
Level of Service		B	B	F	A		D	D				
Approach Delay (s)		11.7			23.3			42.5			0.0	
Approach LOS		B			C			D			A	

Intersection Summary				
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.73			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	13.0	
Intersection Capacity Utilization	75.6%	ICU Level of Service	D	
Analysis Period (min)	15			

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔			↑↱			↱	
Volume (vph)	53	140	74	50	144	30	0	560	40	0	770	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		1.00			1.00			0.95			1.00	
Frpb, ped/bikes		0.97			0.99			0.99			0.99	
Flpb, ped/bikes		0.99			0.99			1.00			1.00	
Frt		0.96			0.98			0.99			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1708			1776			3470			1824	
Flt Permitted		0.88			0.85			1.00			1.00	
Satd. Flow (perm)		1524			1520			3470			1824	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	53	140	74	50	144	30	0	560	40	0	770	59
RTOR Reduction (vph)	0	12	0	0	5	0	0	5	0	0	2	0
Lane Group Flow (vph)	0	255	0	0	219	0	0	595	0	0	827	0
Confl. Peds. (#/hr)	33		34	34		33	32		29	29		32
Confl. Bikes (#/hr)			5			1			8			14
Turn Type	Perm	NA		Perm	NA			NA			NA	
Protected Phases		8			4			6			2	
Permitted Phases	8			4								
Actuated Green, G (s)		31.0			31.0			71.0			71.0	
Effective Green, g (s)		31.0			31.0			71.0			71.0	
Actuated g/C Ratio		0.28			0.28			0.65			0.65	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		0.2			0.2			0.2			0.2	
Lane Grp Cap (vph)		429			428			2239			1177	
v/s Ratio Prot								0.17			c0.45	
v/s Ratio Perm		c0.17			0.14							
v/c Ratio		0.59			0.51			0.27			0.70	
Uniform Delay, d1		34.1			33.1			8.3			12.6	
Progression Factor		1.00			1.00			1.00			1.74	
Incremental Delay, d2		1.5			4.3			0.3			2.3	
Delay (s)		35.5			37.5			8.6			24.3	
Level of Service		D			D			A			C	
Approach Delay (s)		35.5			37.5			8.6			24.3	
Approach LOS		D			D			A			C	

Intersection Summary				
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C	
HCM 2000 Volume to Capacity ratio	0.67			
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	8.0	
Intersection Capacity Utilization	70.9%	ICU Level of Service	C	
Analysis Period (min)	15			

c Critical Lane Group