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**October 11, 2012**

# NOTICE OF AVAILABILITY OF DRAFT ENVIRONMENTAL IMPACT REPORT Case No. ENV-2011-1965-EIR and Case No. CPC-2011-1964-SN State Clearinghouse No. 2012031055

## 45 DAY COMMENT PERIOD

## COMMENTS DUE DATE: NOVEMBER 26, 2012

**TO:** Owners of Property, Occupants, and Other Interested Parties

**PROJECT NAME:** Los Angeles International Airport (LAX) Sign District

**PROJECT LOCATION:** LAX, One World Way, Los Angeles, CA 90045 (cross-streets are generally Sepulveda Boulevard and Century Boulevard)

**PROJECT DESCRIPTION:** The Los Angeles World Airport (LAWA) proposes the development and implementation of a Sign District at LAX, in which new off-site signage would be permitted subject to certain restrictions. The proposed Project includes a maximum of approximately 81,522 square feet (sq ft) of proposed new off-site signage within the Landside Sub-Area and a maximum of approximately 289,600 sq ft of proposed new off-site signage within the Airside Sub-Area. The proposed Project would include a range of off-site signage, including supergraphics, wall signs, digital display signs, and other signs such as signs on passenger boarding bridges, signs on columns and hanging signs. Off-site signs advertise a business, use, facility, service or product not found at LAX (non-airport-related signage). The estimated implementation date for the construction of the new signage within the Project site is 2013. The advertising material would be periodically changed. Maintenance of the sign and related support structures would occur as needed. The proposed Project would include a sign ordinance which would contain provisions that establish regulations such as sign types, placement, number, dimensions, illumination, motion/animation, etc. The regulations of the proposed Sign District would supersede the regulations set forth in the Los Angeles Municipal Code. The proposed Project would also include a program to remove a number of billboards in the Los Angeles World Airport's control and compliance with other applicable requirements from the Department of City Planning.

It is anticipated that approvals required for the proposed Project would include, but may not be limited to, the following:

- Certification of an Environmental Impact Report

- Pursuant to LAMC 13.08, a Supplemental Use District (SUD) for signage (i.e., Sign District) – City of Los Angeles Department of City Planning.
- Other approvals (as needed), ministerial or otherwise, may be necessary, as the City finds appropriate, in order to execute and implement the proposed Project. Such approvals may include, but are not limited to: sign (including sign support structures) and electrical permits from the City of Los Angeles, and review by the Federal Aviation Administration, as applicable.

**ANTICIPATED SIGNIFICANT ENVIRONMENTAL EFFECTS:** Based on the analysis contained in Chapter IV (Environmental Impact Analysis) of the Draft Environmental Impact Report (EIR), implementation of the proposed Project, which includes implementation of several Project Design Features and applicable LAX Master Plan (LAWA adopted) commitments, would not result in any significant unavoidable impacts. As such, no mitigation measures are required.

**DOCUMENT REVIEW AND COMMENT:** The Draft EIR is being made available for public review for a 45-day period from October 11, 2012 to November 26, 2012. If you wish to review a copy of the Draft EIR or the documents referenced in the Draft EIR, you may do so at the City of Los Angeles Department of City Planning at: 200 North Spring Street, Room 667, Los Angeles.

Copies of the Draft EIR are also available at the following Library Branches:

- Los Angeles Central Library, 630 West 5th Street, Los Angeles, CA 90071
- Westchester-Loyola Village Branch Library, 7114 West Manchester Avenue, Los Angeles, CA 90045
- West Los Angeles Regional Public Library, 11360 Santa Monica Boulevard, Los Angeles, CA 90025
- Dr. Mary McLeod Bethune Regional Branch Library, 3900 South Western Avenue, Los Angeles, CA 90062
- El Segundo Library, 111 West Mariposa Avenue, El Segundo, CA 90245
- Inglewood Library, 101 West Manchester Boulevard, Inglewood, CA 90301
- Hawthorne Library, 12700 Grevillea Avenue, Hawthorne, CA 90250
- Culver City Library, 4975 Overland Avenue, Culver City, CA 90230

The Draft EIR is also available online at the Department of City Planning's website [http://cityplanning.lacity.org under the tab "Environmental" by selecting "Draft EIR"] and at LAWA's website [www.ourlax.org under the tab "Projects-Publications" by selecting "LAX Sign District Project"]. The Draft EIR can be purchased on CD-ROM for $7.50 per copy. Contact **Cherry Yap** of the Department of City Planning at **(213) 978-1164** to purchase one.

If you wish to submit comments on the Draft EIR, please reference the project name and case numbers above, and submit them in writing by **November 26, 2012**. Please direct your comments to:

Mr. Greg Shoop, Project Coordinator
City of Los Angeles, Department of City Planning
200 N. Spring Street, Room 621
Los Angeles, CA 90012
Fax: (213) 978-1226
Email: greg.shoop@lacity.org

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**Department of City Planning**

City Hall • 200 Spring Street, Room 621 • Los Angeles, CA 90012

# *DRAFT ENVIRONMENTAL IMPACT REPORT*
# *LAX COMMUNITY PLAN AREA*

## *Los Angeles International Airport (LAX) Sign District*

*Case No. ENV-2011-1965-EIR and Case No. CPC-2011-1964-SN*
*State Clearinghouse No. 2012031055*

*Council District No. 11*

**THIS DOCUMENT COMPRISES THE EIR ANALYSIS AS REQUIRED UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT**

**Project Address:** LAX, One World Way, Los Angeles, CA 90045

**Project Description:** The proposed Project entails the development and implementation of a Sign District at LAX, in which new off-site signage would be permitted subject to certain restrictions. The proposed Project includes a maximum of approximately 81,522 square feet (sq ft) of proposed new off-site signage within the Landside Sub-Area and a maximum of approximately 289,600 sq ft of proposed new off-site signage within the Airside Sub-Area. The proposed Project would include a range of off-site signage, including supergraphics, wall signs, digital display signs, and other signs such as signs on passenger boarding bridges, signs on columns and hanging signs. Off-site signs advertise a business, use, facility, service or product not found at LAX (non-airport-related signage). The estimated implementation date for the construction of the new signage within the Project site is 2013. The advertising material would be periodically changed. Maintenance of the sign and related support structures would occur as needed.

The proposed Project would include a sign ordinance which would contain provisions that establish regulations such as sign types, placement, number, dimensions, illumination, motion/animation, etc. The regulations of the proposed Sign District would supersede the regulations set forth in the Los Angeles Municipal Code. The proposed Project would also include a program to remove a number of billboards in the Los Angeles World Airport's control and compliance with other applicable requirements from the Department of City Planning.

**APPLICANT:**
City of Los Angeles
Los Angeles World Airports
One World Way, Room 218
Los Angeles, CA 90045

**PREPARED BY:**
CDM Smith

*October 11, 2012*

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# I. INTRODUCTION/SUMMARY

## 1. INTRODUCTION

The purpose of this Draft Environmental Impact Report (EIR) is to inform decision-makers and the general public of the potential environmental impacts resulting from the proposed Los Angeles International Airport (LAX) Sign District Project (the "proposed Project"). The proposed Project is located within the interior area of LAX. LAX is the sixth busiest airport in the world and the third busiest in the United States. The Project site includes some areas within the LAX Specific Plan's Airport Landside Sub-Area (which includes the Central Terminal Area [CTA]), a portion of the LAX Specific Plan's Airport Airside Sub-Area, the area along Sepulveda Boulevard known as the Park One Property, and an area extending west of Taxiway R. The Project site is within the LAX Community Plan (LAX Plan) area, as well as the LAX Specific Plan area. The Project site is located entirely within the City of Los Angeles. A detailed description of the proposed Project is included in Chapter II (Project Description) of this EIR.

The proposed Project will require certain discretionary approvals by the City and other governmental agencies. Therefore, the Project is subject to environmental review requirements under the California Environmental Quality Act (CEQA). The City of Los Angeles Department of City Planning (the "Department of City Planning") is the Lead Agency under CEQA for the Project.

As described in Section 15121(a) and 15362 of the *State CEQA Guidelines*, an EIR is an informational document that informs public agency decision-makers and the public of any potential significant environmental effects of a project, identifies possible ways to minimize the significant effects, and describes reasonable alternatives to the project. Thus, the purpose of this EIR is to focus the discussion on those potential environmental effects of the Project that the Lead Agency has determined could be significant. In addition, where applicable, feasible mitigation measures are recommended that could reduce or avoid significant environmental impacts identified for the Project.

This EIR was prepared in accordance with Section 15151 of the *State CEQA Guidelines*, which defines the standards for EIR adequacy as follows:

> *An EIR should be prepared with a sufficient degree of analysis to provide decision-makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in the light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection but for adequacy, completeness, and a good faith effort at full disclosure.*

### a. Notice of Preparation

Comments from identified responsible and trustee agencies, as well as interested parties, on the scope of the EIR were solicited through a Notice of Preparation (NOP) process. The NOP for the EIR was circulated for a 30-day review period starting on March 16, 2012, and ending on April 16, 2012. A scoping meeting was held on March

31, 2012. Refer to Appendix A of this Draft EIR for a copy of the Initial Study, NOP, and the two written comments submitted to the Department of City Planning in response to the NOP.

**b. Environmental Issues Assessed in the EIR**

Based on a review of environmental issues by the Department of City Planning, this Draft EIR assesses the following environmental impact areas:

- Land Use and Planning
- Visual Resources
- Artificial Light and Glare
- Transportation Safety

**c. Environmental Review Process**

This Draft EIR will be circulated for review and comment by the public and other interested parties, agencies, and organizations for 45 calendar days. All comments or questions about the Draft EIR should be addressed to the following:

Mr. Gregory Shoop, Project Coordinator
City of Los Angeles, Department of City Planning
200 North Spring Street, Room 621
Los Angeles, California 90012
Fax: (213) 978-1226
Email: greg.shoop@lacity.org

After public review of the Draft EIR, a Final EIR will be prepared in response to comments received during the public review period. The Final EIR will be available for public review prior to consideration of certification of the document by the decision-makers.

**d. Organization of the EIR**

This Draft EIR is organized into eight chapters as follows:

Chapter I (Introduction/Summary): This chapter provides an introduction to the environmental review process per CEQA, a summary of the Project description, areas of controversy, issues to be resolved, alternatives to the proposed Project, and environmental impacts and mitigation measures.

Chapter II (Project Description): This chapter provides a complete detailed description of the proposed Project including the Project location, objectives, characteristics, and anticipated public agency actions.

Chapter III (Environmental Setting): This chapter provides an overview of the study area's environmental setting, including a description of existing and surrounding land uses, and a list of related projects in the Project area.

Chapter IV (Environmental Impact Analysis): This chapter is the primary focus of the EIR. Each environmental issue area contains a discussion of existing conditions for the Project area, an assessment and discussion of the significance of impacts associated with the proposed Project, an assessment of cumulative impacts, an

identification of mitigation measures (where applicable), and a discussion of level of impact significance after mitigation.

Chapter V (Alternatives to the Project): This chapter includes an assessment of a reasonable range of alternatives to the proposed Project. The range of alternatives selected is based on their ability to feasibly attain most of the basic objectives of the proposed Project and to avoid or substantially lessen any of the significant effects of the Project.

Chapter VI (Summary of Significant Unavoidable Impacts): This chapter provides a summary of significant unavoidable impacts of the proposed Project.

Chapter VII (Growth Inducing Impacts): This chapter provides a discussion of potential growth inducing effects of the proposed Project.

Chapter VIII (Significant and Irreversible Environmental Changes): This chapter provides an explanation of significant irreversible environmental changes associated with the proposed Project.

Chapter IX (Preparers of the EIR and Persons Consulted): This chapter presents a list of City agencies and other agencies and consultant team members that contributed to the preparation of this Draft EIR.

Chapter X (Acronyms and Abbreviations): This chapter provides definitions for all of the acronyms and abbreviations used in this Draft EIR.

Chapter XI (References): This chapter identifies the materials and documents consulted in preparing this Draft EIR.

## 2. SUMMARY OF THE PROJECT

### a. Background

LAX is regional destination that serves as a center of commerce and international transport. As a world-class airport and international gateway for local and visiting travelers, it is a vital component of the local, regional, and state economy that occupies a unique role in Los Angeles. It is the sixth busiest airport in the world and the third busiest in the United States (US). Nearly 61.9 million passengers used LAX in 2011, making it the most traveled "origin and destination" airport around the globe. As the top gateway to Asia and the Pacific region, it is one of the busiest airports in the country for international traffic.

As an airport, the Project site represents a unique location for signage. The Project site encompasses a 502-acre area within the interior portion of LAX and the proposed signage would affect approximately 6 percent of LAX (or approximately 203 acres of the 3,650-acre LAX). The Project site is a highly developed and illuminated environment that provides for the safe and efficient movement of pedestrians, vehicles and aircraft. The Project site is limited to the CTA and portions of the airfield associated with the terminals and gates (i.e., passenger boarding bridges). The CTA portion of the Project site is arranged similar to a "campus" in that there is an internal collection of buildings (i.e., terminals and parking structures) and roadways (both upper and lower) that are in a U-shaped area. The roadway within the CTA is one-way with recirculation roadway segments located in the interior (both levels). There are six signalized intersections and 18 signalized pedestrian crosswalks within the CTA. The CTA roadway has a speed limit of 25 miles per hour. The proposed new off-site signage within the Airside Sub-Area is limited to signage on passenger boarding bridges, which extend from the terminal gates, as needed, to load and unload passengers from the aircraft. The Project site operates on a 24-hour basis.

Signage is a common feature at airports and can play a role in defining the image of the airport that affects the visual experience of the passenger or visitor. Major airports across the country, including John F. Kennedy International Airport, Miami International Airport, Baltimore-Washington International Thurgood Marshall Airport, George Bush Intercontinental Airport, John Wayne Airport Orange County, and LaGuardia Airport, feature signage similar to the existing and proposed signage at LAX. These airports strive to elevate brands in their key markets by extending ambassadorial messages to arriving and departing passengers, and those driving past the airport on roadways. These major US airports have iconic and dominant format signs that are strategically positioned outside the airport terminals for maximum reach and impact on passenger and vehicular traffic. Additionally, major US airports provide advertising on the interior and exterior of passenger boarding bridges. Like major international airports around the country, the proposed Project would engage the traveling public, make a standout impression, and support trade and commerce.

Similar to these other airports, various types of "on-site" signs (signs which promote a business, use, facility, service or product located on-site at LAX or airport-related) are already allowed within the Project site. These on-site signs currently include tenant signage on the terminals and on passenger boarding bridges and on-site related wall signs and supergraphics on sky bridges, as well as the existing off-site billboard signs at the Park One Property. Other signage within the Project site includes wayfinding, terminal identification, traffic, and parking signage. The Project proposes the establishment of a Sign District to permit new "off-site" signs, which are signs that advertise a business, use, facility, service, or product not found at LAX (non-airport-related signage). The proposed Project is designed to be an integral part of the LAX visual landscape, taking into consideration the special characteristics and role of LAX. The program includes a focus on the internal areas of LAX and limiting any off-site visibility of the signage.

As a whole, the proposed Project would help foster a dynamic and engaging pedestrian, tourist, and work environment, as well as enhance the means of promoting business, cultural, entertainment, and visitor-serving activities and events in the City of Los Angeles. The proposed Project would encourage creative, well-designed signs that contribute in a positive way to the airport's visual environment and create a bold, lively and uniform aesthetic appearance in the messaging, theming and branding occurring throughout LAX that contributes to an image of quality and excellence for the City and promotes Los Angeles as a destination of regional importance.

### b. Project Description

The proposed Project entails the development and implementation of a Sign District at LAX, in which new off-site signage would be permitted subject to certain restrictions. The proposed Project includes a maximum of approximately 81,522 square feet (sq ft) of proposed new off-site signage within the Landside Sub-Area and a maximum of approximately 289,600 sq ft of proposed new off-site signage within the Airside Sub-Area (on passenger boarding bridges). The proposed Project would include a range of new off-site signage, including supergraphics, wall signs, digital display signs, and other signs such as signs on passenger boarding bridges, hanging signs, and column wraps. Off-site signs advertise a business, use, facility, service, or product not found at LAX (non-airport-related signage).

The estimated implementation date for the construction of the new off-site signage within the Project site is 2013. The advertising material would be periodically changed. Maintenance on the fixtures would occur as needed.

The proposed Project would include a sign ordinance which would contain provisions that establish regulations such as sign types, placement, number, dimensions, illumination, motion/animation, content, etc. The regulations of the proposed LAX Sign District would supersede the regulations set forth in the Los Angeles Municipal Code. The proposed Project would also include a program to remove a number of billboards in the Los Angeles World Airport's (LAWA) control and compliance with other applicable requirements from the Department of City Planning.

## 3. AREAS OF CONTROVERSY

Letters submitted to the Department of City Planning in response to the NOP and scoping meeting did not raise any concern. However, in general, signage projects raise the following concerns (whether real or perceived):

- Impact on adjacent residences
- Consistency with proposed changes to City of Los Angeles' Sign Ordinance

## 4. ISSUES TO BE RESOLVED

The only issue to be resolved is whether one of the alternatives should be approved rather than the proposed Project.

## 5. ALTERNATIVES

This Draft EIR considers a range of alternatives to the proposed Project to allow for informed decision-making in accordance with *State CEQA Guidelines* Section 15126.6. Pursuant to the *State CEQA Guidelines*, alternatives are to be selected for the purpose of avoiding or substantially lessening the significant environmental effects of the proposed Project. The proposed Project would not result in any significant impacts; however, alternatives have been selected to minimize the less than significant impacts that would occur in the areas of land use and planning, visual resources, artificial light and glare, and transportation safety.

As described in more detail in Chapter II (Project Description) and Chapter V (Alternatives to the Project), the alternatives to the proposed Project that are analyzed in this Draft EIR include the: 1) No Project Alternative; 2) Reduced Signage Alternative; and 3) No Digital Signage Alternative.

**Alternative 1 - No Project Alternative**

This alternative would evaluate what would be expected to occur in the foreseeable future if the proposed Project were not approved. Alternative 1 would not preclude future improvements subject to current regulations or existing on-site and off-site (i.e., Park One Property) signage within the Project site. No billboard take downs or compliance with other applicable requirements from the Department of City Planning associated with the proposed Project would occur. The less than significant impacts associated with the proposed Project would be avoided under Alternative 1 – No Project Alternative.

**Alternative 2 - Reduced Signage Alternative**

Under this alternative, 20 percent less signage would be allowed throughout the Project site than under the proposed Project. Alternative 2 includes a maximum of approximately 65,218 sq ft of proposed new off-site signage within the Landside Sub-Area and a maximum of approximately 231,680 sq ft of proposed new off-site signage within the Airside Sub-Area. The proposed signage types under this alternative would be the same as under the proposed Project and would include supergraphics, wall signs, digital display signs, and other signs such as signs on passenger boarding bridges, hanging signs, and column wraps.

All applicable Project Design Features associated with the proposed Project, such as limiting visibility from off-airport areas (i.e., surrounding communities) and prohibiting digital displays and externally lit signs from the Airside Sub-Area, are incorporated into the Reduced Signage Alternative. As with the proposed Project, Alternative 2 would also include a plan to remove billboards in LAWA's control and compliance with other applicable requirements from the Department of City Planning.

The proposed Project would not result in any significant and unavoidable impacts for any of the environmental impact areas analyzed in this Draft EIR (land use and planning, visual resources, artificial light and glare, and transportation safety). As with the proposed Project, Alternative 2 would not result in any significant unavoidable impacts. Comparatively, this alternative would have similar impacts to the proposed Project in regards to land use and planning and would slightly reduce impacts related to visual resources, artificial light and glare, and transportation safety.

**Alternative 3 – No Digital Signage Alternative**

Under this alternative, no new digital off-site signage would be allowed within the Project site. As with the proposed Project, this alternative includes a maximum of approximately 81,522 sq ft of proposed new off-site signage within the Landside Sub-Area and a maximum of approximately 289,600 sq ft of proposed new off-site signage within the Airside Sub-Area. The proposed location of digital displays within the Landside Sub-Area would be replaced with supergraphics. Proposed new off-site signage within the Airside Sub-Area would remain the same as under the proposed Project. The proposed signage under this alternative would include supergraphics, wall signs, and other signs such as signs on passenger boarding bridges, hanging signs, and column wraps.

All applicable Project Design Features associated with the proposed Project, such as limiting visibility from off-airport areas (i.e., surrounding communities) and prohibiting digital displays and externally lit signs from the Airside Sub-Area, are incorporated into the No Digital Signage Alternative. As with the proposed Project, Alternative 3 would also include a plan to remove billboards in LAWA's control and compliance with other applicable requirements from the Department of City Planning.

The proposed Project would not result in any significant and unavoidable impacts for any of the environmental impact areas analyzed in this Draft EIR (land use and planning, visual resources, artificial light and glare, and transportation safety). As with the proposed Project, Alternative 3 would not result in any significant unavoidable impacts. Comparatively, this alternative would have similar impacts to the proposed Project in regards to land use and planning and visual resources. This alternative would slightly reduce impacts related to artificial light and glare. Under this alternative, the locations that were designated under the proposed Project for digital displays would be supergraphic locations, which would require the physical changing of the advertising material than the proposed Project and, as a result, operational impacts related to lane closures would be slightly more than the proposed Project. In addition, without digital displays, operational impacts related to other aspects of transportation safety (i.e., driver distraction) would be similar due to compliance with applicable regulations that would reduce the potential for signs to distract drivers, such as limitations on sign type, size, placement, and illumination levels.

## 6. ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Table I-1 (Summary of Project Impacts, Project Design Features and Mitigation Measures) summarizes the various Project impacts associated with the construction and operation of the Project. Following is a list of all the Project Design Features and applicable LAX Master Plan (LAWA adopted) commitments that would be included with implementation of the proposed Project:

*Project Design Features*

- The allowable locations and sizes of signs have been designed to limit visibility from off-airport locations (i.e., surrounding communities) and to not visually or otherwise negatively affect airport operations or affect or alter historical buildings within LAX.

- No new off-site signage would be placed along the Project boundary, and no electronic or light enhanced signage would be visible from the adjacent residential areas (i.e., community of Westchester to the north and City of El Segundo to the south).
- No electronic or light enhanced signage would be installed within or be visible from the Airside Sub-Area.
- Off-site signs would not be permitted on a number of buildings within the Project site, including the Theme Building, the Airport Traffic Control Tower, and the Clifton A. Moore Administration Building (including the former Airport Traffic Control Tower [1961]).
- Limit illuminance contribution of signage to 0.3 footcandle (fc) at 350 feet from face of sign.
- The proposed signage locations and their placement would be in a manner that would prevent automobile headlight-related glare. For example, signage would be placed at a higher level than the roadway or perpendicular to headlights (i.e., signage placed on sky bridges).
- The proposed Project would include a plan to remove a number of billboards in LAWA's control and comply with other applicable requirements from the Department of City Planning.
- Digital displays signs would display static images only (i.e., restriction for any type of sign that contains images, text, parts, or illumination which flash, change, move, blink, or otherwise refresh in whole or in part).
- The digital displays would have the light emitting diodes (LEDs) aimed horizontally towards the street view using a cubic louvering system to help to limit light trespass, direct the visual impact of the display to the appropriate audience, and direct light away from flight paths and highly focused driving tasks. Refer to Figure IV.C-2 for a typical light emitting diode beam spread and plan view of the layout for the directionality of the LEDs associated with the digital display signs.
- The proposed location of the two types of digital display signs - Controlled Refresh (CR) I and CR III - have been chosen being mindful of driver, pedestrian, Air Traffic Control (ATC) personnel and pilot safety.
- Digital display signs shall be limited in their refresh events. CR I images would refresh (change) no more than one event every eight seconds (with the exception being Parking Structure 1 which would refresh every 14 seconds). CR III images would refresh no more than one event every 12 hours. In addition, the CR III images on the sky bridges would refresh simultaneously no more than one event every 12 hours.
- Digital signage would be subject to limits on brightness levels (i.e., 4,500 candelas per meters squared [cd/m$^2$] during the daytime and 300 cd/m$^2$ during the nighttime) and equipped with sensors that modify the brightness of the sign in response to ambient lighting conditions.
- Dim lights of digital displays slowly at dusk over a 45 minute fade rate, controlled by an astronomical time clock. The transition from day to nighttime brightness would be required to occur gradually, to prevent a sudden change in perceptible brightness levels by pedestrians and motorists.
- Digital displays would not include large areas of reflective elements and have a contrast ratio of less than 30:1 to eliminate glare.
- Supergraphic signage over 20-feet tall at parking structure locations would be illuminated with LED or metal halide floodlights consisting of adjustable floodlight fixtures mounted at the top of the signage element with a locking knuckle precisely aimed at the signage to eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.

- Supergraphic signage over 20-feet tall on terminal facades above canopy locations would be illuminated with LED or metal halide floodlights mounted to the adjacent canopy. Adjustable floodlight fixtures would be mounted above the canopy with a locking knuckle to precisely aim at the signage and eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors, and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Maximum vertical luminance of illuminated supergraphic signage would be 5 to 7 fc during nighttime.
- Supergraphics/wall signs/column wraps would have matte finishes, which would prevent glare from the light fixtures.

*Applicable LAX Master Plan Commitments*

***LU-4. Neighborhood Compatibility Program.*** Ongoing coordination and planning will be undertaken by LAWA to ensure that the airport is as compatible as possible with surrounding properties and neighborhoods. Measures to enforce this policy will include: 1) Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive uses with the goal of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities. 2) Locate airport uses and activities with the potential to adversely affect nearby residential land uses through noise, light spill-over, odor, vibration and other consequences of airport operations and development as far from adjacent residential neighborhoods as feasible. 3) Provide community outreach efforts to property owners and occupants when new development on airport property is in proximity to and could potentially affect nearby residential uses.

***DA-1. Provide and Maintain Airport Buffer Areas.*** Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive improvements with the goals of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities.

***LI-2. Use of Non-Glare Generating Building Materials.*** Prior to approval of final plans, LAWA will ensure that proposed LAX facilities will be constructed to maximize use of non-reflective materials and minimize use of undifferentiated expanses of glass.

***LI-3. Lighting Controls.*** Prior to final approval of plans for new lighting, LAWA will conduct reviews of lighting type and placement to ensure that lighting will not interfere with aeronautical lights or otherwise impair Airport Traffic Control Tower or pilot operations. Plan reviews will also ensure, where feasible, that lighting is shielded and focused to avoid glare or unnecessary light spill-over. In addition, LAWA or its designee will undertake consultation in selection of appropriate lighting type and placement, where feasible, to ensure that new lights or changes in lighting will not have an adverse effect on the natural behavior of sensitive flora and fauna within the Habitat Restoration Area.

The impact determination and the level of significance after mitigation are also identified in Table I-1. No significant impacts would occur and therefore no mitigation measures are provided or necessary.

**Table I-1**

**Summary of Project Impacts, Project Design Features and Mitigation Measures**

| Environmental Impact | Impact Determination | Project Design Features and Mitigation Measures | Level of Impact After Mitigation |
|---|---|---|---|
| **LAND USE AND PLANNING** | | | |
| The development of the proposed Project would be subject to numerous City land use plans, regulations in the Los Angeles Municipal Code (LAMC), and the future LAX sign ordinance (which would supersede the sign regulations set forth in the LAMC). With approval of the LAX sign ordinance, the proposed Project would be consistent with the policies and goals of applicable land use plans and policy documents from the state, regional, and local levels, including Southern California Association of Governments' (SCAG) Regional Comprehensive Plan, Southern California Compass Blueprint Growth Vision, Regional Transportation Plan/Sustainable Communities Strategy, the Airport Land Use Plan (ALUP), 2011 California Airport Land Use Planning Handbook, the City of Los Angeles General Plan Framework Element, the LAX Plan, the LAX Specific Plan, and the LAMC. | Less Than Significant | Refer to page I-6 through page I-8, above, for a list of Project Design Features and Applicable LAX Master Plan Commitments associated with the proposed Project.<br><br>No mitigation is required. | Less Than Significant |
| **VISUAL RESOURCES** | | | |
| In terms of visual character, construction activities under the Project would result in temporary changes as viewed from nearby vantage points. However, given the short duration of construction for each sign and the limited amount of construction equipment and | Less Than Significant | Refer to page I-6 through page I-8, above, for a list of Project Design Features and Applicable LAX Master Plan Commitments associated with the proposed Project. | Less Than Significant |

**Table I-1**

**Summary of Project Impacts, Project Design Features and Mitigation Measures**

| Environmental Impact | Impact Determination | Project Design Features and Mitigation Measures | Level of Impact After Mitigation |
|---|---|---|---|
| workers needed, impacts to the visual character of the site would not substantially change.<br><br>No signage would be located on notable buildings (i.e., the Theme Building, Airport Traffic Control Tower, and future Bradley West Terminal), nor would signage be placed where it would obstruct or degrade views of the notable buildings.<br><br>Within the Landside Sub-Area, various types of on-site signs are already allowed. Proposed signage would be similar to existing on-site signage and primarily located on existing structures that are largely functional in nature (terminal buildings, sky bridges, parking structures, and columns) without extensive architectural features, and thus, they do not contribute meaningfully to the aesthetic quality of the CTA. The introduction of new well-designed signage would add new and variable visual elements to these functional structures, contributing to the overall aesthetic of LAX. As such, the proposed Project would not adversely alter the visual identity of the Landside Sub-Area.<br><br>Within the Airside Sub-Area, this signage would add to the complex visual imagery occurring in this area and would not change the utilitarian and active character of the site. As such, the proposed Project would not adversely alter the visual identity of the Airside Sub-Area. | | No mitigation is required. | |

**Table I-1**

**Summary of Project Impacts, Project Design Features and Mitigation Measures**

| Environmental Impact | Impact Determination | Project Design Features and Mitigation Measures | Level of Impact After Mitigation |
|---|---|---|---|
| From the surrounding areas, signage within the Landside Sub-Area would only be somewhat visible from the eastern boundary. This signage would be located on existing facilities, separated from the viewer by intervening development or features. The signage would not be visually prominent, and would not change or detract from the existing urban character of the site.<br><br>There are sensitive viewers (residential uses) on the northern and southern boundaries of LAX. Airside Sub-Area signage would be in some fields of view from these locations. However, it would be a limited long distance view of the Airside Sub-Area facilities, and signage in those areas would not be illuminated. Signage would blend into this distant background and not change the visual character or aesthetics of the Project site.<br><br>The signage would not be visible to any sensitive receptors along the western boundary of LAX or any off-airport areas (i.e., surrounding communities). | | | |

**Table I-1**

**Summary of Project Impacts, Project Design Features and Mitigation Measures**

| Environmental Impact | Impact Determination | Project Design Features and Mitigation Measures | Level of Impact After Mitigation |
|---|---|---|---|
| **ARTIFICIAL LIGHT AND GLARE** | | | |
| Construction of the proposed Project would be minimal and it is expected that a majority of the construction associated with the proposed Project would occur during daytime hours. If nighttime construction occurs, any lighting required for nighttime construction would be directed on the work area to limit spill-over and would occur in conjunction with safety procedures and policies associated with the safe operation of the airport, including not interfering with aeronautical lights, or resulting in glare in the eyes of the ATC personnel or pilots that would impair their ability to operate or guide aircraft. Neither construction equipment nor the proposed signage would incorporate substantial amounts of reflective materials in close proximity to glare-sensitive uses, including vehicle traffic and aircraft, nor would the proposed signage be illuminated by high brightness lighting or special effects.<br><br>Proposed signage within the Landside Sub-Area includes accent lighting and the digital display signs which would be an additional source of light. Although the CTA does not contain traditional light-sensitive receptors, operators of vehicles could perceive additional artificial light associated with the Project signs. However, the Project area is already characterized by high | Less Than Significant | Refer to page I-6 through page I-8, above, for a list of Project Design Features and Applicable LAX Master Plan Commitments associated with the proposed Project.<br><br>No mitigation is required. | Less Than Significant |

**Table I-1**

**Summary of Project Impacts, Project Design Features and Mitigation Measures**

| Environmental Impact | Impact Determination | Project Design Features and Mitigation Measures | Level of Impact After Mitigation |
|---|---|---|---|
| ambient light levels. In addition, the diodes associated with the digital displays would be pointed down and towards the airport roadways, and lighting associated with proposed signage would not add to the ambient glow of the CTA that would represent a substantial change in brightness levels. Furthermore, digital signage would be subject to limits on brightness levels (i.e., 4,500 cd/$m^2$ during the daytime and 300 cd/$m^2$ during the nighttime) and equipped with sensors that modify the brightness of the sign in response to ambient lighting conditions. Therefore, a change in brightness and light trespass would not occur.<br><br>There are sensitive viewers (residential uses) on the northern and southern boundaries of LAX. Airside Sub-Area signage would be in some fields of view from these locations. However, no digital displays or externally lit signs would be allowed in the Airside Sub-Area and therefore, no change in the existing artificial light conditions would occur.<br><br>From the surrounding areas, signage within the Landside Sub-Area would only be somewhat visible from the eastern boundary. The only sensitive receptors to the east are hotel guests associated with the Radisson Hotel; however, hotel rooms do not have direct views of the CTA. | | | |

**Table I-1**

**Summary of Project Impacts, Project Design Features and Mitigation Measures**

| Environmental Impact | Impact Determination | Project Design Features and Mitigation Measures | Level of Impact After Mitigation |
|---|---|---|---|
| No externally lit signage would be visible along the western boundary of LAX.<br><br>The proposed Project does not allow for digital displays or externally lit signage in the Airside Sub-Area and therefore no change to the existing artificial light conditions would occur.<br>By design, signage does not include large areas of reflective elements, because they would detract from the visibility of the signage. Therefore, signage would not be a substantial source of glare within, or surrounding, the Project site. | | | |
| **TRANSPORTATION SAFETY** | | | |
| Temporary sidewalk detours and/or lane closures may be required during construction, however, this would only occur in the immediate location where signage construction and/or replacement is occurring, and would be a short duration (i.e., six hours to one week for initial installation). Other areas of the CTA would be kept clear and unobstructed at all times during sign installation in accordance with Federal Aviation Administration (FAA), State Fire Marshal, and Los Angeles Fire Code regulations and no transportation safety impacts would occur.<br><br>The proposed Landside Sub-Area signs would be visible to motorists and pedestrians within the CTA. The proposed Project would comply with | Less Than Significant | Refer to page I-6 through page I-8, above, for a list of Project Design Features and Applicable LAX Master Plan Commitments associated with the proposed Project.<br><br>No mitigation is required. | Less Than Significant |

**Table I-1**

**Summary of Project Impacts, Project Design Features and Mitigation Measures**

| Environmental Impact | Impact Determination | Project Design Features and Mitigation Measures | Level of Impact After Mitigation |
|---|---|---|---|
| applicable regulations that would reduce the potential for signs to distract drivers, such as limitations on sign type, size, placement, and illumination levels. In addition, digital signage would be equipped with sensors that modify the brightness of the sign in response to ambient lighting conditions (as noted under Artificial Light and Glare, above, digital signage would be subject to limits on brightness levels, such as 4,500 cd/m$^2$ during the daytime and 300 cd/m$^2$ during the nighttime), thus ensuring that brightness of the displays at various times of day and night would not present a traffic hazard. Further, lighting at LAX is not allowed to interfere with the nighttime visibility of ATC operators and incoming pilots, or interfere with lighting used to guide aircraft such as approach lighting, runway/taxiway guidance lighting, runway end identifier lights, and ground lighting/marking. Finally, the LAX Sign District sign ordinance would include requirements such as restricting where signs could be located and limiting total square footage that would prevent visual clutter and help to ensure that roadway visibility would not be obstructed and that wayfinding signs would be visible to help pedestrians and motorists navigate within the CTA. The proposed signage would not result in | | | |

**Table I-1**

**Summary of Project Impacts, Project Design Features and Mitigation Measures**

| Environmental Impact | Impact Determination | Project Design Features and Mitigation Measures | Level of Impact After Mitigation |
|---|---|---|---|
| transportation safety impacts in the Landside Sub-Area.<br><br>Signs within the Airside Sub-Area would be installed on existing facilities subject to the LAX sign ordinance and would not be lit. Therefore, no distractions to pilots or ATC personnel within the Airside Sub-Area would occur.<br><br>From the surrounding areas, signage within the Landside Sub-Area would only be somewhat visible from the eastern boundary. Digital display signs proposed on the east elevations of Terminal 1, the first CTA sky bridge, and Parking Structure 1 would be visible to pedestrians and motorists within the CTA. The Project site is in a highly developed area occupied by urban uses including multi-story buildings, heavily traveled roadways (including raised roadways), surface parking lots, and existing signage, including billboards and wall signs. Given the distance between the roadway and signage, as well as intervening development, the proposed signage visible to motorists from the eastern boundary would not be a prominent feature that is likely to attract a driver's attention from the CTA roadway and visual features located in closer proximity to the CTA roadway. | | | |

**Table I-1**

**Summary of Project Impacts, Project Design Features and Mitigation Measures**

| Environmental Impact | Impact Determination | Project Design Features and Mitigation Measures | Level of Impact After Mitigation |
|---|---|---|---|
| LAX is not allowed to interfere with the nighttime visibility of ATC operators and incoming pilots, or interfere with lighting used to guide aircraft such as approach lighting, runway/taxiway guidance lighting, runway end identifier lights, and ground lighting/marking. Existing laws and regulations that regulate sign location and brightness would ensure the digital displays and lighted signs would not be located in such a manner to create a hazard to pilots or motorists.<br><br>There are sensitive residential uses on the northern and southern boundaries of LAX. Airside Sub-Area signage would be in some field of view from these locations. However, Airside Sub-Area signage and other facilities within the Project site are indistinguishable and thus signage would blend into this distant background and not be a distraction to motorists. No lighted signage would be located within the Airside Sub-Area.<br><br>The signage would not be visible along the western boundary of LAX. | | | |

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# II. PROJECT DESCRIPTION

## 1. PROJECT LOCATION

The LAX Sign District Project (the "proposed Project") is located within the Los Angeles International Airport (LAX), which is located within the LAX Plan area in the City of Los Angeles. LAX encompasses approximately 3,650 acres and is situated at the western edge of the City of Los Angeles, as shown in Figure II-1, Regional Location Map. To the north of LAX is the community of Westchester, to the south is the City of El Segundo, to the east is the City of Inglewood, and to the west is the Pacific Ocean.

As shown in Figure II-2, Project Location Map, the Project site (i.e., Sign District) encompasses a 502-acre area within the interior of LAX that includes the Central Terminal Area (CTA), the area along Sepulveda Boulevard known as the Park One Property, and an area that extends to the west of Taxiway R. Off-site signage would be limited to approximately 203 acres of the Project site comprised of two distinct LAX sub-areas – Landside and Airside. The Landside Sub-Area (approximately 101 acres) includes the access areas associated with the CTA (i.e., lower and upper roadways associated with arrivals and departures, respectively), portions of the terminals facing the interior CTA roadway, parking structures, columns, Park One Property, and area along Sepulveda Boulevard immediately adjacent to the CTA. The Landside Sub-Area is visible primarily by visitors, passengers, and airport employees. The Airside Sub-Area (approximately 102-acres) includes existing (as well as future) terminal concourses, gates, passenger boarding bridges, runways, airport access ways, and equipment which allow for the safe and efficient operation of airport airfield activities. The Airside Sub-Area is primarily visible to passengers and employees who handle airfield operations. There is some limited visibility to passengers and employees from the gates. No new off-site signs are proposed at the Park One Property, or along Sepulveda Boulevard. In total, the proposed signage would affect approximately 6 percent of LAX (or approximately 203 acres of the 3,650-acre LAX), as shown in Figure II-1.

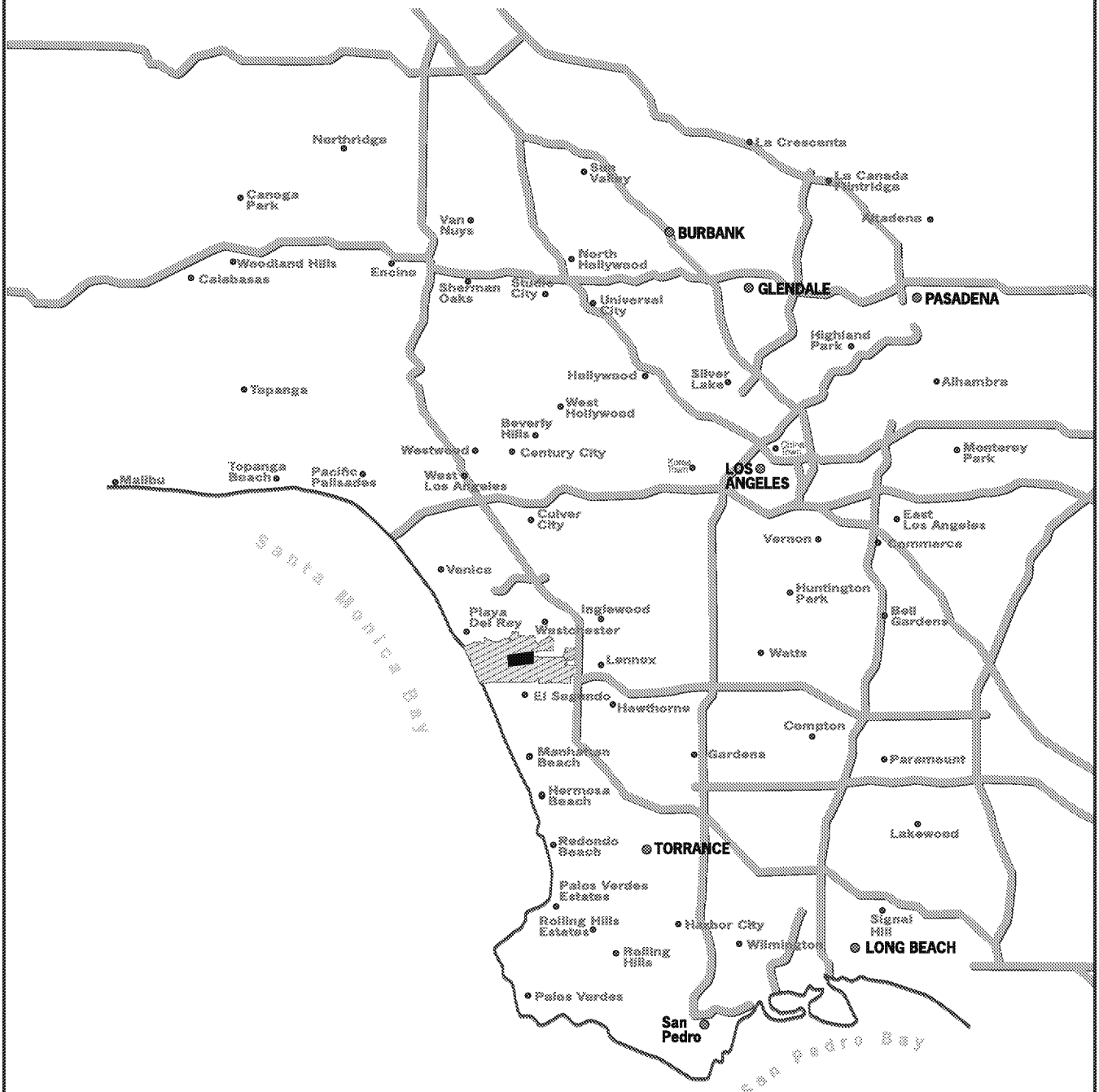
## 2. EXISTING CONDITIONS

### a. Regional Setting

The Project site is situated at the western edge of the City of Los Angeles, as shown in Figure II-1, Regional Location Map, and encompasses a portion of LAX. LAX is located north of and adjacent to Interstate 105 (I-105), approximately 1.5 miles west of I-405, and approximately 2 miles south of State Route 90 (SR 90). These highways provide regional access to LAX. Major Highways serving LAX include Sepulveda Boulevard, a Class I Major Highway, and Imperial Highway and Century Boulevard, which are Class 2 Major Highways. In addition to regional highways that directly serve LAX, the LAX Shuttle service is a free shuttle service which provides service to LAX and connects to the Los Angeles County Metropolitan Transportation Authority (Metro) Green Line light rail transit line at Aviation Station and other various public transit service providers at Parking Lot C.

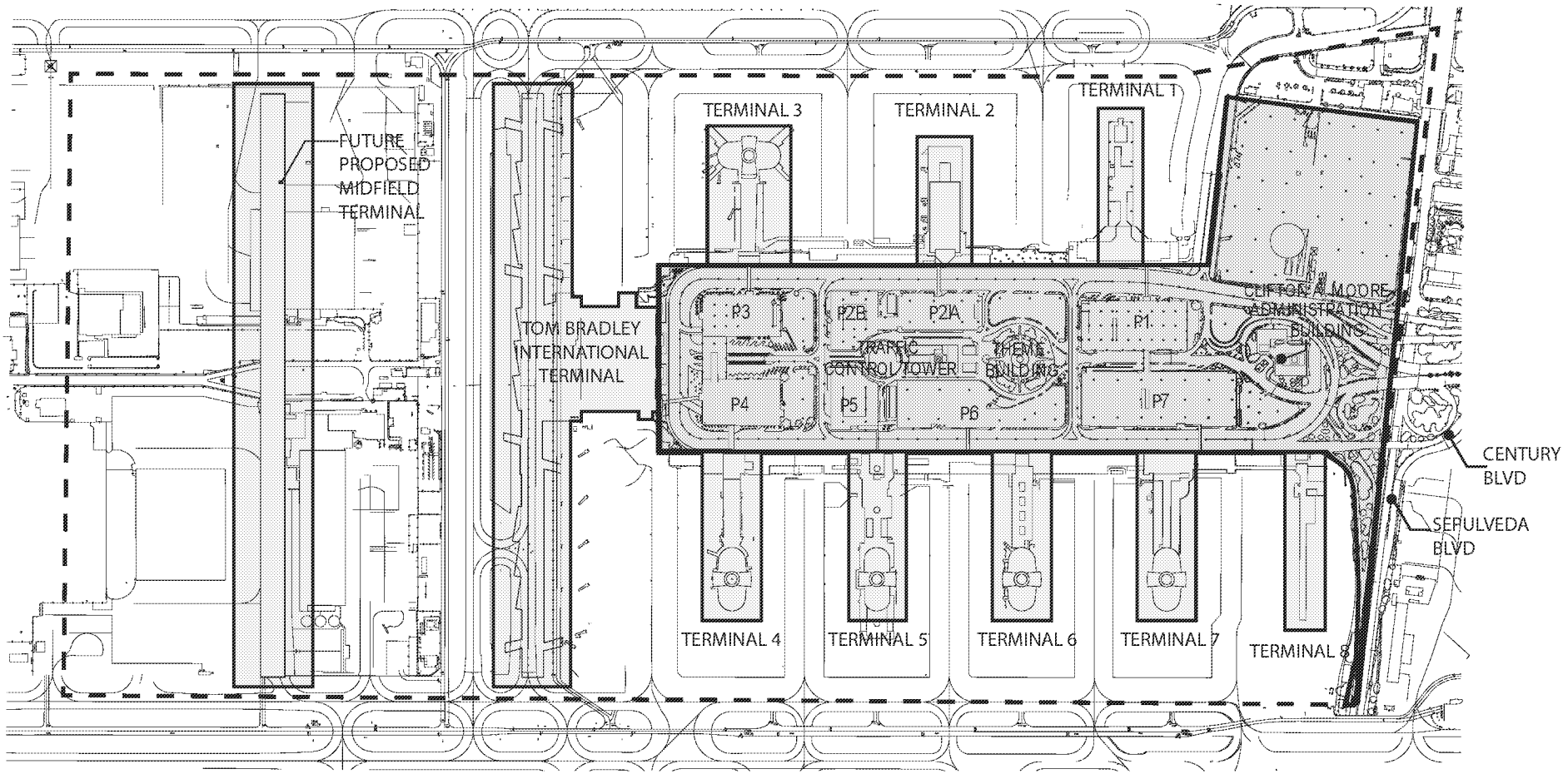
### b. Existing Land Use

The Project site is located entirely within the LAX Plan area, as well as the LAX Specific Plan area. The Project site is in an area designated in the LAX Plan as "Airport Landside" and "Airport Airside." Existing zoning is LAX–L Zone (Airport Landside Sub-Area) and LAX–A Zone (Airport Airside Sub-Area). Section 14 of the LAX Specific Plan delineates the sign regulations associated with the placement of signage within the Airport




Prepared by: CDM Smith, 2012

| LAX Sign District Project EIR | Regional Location Map | Figure II-1 |
|---|---|---|




| LAX Sign District Project EIR | Project Location Map | Figure II-2 |
|---|---|---|

Landside Sub-Area and Airport Airside Sub-Area, and provides for the establishment of a Sign District to permit new off-site signs. Off-site signs are signs that advertise a business, use, facility, service, or product not found at LAX (non-airport-related signage). The proposed Project would not affect existing land use or zoning and is consistent with the LAX Plan and LAX Specific Plan.

### c. Surrounding Land Uses and Neighborhoods

The Project site encompasses a portion of the interior of LAX and is limited to the CTA and portions of the airfield associated with the terminals and gates (i.e., passenger boarding bridges). The environmental setting of the Project site is characterized by a highly-built environment with roadway and airfield vehicle and passenger movement activity within and adjacent to the Project site throughout the day and much of the night. The land uses immediately surrounding the Project site include airport operations and facilities (including taxiways and runways) to the north, west, and south, and commercial and industrial uses to the east (along Sepulveda Boulevard and its intersection with Century Boulevard).

Land uses north of airport operations include vacant land (portions of the LAX Northside - a 340-acre area that lies between the airfield and the Westchester and Playa del Rey communities), recreation (i.e., Westchester Golf Course, which is LAX property), and residential (within the community of Westchester). Land uses to the north range in height from one to five stories. Land uses surrounding LAX to the east include hotel, office, parking, and buildings ranging in height from one to 17 stories. Land uses surrounding LAX to the south and west of Sepulveda Boulevard are predominately residential and commercial, which include single-family residential, multi-family residential, with some office and retail land uses. Land uses to the south range in height from one to 11 stories. To the west of LAX are the Los Angeles/El Segundo Dunes, Dockweiler State Beach, and the Pacific Ocean. Residential areas closest to the Project site are approximately 0.4 mile northeast to 0.6 mile north (community of Westchester) and 0.5 mile south (City of El Segundo).[1]

## 3. PROJECT CHARACTERISTICS

### a. Proposed Project Elements

The proposed Project entails the development and implementation of a Sign District at LAX to permit new off-site signs (non-airport-related signage) within two distinctive sub-areas – Landside and Airside. The proposed Project includes a maximum of approximately 81,522 square feet (sq ft) of proposed new off-site signage within the Landside Sub-Area and a maximum of approximately 289,600 sq ft of proposed new off-site signage within the Airside Sub-Area. If approved, the proposed Project would create a sign ordinance which would govern the type and size of allowable off-site signs and their placement throughout the Project site.

The proposed Project would contain provisions that establish regulations such as sign types, number of signs, sign dimensions, sign placement, sign illumination, sign motion/animation, etc. The regulations of the proposed Sign District (also known as a Supplemental Use District) would supersede the regulations set forth in the Los Angeles Municipal Code (LAMC). As part of the proposed Project, off-site signage would be limited to the CTA (Landside Sub-Area) and portions of the Airside Sub-Area - no new off-site signage is proposed beyond these areas (see Figure II-2). The proposed Project has been designed to limit visibility from off-airport locations (i.e., surrounding communities) and to not visually or negatively affect airport operations or affect or alter historical buildings within LAX. In addition, the proposed Project would require findings of consistency with the City of Los Angeles General Plan, LAX Plan, and LAX Specific Plan. The proposed Project would provide a revenue stream that would be used to support infrastructure projects at LAX.

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[1] *The distance to nearest residence was measured on Google® from edge of the proposed Project site boundary to the closest residential land use/zoning as designated by the Department of City Planning.*

Off-site signs would not be permitted on a number of buildings within the Project site including the Theme Building, the Airport Traffic Control Tower, and the Clifton A. Moore Administration Building (which includes the former Airport Traffic Control Tower [1961]). These buildings are shown in Figure II-2. In addition, the proposed Project would include a plan to remove a number of billboards in the Los Angeles World Airport's (LAWA's) control and compliance with other applicable requirements from the Department of City Planning.

The weight and installation of signs would be in compliance with the applicable City of Los Angeles Department of Building and Safety codes. Because on-site signs (signs which promote a business, use, facility, service, or product located on-site at LAX or airport-related) are already allowed at LAX under the LAX Specific Plan and tenant signage is allowed under LAX Tenant Signage Standards, both within the proposed Sign District, on-site and tenant signage are not a part of the proposed Project.

Table II-1 lists all the types of proposed off-site signs that would be allowed in the proposed Sign District/Project site and their proposed locations within LAX. As detailed in Table II-1, the proposed Project would include a range of new off-site signage, including supergraphics, wall signs, digital display signs, signs on passenger boarding bridges, signs on columns, and hanging signs. No new off-site signage would be placed along the Project boundary and no electronic or light enhanced off-site signage would be visible from the adjacent residential areas (i.e., community of Westchester to the north and City of El Segundo to the south). Figures II-3 through II-19 present simulations of the proposed signage types and locations. The figures show the maximum amount of signage that could be displayed at one time throughout the Project site depicted from different viewing locations. The amount of signage that would be visible to each visitor/passenger would vary depending upon his or her viewshed while at LAX (i.e., a visitor/passenger to LAX would not view all signage within the Project area, but only those signs that are within visual range.)

As part of the proposed Project, the Sign District would allow flexibility to provide either a digital display or supergraphic at the locations where a digital display has been proposed. In addition, digital display signs could be used for emergency communication as necessary. The analysis of environmental impacts for the proposed Project analyzed in this Draft EIR are based on the maximum use and intensity. This will ensure that the environmental analysis accounts for the total maximum potential scope of the proposed Project.

Signage within LAX is regulated through existing LAX planning documents. The LAX Specific Plan establishes procedures for approval of signage within the LAX Specific Plan area. The LAX Specific Plan, approved by the Los Angeles City Council in December 2004 and effective January 20, 2005, allows for on-site signage and anticipates the erection, installation, or construction of off-site signs, pursuant to the establishment of a sign district as set forth in LAMC Section 13.11. Both on-site and off-site signage are similar in appearance. The difference is the content of the signage; on-site signage is airport-related signage (which includes advertising for products and services related to the airport), while off-site signage is non-airport related signage (which would also include advertising). The proposed Project implements the LAX Specific Plan. Pursuant to the LAX Specific Plan, LAWA submitted an application to the City of Los Angeles, Department of City Planning on August 2, 2011 for the proposed Sign District.

### b. Project Design Features

Specific measures or requirements, including components discussed above, are incorporated into the proposed Project as Project Design Features. Project Design Features are features proposed by the Project Applicant that are specifically intended and designed to reduce or avoid impacts.

*Project Design Features*

- The allowable locations and sizes of signs have been designed to limit visibility from off-airport locations (i.e., surrounding communities) and to not visually or otherwise negatively affect airport operations or affect or alter historical buildings within LAX.
- No new off-site signage would be placed along the Project boundary, and no electronic or light enhanced signage would be visible from the adjacent residential areas (i.e., community of Westchester to the north and City of El Segundo to the south).
- No electronic or light enhanced signage would be installed within or be visible from the Airside Sub-Area.
- Off-site signs would not be permitted on a number of buildings within the Project site, including the Theme Building, the Airport Traffic Control Tower, and the Clifton A. Moore Administration Building (including the former Airport Traffic Control Tower [1961]).
- Limit illuminance contribution of signage to 0.3 footcandle (fc) at 350 feet from face of sign.
- The proposed signage locations and their placement would be in a manner that would prevent automobile headlight-related glare. For example, signage would be placed at a higher level than the roadway or perpendicular to headlights (i.e., signage placed on sky bridges).
- The proposed Project would include a plan to remove a number of billboards in LAWA's control and comply with other applicable requirements from the Department of City Planning.
- Digital displays signs would display static images only (i.e., restriction for any type of sign that contains images, text, parts, or illumination which flash, change, move, blink, or otherwise refresh in whole or in part).
- The digital displays would have the light emitting diodes (LEDs) aimed horizontally towards the street view using a cubic louvering system to help to limit light trespass, direct the visual impact of the display to the appropriate audience, and direct light away from flight paths and highly focused driving tasks. Refer to Figure IV.C-2 for a typical light emitting diode beam spread and plan view of the layout for the directionality of the LEDs associated with the digital display signs.
- The proposed location of the two types of digital display signs - Controlled Refresh (CR) I and CR III - have been chosen being mindful of driver, pedestrian, ATC personnel and pilot safety.
- Digital display signs shall be limited in their refresh events. CR I images would refresh (change) no more than one event every eight seconds (with the exception being Parking Structure 1 which would refresh every 14 seconds). CR III images would refresh no more than one event every 12 hours. In addition, the CR III images on the sky bridges would refresh simultaneously no more than one event every 12 hours.
- Digital signage would be subject to limits on brightness levels (i.e., 4,500 cd/m$^2$ during the daytime and 300 cd/m$^2$ during the nighttime) and equipped with sensors that modify the brightness of the sign in response to ambient lighting conditions.
- Dim lights of digital displays slowly at dusk over a 45 minute fade rate, controlled by an astronomical time clock. The transition from day to nighttime brightness would be required to occur gradually, to prevent a sudden change in perceptible brightness levels by pedestrians and motorists.
- Digital displays would not include large areas of reflective elements and have a contrast ratio of less than 30:1 to eliminate glare.

- Supergraphic signage over 20-feet tall at parking structure locations would be illuminated with LED or metal halide floodlights consisting of adjustable floodlight fixtures mounted at the top of the signage element with a locking knuckle precisely aimed at the signage to eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Supergraphic signage over 20-feet tall on terminal facades above canopy locations would be illuminated with LED or metal halide floodlights mounted to the adjacent canopy. Adjustable floodlight fixtures would be mounted above the canopy with a locking knuckle to precisely aim at the signage and eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors, and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Maximum vertical luminance of illuminated supergraphic signage would be 5 to 7 fc during nighttime.
- Supergraphics/wall signs/column wraps would have matte finishes, which would prevent glare from the light fixtures.

In addition to Project Design Features, the following list of applicable LAX Master Plan (LAWA adopted) commitments that would be included with implementation of the proposed Project are as follows:

***LU-4. Neighborhood Compatibility Program.*** Ongoing coordination and planning will be undertaken by LAWA to ensure that the airport is as compatible as possible with surrounding properties and neighborhoods. Measures to enforce this policy will include: 1) Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive uses with the goal of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities. 2) Locate airport uses and activities with the potential to adversely affect nearby residential land uses through noise, light spill-over, odor, vibration and other consequences of airport operations and development as far from adjacent residential neighborhoods as feasible. 3) Provide community outreach efforts to property owners and occupants when new development on airport property is in proximity to and could potentially affect nearby residential uses.

***DA-1. Provide and Maintain Airport Buffer Areas.*** Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive improvements with the goals of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities.

***LI-2. Use of Non-Glare Generating Building Materials.*** Prior to approval of final plans, LAWA will ensure that proposed LAX facilities will be constructed to maximize use of non-reflective materials and minimize use of undifferentiated expanses of glass.

***LI-3. Lighting Controls.*** Prior to final approval of plans for new lighting, LAWA will conduct reviews of lighting type and placement to ensure that lighting will not interfere with aeronautical lights or otherwise impair Airport Traffic Control Tower or pilot operations. Plan reviews will also ensure, where feasible, that lighting is shielded and focused to avoid glare or unnecessary light spill-over. In addition, LAWA or its designee will undertake consultation in selection of appropriate lighting type and placement, where feasible, to ensure that new lights or changes in lighting will not have an adverse effect on the natural behavior of sensitive flora and fauna within the Habitat Restoration Area.

### c. Construction and Operation Timeline

The estimated implementation date for the construction of the new off-site signage within the Project site is 2013. The advertising material would be periodically changed. Maintenance of the sign and related support structures would occur as needed.

**Table II-1**

**Types of Signs, Definitions, and Locations**

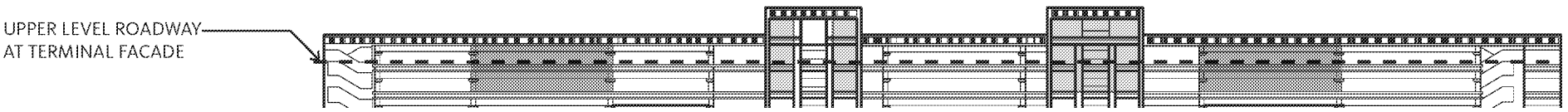
| Types of Signs | Definitions | Locations | Figures |
|---|---|---|---|
| Supergraphic Sign | A supergraphic sign is an off-site sign which consists of an image applied to a wall/facade, which is printed on vinyl or similar material. | Parking Structures 1-7 (including 2A and 2B); Terminal Buildings 1-7 | Figures II-3 and II-5 to II-14[2] |
| Wall Sign | Similar to a supergraphic, but smaller in size (300 sq ft or less). | Parking Structures 5-7; Terminal Buildings 1, 2, 4, 5, 6 and 7 | Figures II-4, II-9, II-10, II-12, and II-13 |
| Digital Display Sign | Digital display signs will show images on a building face or any structural component. Two types of digital display signs are proposed: CR I with an image refresh rate of no more than one refresh event every eight seconds (with the exception being Parking Structure 1 which would refresh every 14 seconds), and CR III with no more than one refresh event every 12 hours, which would occur simultaneously for all CR III signs within the Sign District. Restriction for any type of sign that contains images, text, parts, or illumination which flash, change, move, blink, or otherwise refresh in whole or in part. | CR I: Parking Structures 1-7 (including 2A and 2B); CR III: Sky Bridges at Terminals 1-7, Tom Bradley International Terminal - TBIT (upper level east elevation), Terminal 1 (upper level east elevation), and Terminal 4 (upper level north elevation) | Figures II-5 to II-12 and II-14 |
| Column Wrap Sign | Column wrap signs are digitally printed on a unique vinyl material designed to adhere to the existing columns that support the CTA upper level roadway. | Alternating columns that flank the terminal curb areas of the internal lower roadway of TBIT and Terminals 1-7 | Figures II-15 to II-17 |
| Passenger Boarding Bridge Sign | A passenger boarding bridge sign is a supergraphic sign that is applied to the exterior of the boarding bridges located in the Airside Sub-Area that connects passengers from the terminals to the aircraft. | Boarding Bridges at TBIT and existing Terminals 1-8 and future terminals (Airside Sub-Area) | Figure II-18 |
| Hanging Sign | A hanging sign is a type of sign with individual channel letters and/or a prefabricated image that is suspended from an architectural feature or projection. | Throughout CTA | Figure II-19 |
| Existing Billboards | A billboard is a supported sign panel that is attached to pole(s), post(s), or column(s) and that may be cantilevered over a building or structure. | Park One Property [no new billboard signs are proposed at this location, nor along Sepulveda Boulevard, as part of the proposed Project] | Figure II-2 [for location of Park One Property] |

[2] *It is assumed that the approved Sign District would allow flexibility to use the locations where a digital display has been proposed for super graphics; therefore, figures associated with digital displays are also referenced in Table II-1 above under Supergraphic Sign.*

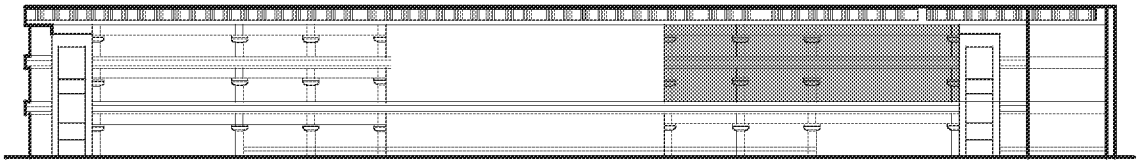
| LAX Sign District Project EIR | Supergraphic (Example) | Figure II-3 |
|---|---|---|


| LAX Sign District Project EIR | Wall Sign (Example) | Figure II-4 |
|---|---|---|


| LAX Sign District Project EIR | Digital Display (Example) | Figure II-5 |
|---|---|---|




PARKING STRUCTURE 1 - NORTH ELEVATION



PARKING STRUCTURE 1 - EAST ELEVATION

PARKING STRUCTURE 1 - SOUTH ELEVATION

**SIGN TYPE LEGEND**

SUPERGRAPHICS SIGNS

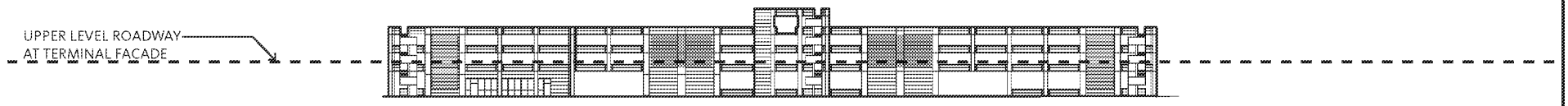
DIGITAL / CONTROLLED REFRESH I

Note: Locations proposed for Digital/Controlled Refresh I could be used for Supergraphic signs in lieu of digital.

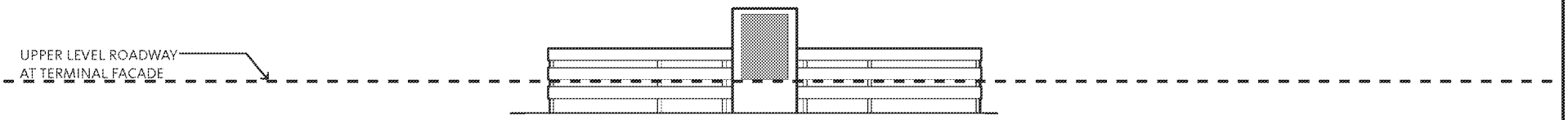
Not to Sca@

Source: Gensler, 2012

| LAX Sign District Project EIR | Parking Structure 1 | Figure II-6 |
|---|---|---|




PARKING STRUCTURE 2A - NORTH ELEVATION




PARKING STRUCTURE 2B - NORTH ELEVATION

**SIGN TYPE LEGEND**

SUPERGRAPHICS SIGNS

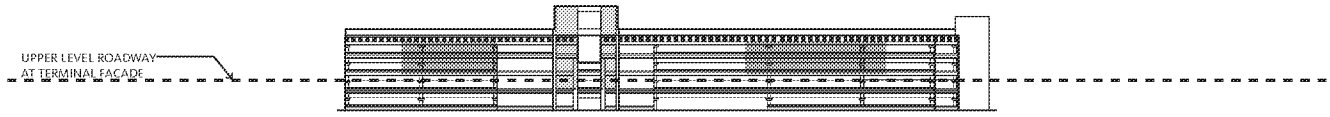
DIGITAL / CONTROLLED REFRESH I

Note: Locations proposed for Digital/Controlled Refresh I could be used for Supergraphic signs in lieu of digital.

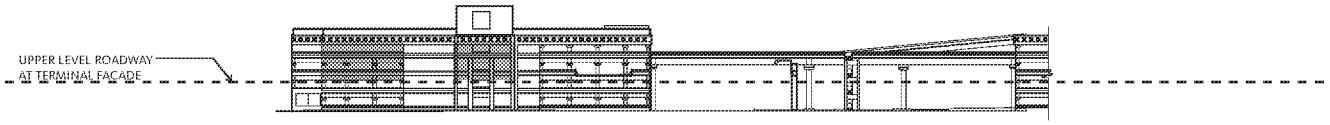
Not to Scale

Source: Gensler, 2012

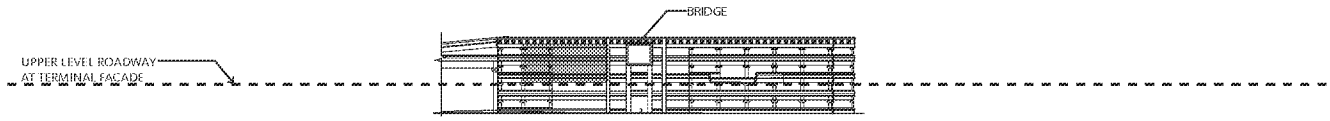
| LAX Sign District Project EIR | Parking Structures 2A and 2B | Figure II-7 |
|---|---|---|




PARKING STRUCTURE 3 - NORTH ELEVATION




PARKING STRUCTURE 3 - WEST ELEVATION




PARKING STRUCTURE 4 - WEST ELEVATION


PARKING STRUCTURE 4 - SOUTH ELEVATION

**SIGN TYPE LEGEND**

SUPERGRAPHICS SIGNS

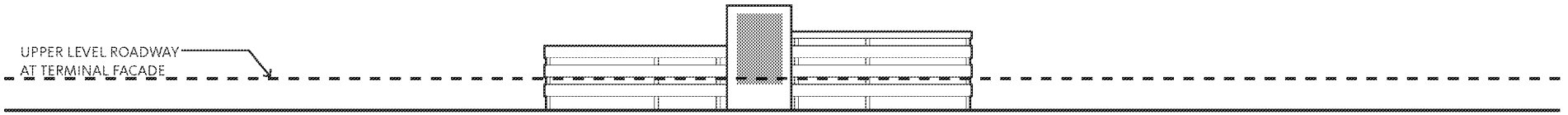
DIGITAL / CONTROLLED REFRESH I

Note: Locations proposed for Digital/Controlled Refresh I could be used for Supergraphic signs in lieu of digital.

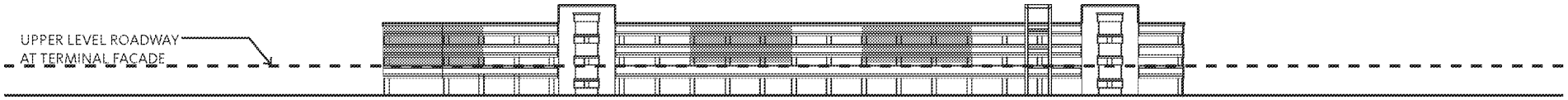
Not to Scale

Source: Gensler, 2012

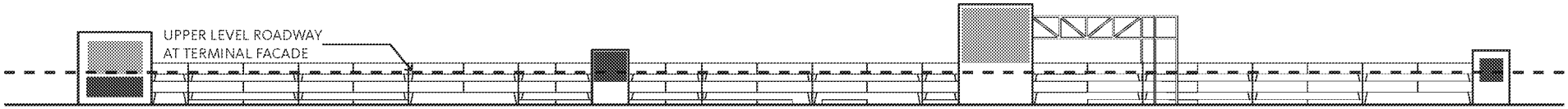
| LAX Sign District Project EIR | Parking Structures 3 and 4 | Figure II-8 |
|---|---|---|



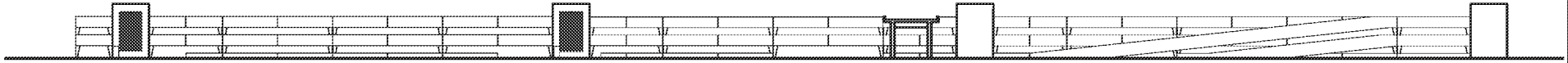

PARKING STRUCTURE 5 - SOUTH ELEVATION




PARKING STRUCTURE 6 - SOUTH ELEVATION




PARKING STRUCTURE 7 - SOUTH ELEVATION



PARKING STRUCTURE 7 - NORTH ELEVATION

**SIGN TYPE LEGEND**

WALL SIGNS

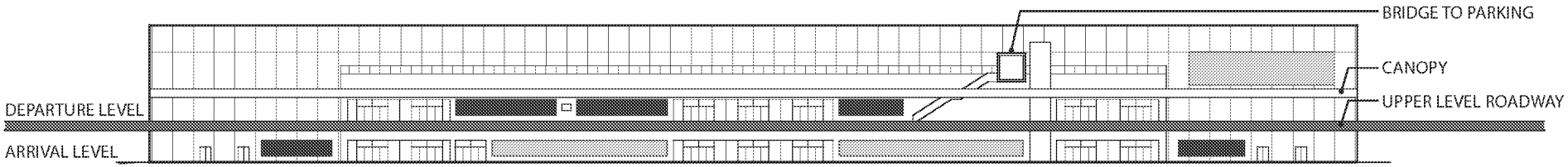
DIGITAL / CONTROLLED REFRESH I

Note: Locations proposed for Digital/Controlled Refresh I could be used for Supergraphic signs in lieu of digital.

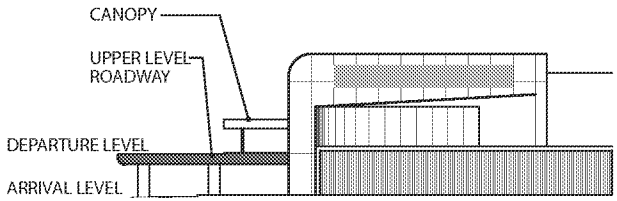
Not to Scale

Source: Gensler, 2012

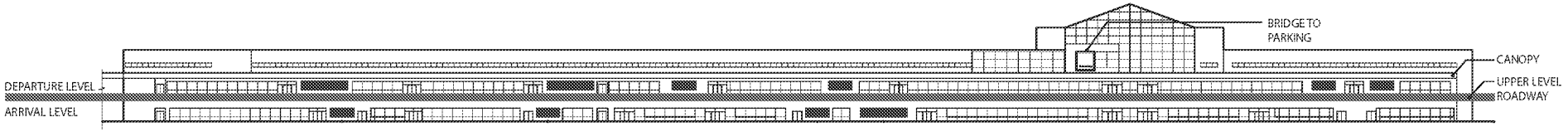
| LAX Sign District Project EIR | Parking Structures 5, 6, and 7 | Figure II-9 |
|---|---|---|




TERMINAL 1 - SOUTH ELEVATION




TERMINAL 1 - EAST ELEVATION




TERMINAL 2 - SOUTH ELEVATION

**SIGN TYPE LEGEND**

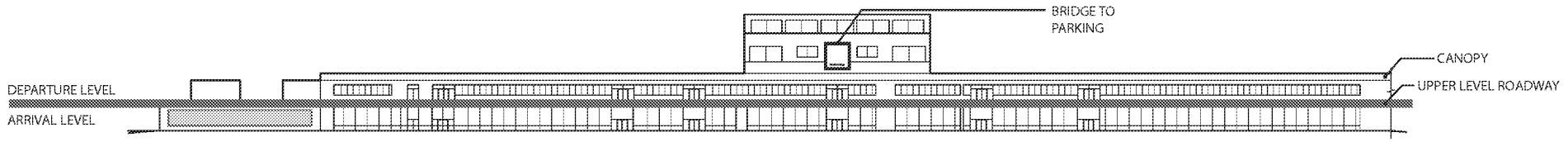
- WALL SIGNS
- SUPERGRAPHICS SIGNS
- DIGITAL / CONTROLLED REFRESH III

Note: Locations proposed for Digital/Controlled Refresh III could be used for Controlled Refresh I or Supergraphic signs in lieu of digital.

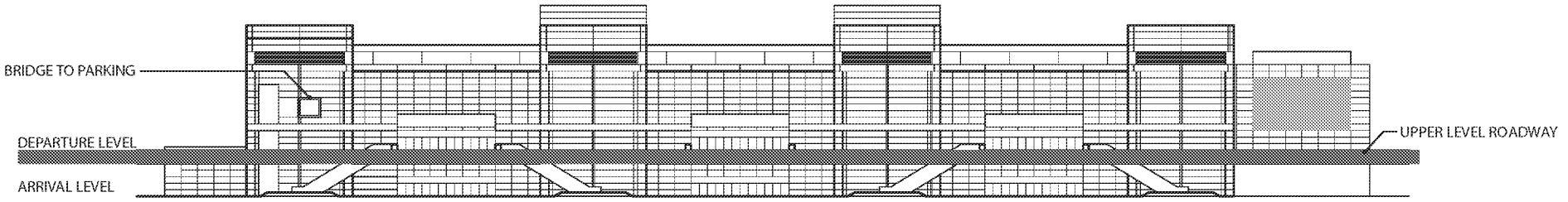
Not to Scale

Source: Gensler, 2012

| LAX Sign District Project EIR | Terminals 1 and 2 | Figure II-10 |
|---|---|---|




TERMINAL 3 - SOUTH ELEVATION




TOM BRADLEY INTERNATIONAL
TERMINAL - EAST ELEVATION

**SIGN TYPE LEGEND**

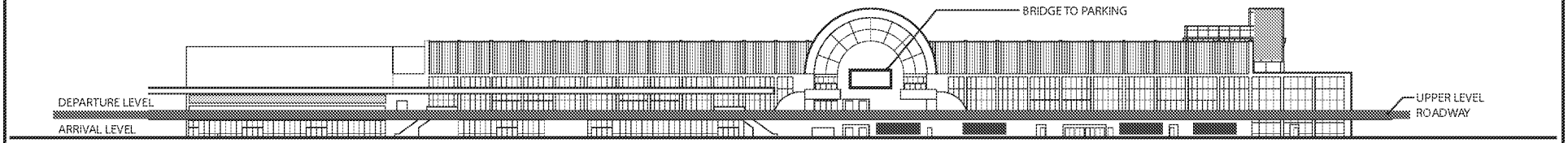
SUPERGRAPHICS SIGNS
DIGITAL / CONTROLLED REFRESH III

Note: Locations proposed for Digital/Controlled Refresh III could be used for Controlled Refresh I or Supergraphic signs in lieu of digital.

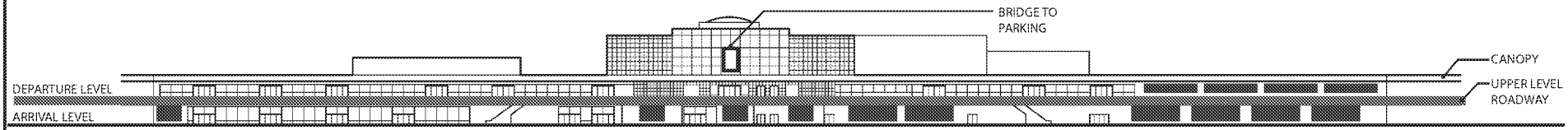
Not to Scale

Source: Gensler, 2012

| LAX Sign District Project EIR | Terminals 3 and TBIT | Figure II-11 |
|---|---|---|




TERMINAL 4 - NORTH ELEVATION




TERMINAL 5 - NORTH ELEVATION

**SIGN TYPE LEGEND**

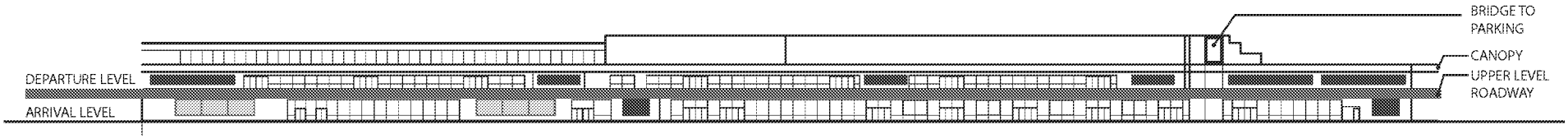
- WALL SIGNS
- SUPERGRAPHICS SIGNS
- DIGITAL / CONTROLLED REFRESH III

Note: Locations proposed for Digital/Controlled Refresh III could be used for Controlled Refresh I or Supergraphic signs in lieu of digital.

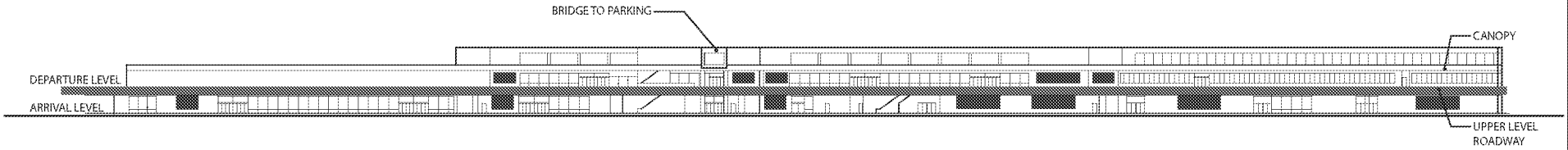
Not to Scale

Source: Gensler, 2012

| LAX Sign District Project EIR | Terminals 4 and 5 | Figure II-12 |
|---|---|---|




TERMINAL 6 - NORTH ELEVATION




TERMINAL 7 - NORTH ELEVATION

**SIGN TYPE LEGEND**

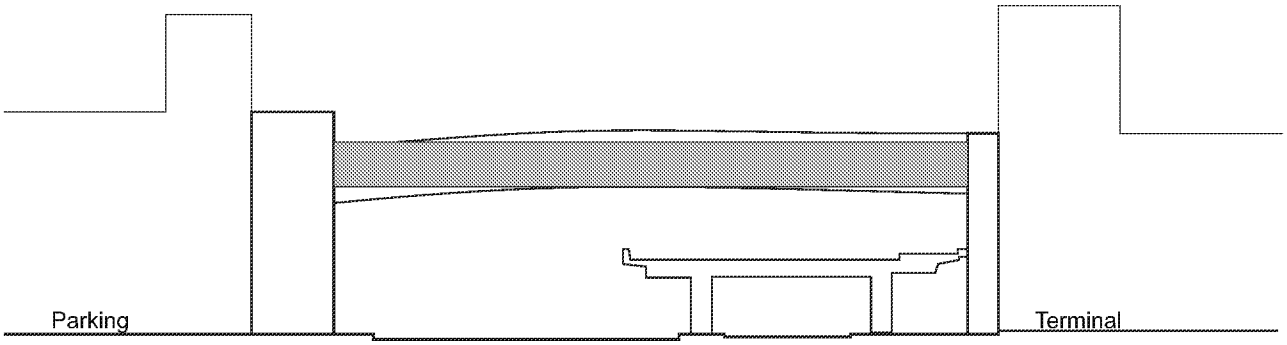
WALL SIGNS

SUPERGRAPHICS SIGNS

Not to Scale

Source: Gensler, 2012

| LAX Sign District Project EIR | Terminals 6 and 7 | Figure II-13 |
|---|---|---|




**SIGN TYPE LEGEND**

DIGITAL / CONTROLLED REFRESH III

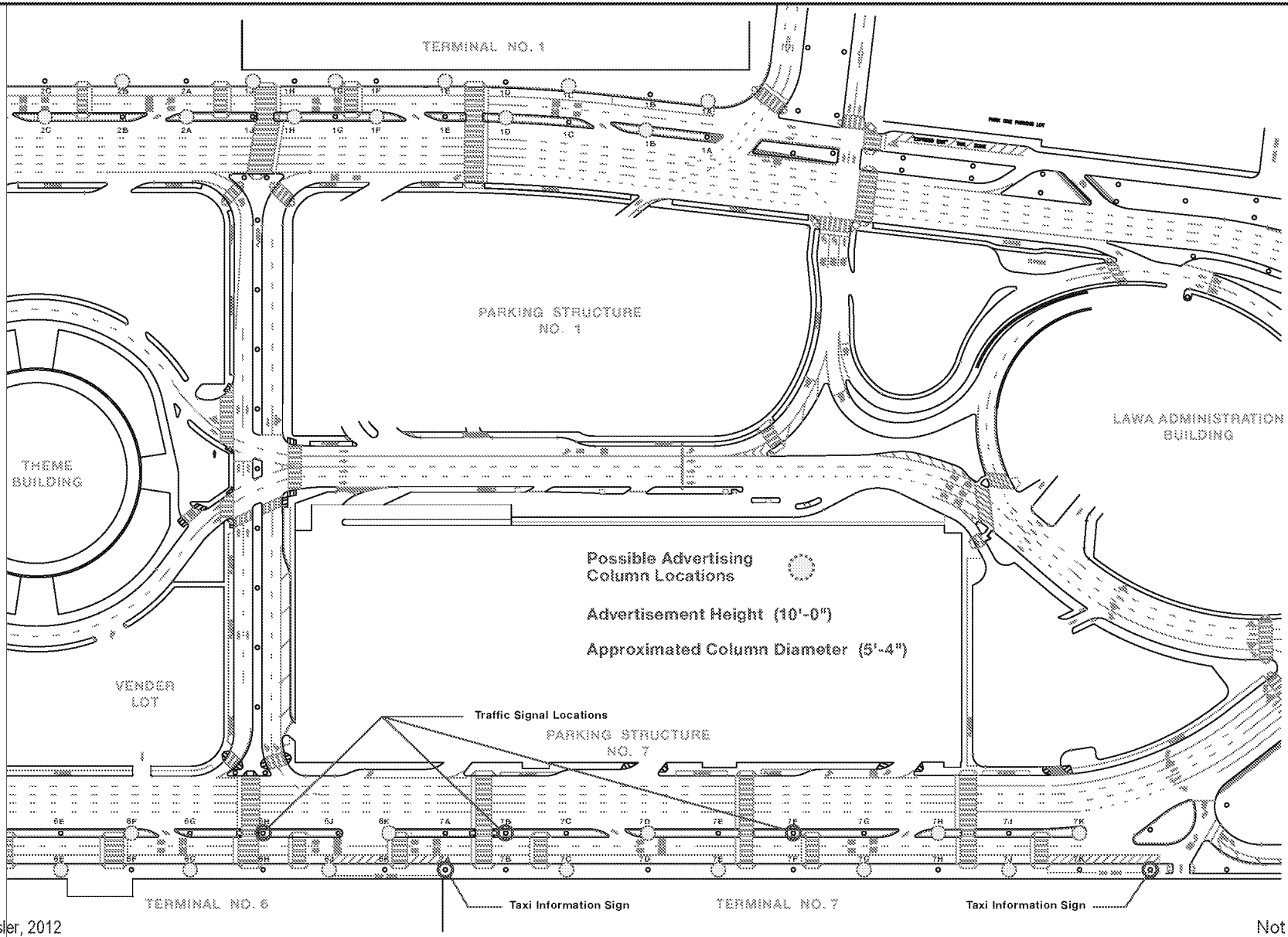
Not to Scale

Source: Gensler, 2012

Note: Locations proposed for Digital/Controlled Refresh III could be used for Controlled Refresh I or Supergraphic signs in lieu of digital.

| LAX Sign District Project EIR | Typical Sky Bridge | Figure II-14 |
|---|---|---|

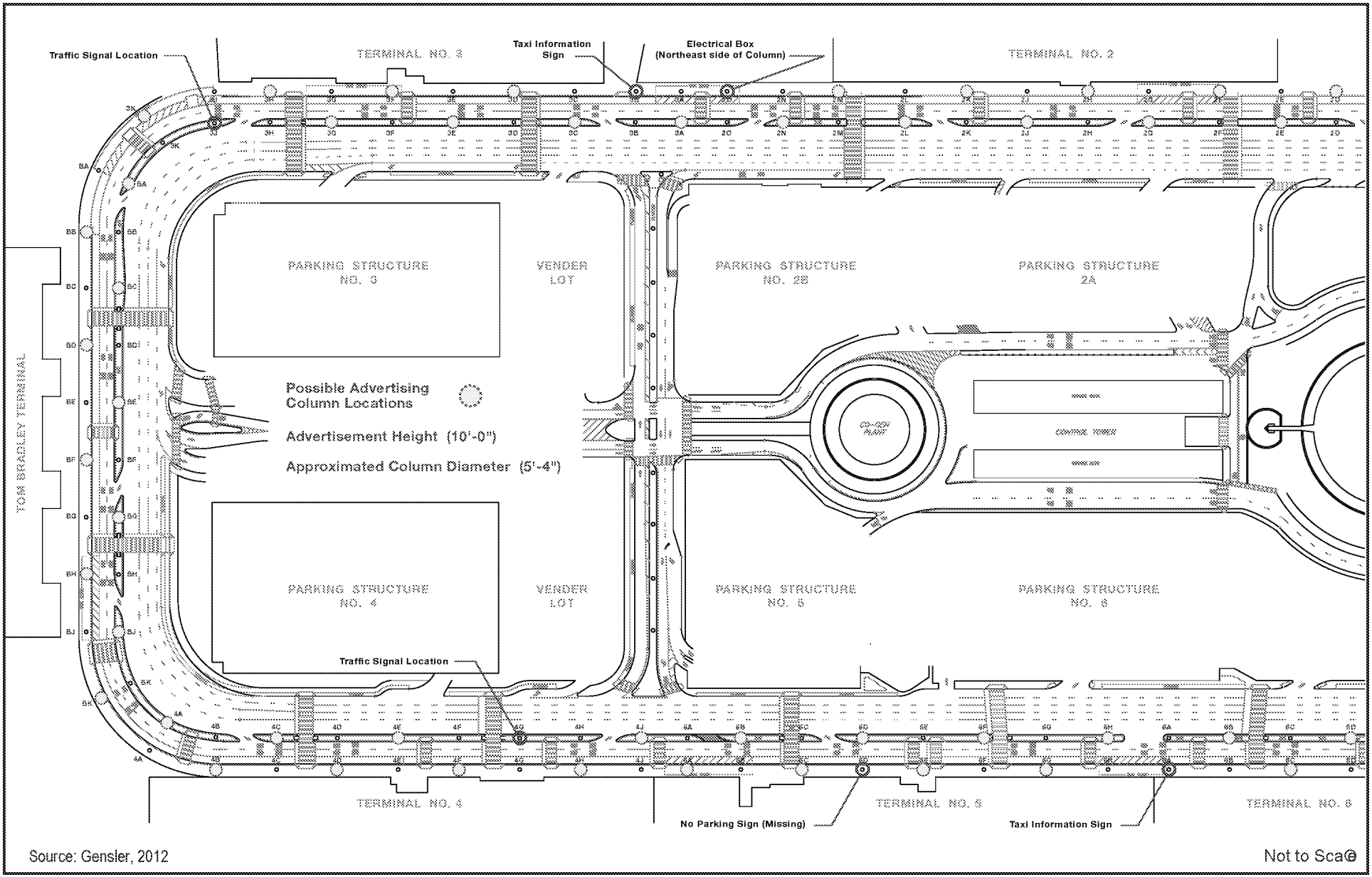

| LAX Sign District Project EIR | Column Wrap (Example) | Figure II-15 |
|---|---|---|




Source: Gensler, 2012

Not to Scale

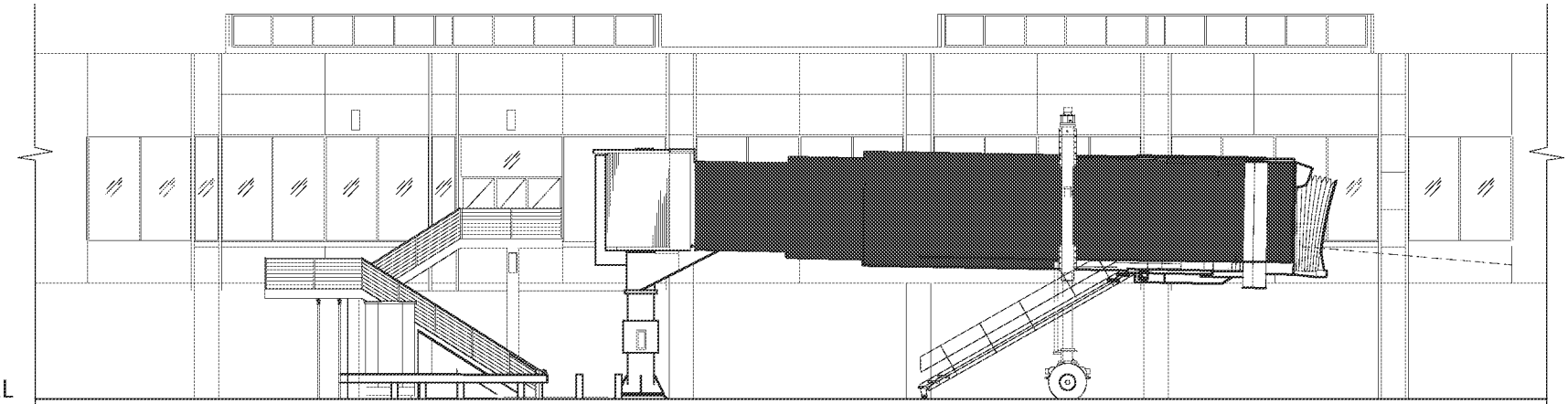
| LAX Sign District Project EIR | Column Wrap Signs— Site Locations Lower Level East Portion | Figure II-16 |
|---|---|---|




Source: Gensler, 2012

Not to Scale

| | | |
|---|---|---|
| **LAX Sign District Project EIR** | **Column Wrap Signs— Site Locations Lower Level West Portion** | Figure II-17 |




TYPICAL BOARDING BRIDGE

1 SIGN EACH SIDE OF BOARDING BRIDGE

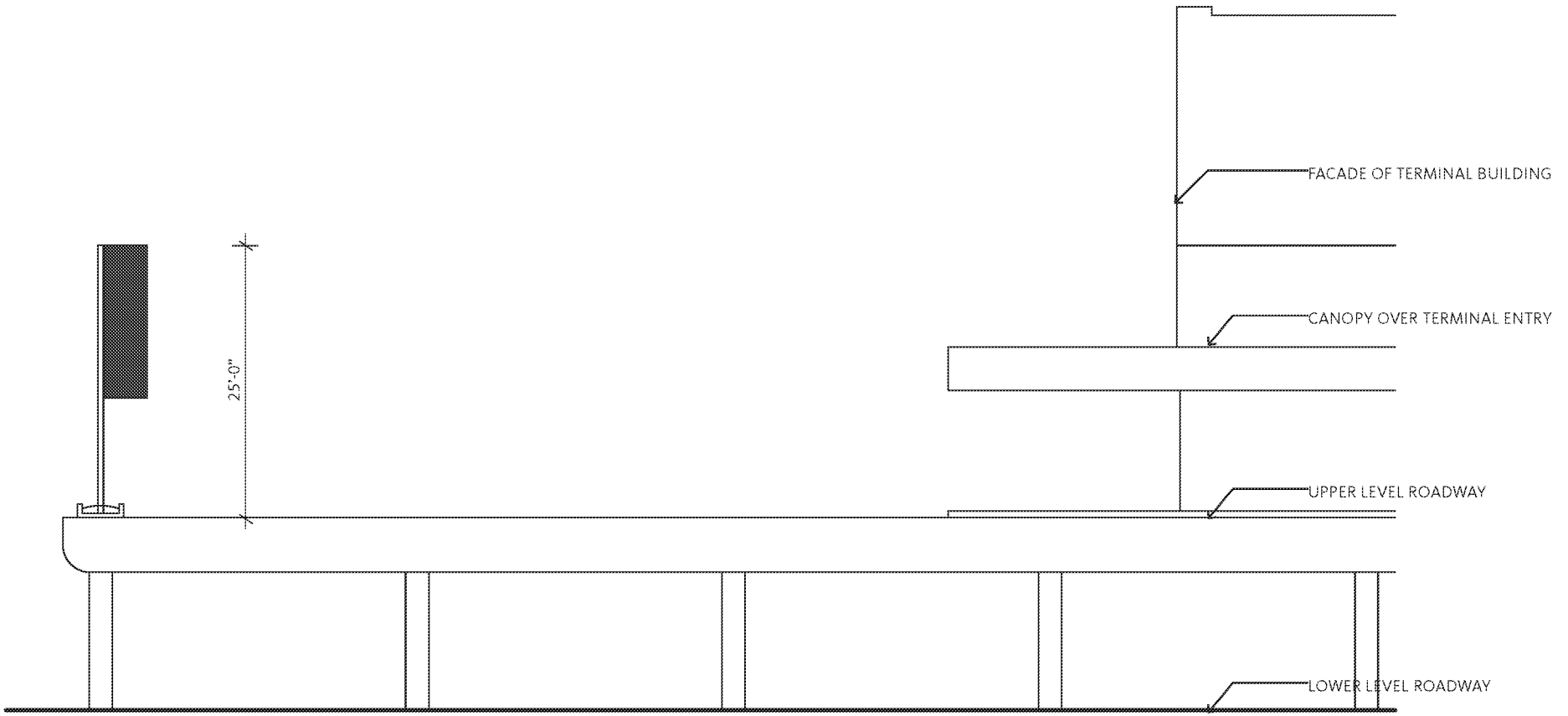
**SIGN TYPE LEGEND**

PASSENGER BOARDING BRIDGE SIGNS

Not to Scale

Source: Gensler, 2012

| LAX Sign District Project EIR | Typical Boarding Bridge | Figure II-18 |
|---|---|---|




**SIGN TYPE LEGEND**

HANGING SIGN

Not to Scale

Source: Gensler, 2012

| LAX Sign District Project EIR | Typical Hanging Signs—Upper Level Roadway | Figure II-19 |
|---|---|---|

## 4. PROJECT ALTERNATIVES

### a. Alternative 1 – No Project Alternative

This alternative would evaluate what would be expected to occur in the foreseeable future if the proposed Project were not approved. As is currently the case, under Alternative 1, no new off-site signage would be placed in the Project site. On-site, wayfinding and tenant signage would continue, as well as the existing off-site signage at the Park One Property (subject to their current leases), and no billboard take downs or compliance with other applicable requirements from the Department of City Planning associated with the proposed Project would occur. Alternative 1 would not preclude future improvements or signage already permitted within the Project site and any future improvements with the potential to significantly impact the environment would need to be analyzed in a separate environmental document.

### b. Alternative 2 – Reduced Signage Alternative

Under this alternative, 20 percent less signage would be allowed throughout the Project site than under the proposed Project. Alternative 2 includes a maximum of approximately 65,218 sq ft of proposed new off-site signage within the Landside Sub-Area and a maximum of approximately 231,680 sq ft of proposed new off-site signage within the Airside Sub-Area. The proposed signage under this alternative would be the same as under the proposed Project and would include supergraphics, wall signs, digital display signs, and other signs such as signs on passenger boarding bridges, hanging signs, and column wraps. As with the proposed Project, Alternative 2 would also include a plan to remove a number of billboards in LAWA's control and compliance with other applicable requirements from the Department of City Planning. As with the proposed Project, the estimated implementation date for the construction and operation of the new off-site signage under Alternative 2 is 2013.

### c. Alternative 3 – No Digital Signage Alternative

Under this alternative, no new digital off-site signage would be allowed within the Project site. As with the proposed Project, this alternative includes a maximum of approximately 81,522 sq ft of proposed new off-site signage within the Landside Sub-Area and a maximum of approximately 289,600 sq ft of proposed new off-site signage within the Airside Sub-Area. The proposed location of digital displays within the Landside Sub-Area would be replaced with supergraphics. Proposed new off-site signage within the Airside Sub-Area would remain the same as under the proposed Project. The proposed signage under this alternative would include supergraphics, wall signs, and other signs such as signs on passenger boarding bridges, hanging signs, and column wraps. As with the proposed Project, Alternative 3 would also include a plan to remove a number of billboards in LAWA's control and compliance with other applicable requirements from the Department of City Planning. As with the proposed Project, the estimated implementation date for the construction and operation of the new off-site signage under Alternative 3 is 2013.

## 5. PROJECT OBJECTIVES

A statement of the objectives sought by the proposed Project is required by *State CEQA Guidelines* Section 15124(b). The *State CEQA Guidelines* require the statement of objectives to include the underlying purpose of the proposed Project. The basic purpose of the proposed Project is to allow and promote a variety of signage throughout the proposed Sign District in a manner that encourages and contributes to the modernization of LAX in an orderly and flexible way, without cluttering the visitor's visual environment or impacting the surrounding communities. The objectives of the proposed Project are as follows:

1) Promote and enhance LAX as an international gateway to the Pacific Rim, an important public amenity, and maintain an image as one of the nation's premier airports by encouraging creative, well-designed signs that contribute in a positive way to LAX's visual environment.

2) Recognize the uniqueness of LAX as a regional economic engine.

3) Ensure that new off-site signs are responsive to and integrated with the aesthetic character of the structures on which they are located, and are positioned in a manner that is compatible both architecturally and relative to the other signage at the airport, thereby minimizing potential safety issues.

4) Protect adjacent communities from potential adverse impacts of new off-site signs by avoiding visual clutter, including visual impacts of excessive number of signs, excessive sign size, sign illumination, and sign motion/animation.

5) Support and enhance limited new off-site signage to the interior of LAX and the urban design, land use, economic development, and modernization objectives of the LAX Master Plan and LAX Specific Plan.

## 6. DISCRETIONARY ACTIONS

The City of Los Angeles Department of City Planning is the Lead Agency for the proposed Project. In order to permit development of the proposed Project, approval of the following discretionary actions would be required:

- Pursuant to LAMC 13.08, a Supplemental Use District (SUD) for signage (i.e., Sign District) – City of Los Angeles Department of City Planning.
- Other approvals (as needed), ministerial or otherwise, may be necessary, as the City finds appropriate, in order to execute and implement the proposed Project. Such approvals may include, but are not limited to: sign (including sign support structures) and electrical permits from the City of Los Angeles, and review by the Federal Aviation Administration, as applicable.

Other reviewing agencies for the proposed Project may include, but are not limited to, the following:

- Los Angeles Fire Department
- City of Los Angeles Department of Building and Safety
- Federal Aviation Administration (FAA)
- California Department of Transportation (Caltrans)
- Los Angeles Department of Transportation

# III. ENVIRONMENTAL SETTING

## 1. OVERVIEW OF ENVIRONMENTAL SETTING

This chapter provides a brief overview of the Project site's regional and local setting. Additional descriptions of the environmental setting as it relates to each of the environmental issues analyzed in this Draft Environmental Impact Report (EIR) are included in the environmental setting discussions contained within Sections IV.A through IV.D of this Draft EIR. A list of related projects, which is used as the basis for the discussion of cumulative impacts in each section, is also provided.

### a. Regional Setting

The proposed Project is located within the interior portion of Los Angeles International Airport (LAX). The Project site is located within the LAX Plan area in the City of Los Angeles, which is in the County of Los Angeles. LAX is the primary airport for the greater Los Angeles area, encompasses approximately 3,650 acres, and is situated at the western edge of the City of Los Angeles, as shown in Figure II-1, Regional Location Map of Chapter II, Project Description. In 2011, LAX was the world's sixth busiest passenger airport, moving approximately 61.9 million annual passengers (Crowe, 2012).

In general, to the north is the community of Westchester, to the south is the City of El Segundo, to the east is the City of Inglewood, and to the west is the Pacific Ocean. Regional access to the Project site is provided by the I-105, which runs east-west and is located adjacent to LAX, and the San Diego Freeway (I-405), which runs north-south and is located east of LAX. The main arterial streets serving LAX and the Project site are Century Boulevard and Sepulveda Boulevard. 96$^{th}$ Street is also an access roadway into the Central Terminal Area (CTA). Other key roadways providing access to the area are Airport Boulevard, Aviation Boulevard, La Cienega Boulevard, El Segundo Boulevard, Imperial Highway, Arbor Vitae Street/Westchester Parkway, Lincoln Boulevard, and Manchester Avenue. In addition to regional highways and roadways that directly serve LAX, the LAX Shuttle service is a free shuttle service which provides service to LAX and connects passengers to the Los Angeles County Metropolitan Transportation Authority (Metro) Green Line light rail transit line at Aviation Station and other various public transit service providers at Parking Lot C.

### b. Local Setting and Land Uses

The Project site is located entirely within the LAX Plan area, as well as the LAX Specific Plan area, and encompasses a 502-acre area within the interior portion of LAX. The Project site is generally bounded by Taxiway D to the north, Sepulveda Boulevard to the east, Taxiway C to the south, and Taxiway R to the west.

LAX has nine passenger terminals arranged in a U-shape with a two-level layout separating departures and arrivals. The two-level airport roadway network is accessed from the following three off-airport roadways: Century Boulevard; Sepulveda Boulevard; and 96$^{th}$ Street Bridge/Sky Way. Each of these roadways provides vehicular access to both the departures (upper) level or the arrivals (lower) level curbsides and roadways. Airport access from the departures level to the arrivals level is provided via a recirculation ramp located at the eastern end of the CTA and a ramp at the western end of Center Way, connecting to West Way. Access from the arrivals level to the departures level is provided via the ramp at the western end of Center Way, connecting to West Way (upper level).

The Project site is in an area designated in the LAX Plan as "Airport Landside (Central Terminal Area)" and "Airport Airside." Existing zoning is LAX–L Zone (Airport Landside Sub-Area) and LAX–A Zone (Airport Airside Sub-Area). Section 14 of the LAX Specific Plan delineates the sign regulations associated with the placement of signage within the Airport Landside and Airside Sub-Areas, and provides for the establishment of a Sign District to permit new off-site signs. Off-site signs are signs that advertise a business, use, facility, service, or product not found at LAX (non-airport-related signage). The proposed Project would not affect existing land use or zoning and is consistent with the LAX Plan and LAX Specific Plan.

The environmental setting of the Project site is characterized by a highly-built and illuminated environment. Activity within the CTA, adjacent roadways and airfield vehicle and passenger movement within and adjacent to the Project site operate on a 24-hour basis. LAX and the Project site and its surrounding environment generate light emissions common in highly urbanized areas. Various types of "on-site" signs (signs which promote a business, use, facility, service or product located on-site at LAX or airport-related) are already allowed within the Project site. These on-site signs currently include tenant signage on the terminals and on passenger boarding bridges and on-site related wall signs and supergraphics on sky bridges, as well as the existing off-site billboard signs at the Park One Property. Other signage within the Project site includes wayfinding, terminal identification, traffic, and parking signage. Representative views within the existing Project site are shown in Figures III-1 through III-3.

### c. Surrounding Land Uses

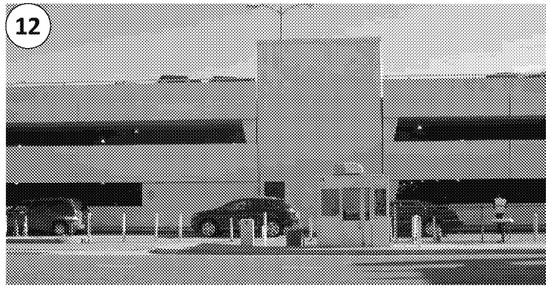
The Project site encompasses a portion of the interior of LAX, and is limited to the CTA and portions of the airfield associated with the terminals and gates (i.e., passenger boarding bridges). The environmental setting of the Project site is characterized by a highly-built environment with roadway and airfield vehicle and passenger movement activity within and adjacent to the Project site throughout the day and much of the night. The land uses immediately surrounding the Project site include airport operations and facilities (including taxiways and runways) to the north, west, and south, and commercial and industrial uses to the east (along Sepulveda Boulevard and its intersection with Century Boulevard).

Land uses north of airport operations include vacant land (portions of the LAX Northside - a 340-acre area that lies between the airfield and the Westchester and Playa del Rey communities), recreation (i.e., Westchester Golf Course, which is LAX property), and residential (within the community of Westchester). Land uses to the north range in height from one to five stories. Land uses to the east include hotel, office, parking, and buildings ranging in height from one to 17 stories. Land uses surrounding LAX to the south and west of Sepulveda Boulevard are predominately residential and commercial, which includes single-family residential, multi-family residential, with some office and retail land uses. Land uses to the south range in height from one to 11 stories. To the west of LAX are the Los Angeles/El Segundo Dunes, Dockweiler State Beach, and the Pacific Ocean. Residential areas closest to the Project site are approximately 0.4 mile northeast to 0.6 mile north (community of Westchester) and 0.5 mile south (City of El Segundo). Views of the surrounding land uses are shown in Figure III-4.

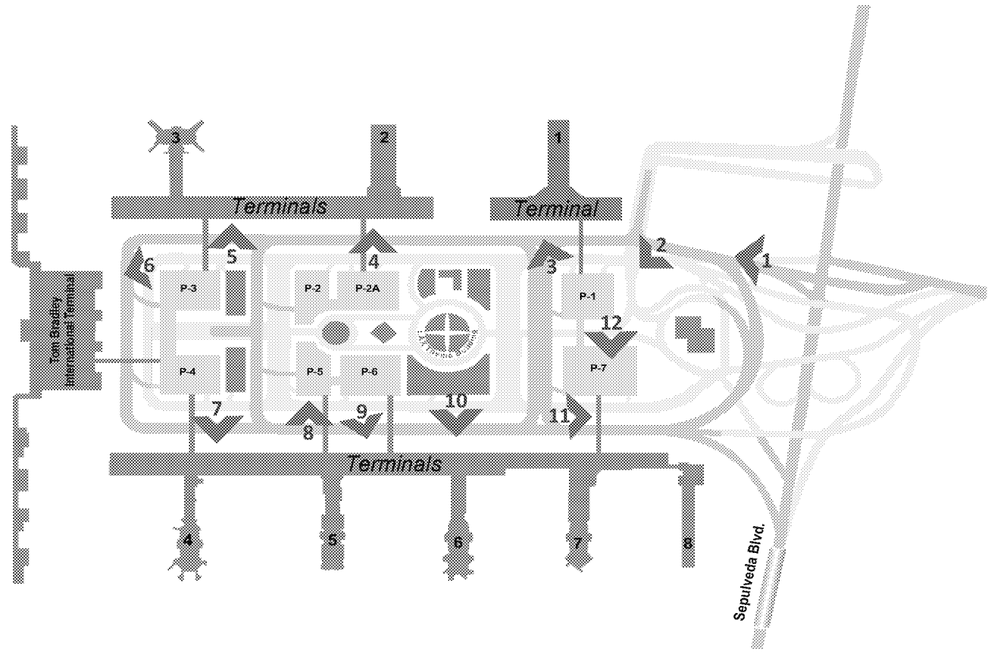
The area immediately surrounding LAX has existing billboards along Sepulveda Boulevard. In addition, just to the east of the Project site, along Century Boulevard, there is a dramatic increase in the density of signage and billboards. There is also floodlighting of facades and a number of buildings with prominent signage surrounding LAX.



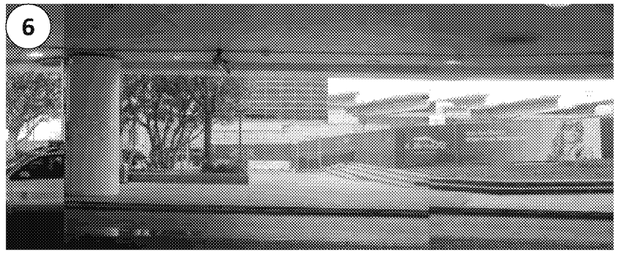


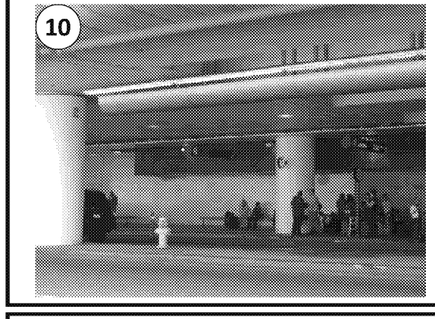


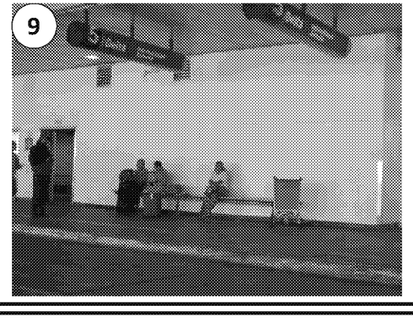




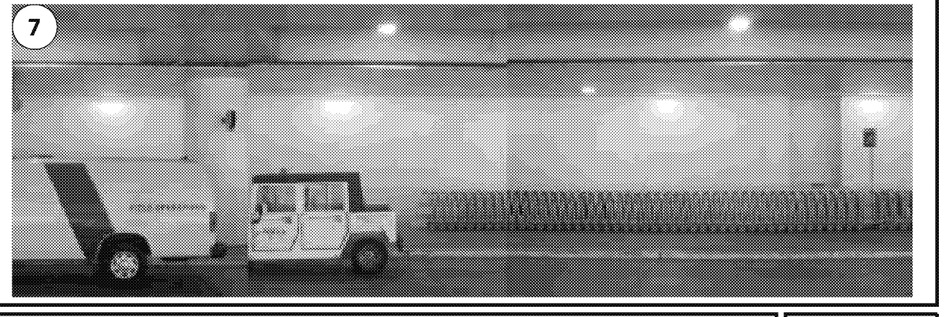









LAX Sign District Project EIR

Landside Sub-Area—Representative Views from Lower Level

Figure III-1

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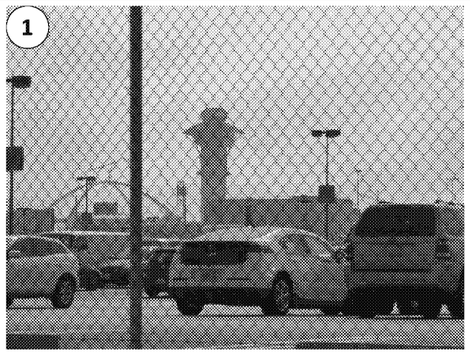



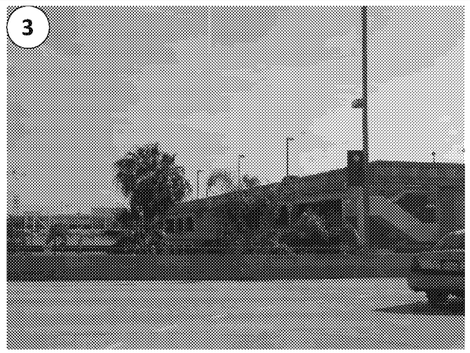




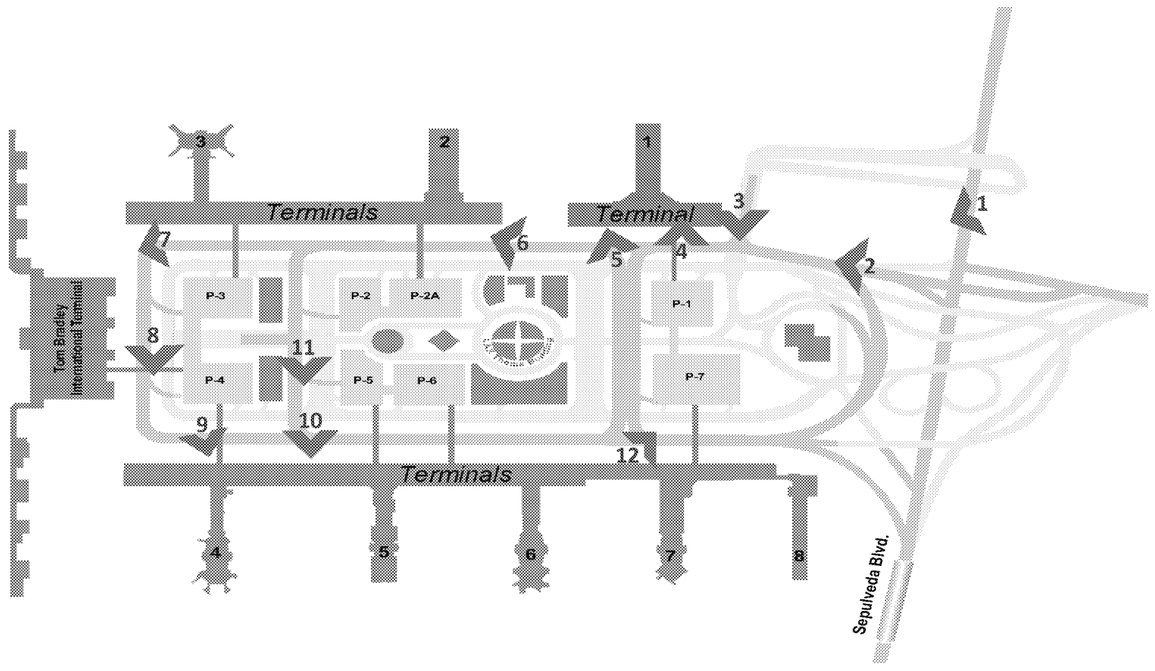





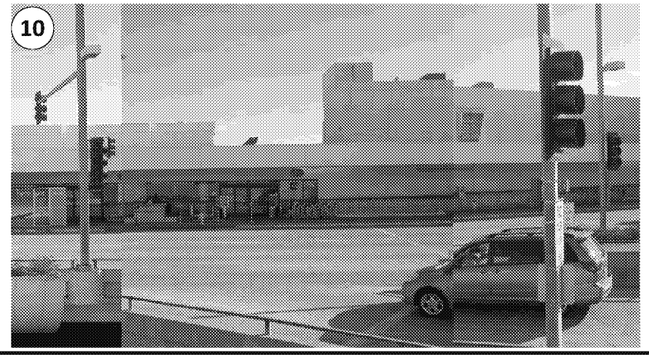





LAX Sign District Project EIR

Landside Sub-Area—Representative Views from Upper Level

Figure III-2

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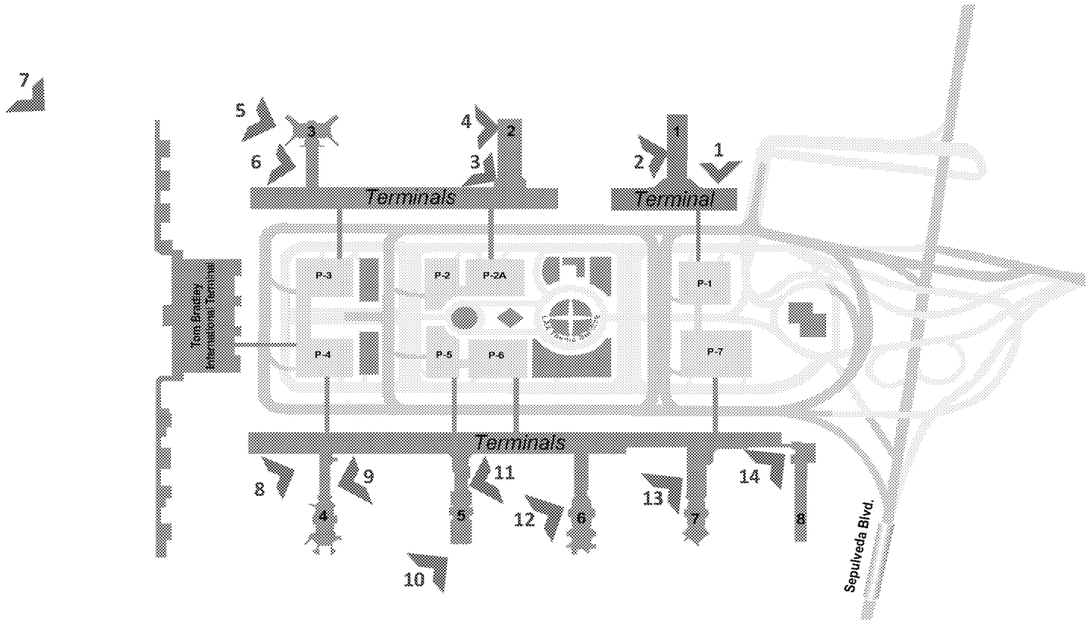









LAX Sign District Project EIR

Airside Sub-Area—Representative Views

Figure III-3

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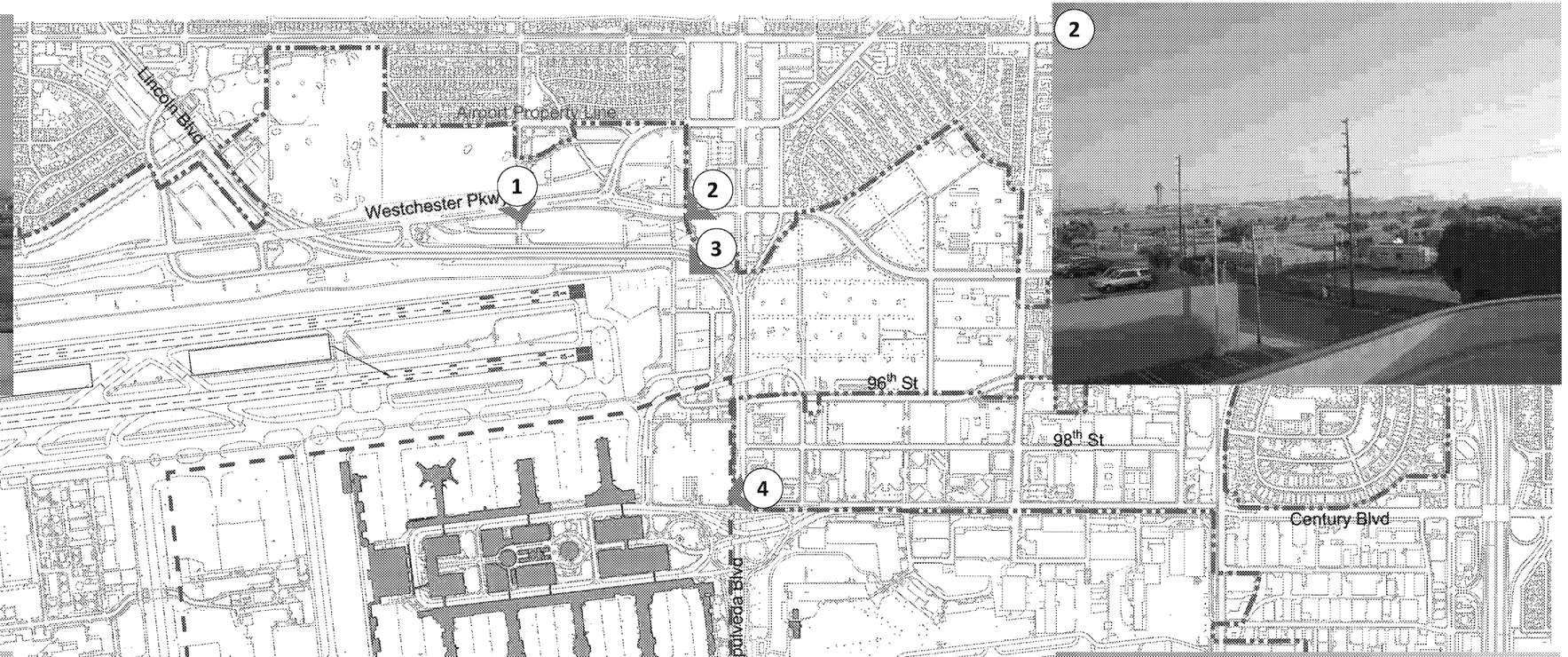








0 1,500 ft
Scale
north

Source: Los Angeles World Airports 2012, CDM Smith, 2012, Gensler, 2012
Prepared by: CDM Smith, 2012.

LAX Sign District Boundary

Airport Boundary

| LAX Sign District Project EIR | Views of LAX from Surrounding Land Uses | Figure III-4 |
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Also located in the area leading to, and immediately adjacent to, the Project site is currently the world's largest permanent kinetic lighting installation, meant to symbolize the unity and diversity of the City of Los Angeles. Constructed as a component of the Gateway LAX Enhancement Project, the lighting installation provides a landmark entry experience into the United States, Los Angeles and LAX. The lighting installation is oriented skyward and is designed to mimic an aircraft takeoff pattern. The light installation is visible to airline passengers at 3,000 feet in the air. Constructed in 2000, the lighting installation includes a total of 26 translucent pylons as well as the three LAX letters. The lighting installation is comprised of a 1.5-mile lineup of 11 pylons that increase in height from 25 to 60 feet. Each of these 11 pylons are six feet in diameter and are located within the median along Century Boulevard and culminate with a "Gateway Circle" of 15 100-foot tall columns at the intersection of Century Boulevard and Sepulveda Boulevard. The "Gateway Circle" is approximately 560 feet in diameter. Each of these 15 pylons is 12 feet in diameter. In 2006, light emitting diodes (LED) technology was installed during a major refurbishment of the pylons, increasing energy-efficiency and reliability. The pylons are lit from dusk to dawn daily and can feature approximately 16.7 million colors synchronized and computer-driven with lighting interface. Various programs are performed by the lighting installation lasting from 15 minutes to three hours per program and consist of lighting display, synchronous lighting activity, and color arrays. In addition to the pylons, at the entrance of the airport, 32-foot-high LAX letters greet airport patrons. Figure III-5 represents day and nighttime views of the Gateway Circle.

## 2. RELATED PROJECTS

Sections 15126 and 15130 of the State CEQA Guidelines provide that EIRs consider the significant environmental effects of a project as well as "cumulative impacts." Cumulative impacts refer to two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts (CEQA Guidelines Section 15355). Cumulative impacts may be analyzed by considering a list of past, present, and probable future projects producing related or cumulative impacts or a summary of projections contained in an adopted local, regional or statewide plan, or related planning document, that describes or evaluates conditions contributing to the cumulative effect (CEQA Guidelines Section 15130 [b][1][A][B]). The analysis of cumulative impacts need not be as in-depth as what is performed relative to the proposed Project, but instead is to "be guided by the standards of practicality and reasonableness (CEQA Guidelines Section 15130 [b])."

The cumulative impacts analysis presented in this Draft EIR identifies and addresses specific projects at and near LAX, including those that would be carried out or approved by Los Angeles World Airports (LAWA), as well as those outside of LAWA's control, that could produce a cumulative impact on the local environment when considered in conjunction with the Project. For an analysis of the cumulative impacts, refer to each individual environmental impact category in Chapter IV (Environmental Impact Analysis) of this Draft EIR.

Information on the background of approved, under construction, proposed, or reasonably foreseeable projects was gathered for projects located outside of LAWA's jurisdiction whose development could occur within the same time frame as the proposed Project. Information was gathered from site visits and/or consultation with staff from and/or websites to the County of Los Angeles and the cities of Culver City, El Segundo, Hawthorne, Inglewood, and Los Angeles. Based on the review of proposed development projects that would occur outside of LAWA's jurisdiction, only one project would have the potential to contribute to potentially cumulative impacts, the Radisson Hotel project. The Radisson Hotel project involves 340 hotel rooms, replacement of a 282-stall airport parking facility with a 2,544-space parking structure, which would provide 1,733 spaces for airport parking. In addition, shuttle bus service would also be provided. The project is on hold (schedule for development to be determined) in mid-construction of the parking structure.

Day time View of LAX Gateway Circle Pylons

Nighttime View of LAX Gateway Circle Pylons

Source: Paul Tzanetopoulos, 2000

| | | |
|---|---|---|
| **LAX Sign District Project EIR** | **Day & Nighttime Views of LAX Gateway Circle Pylons** | Figure III-5 |

### a. Development Projects At/Adjacent to LAX

For the cumulative impacts analysis, this Draft EIR also accounts for implementation of LAX development projects. Such projects are described below and their locations are shown in Figure III-6.

#### *Airport Landside Improvements*

Bradley West Project – Replacement of existing concourses and aprons at the Tom Bradley International Airport (TBIT), including addition of gates designed to accommodate Aircraft Design Group (ADG) VI aircraft, such as the Airbus A380 and the Boeing 747-8, along the west side of concourse and modernization/improvement of the existing TBIT core. Secure/sterile passenger and baggage connections between the TBIT core and Terminals 3 and 4 are also included. The Bradley West Project is currently under construction, with concourse/gates and terminal improvements projected to be completed in 2013-2014. The Terminal 4 connector to TBIT is currently in design and is scheduled to be completed in 2015. The Bradley West Project was preceded by the TBIT Interior Improvements Program, completed in 2010.

Midfield Satellite Concourse (MSC) Program – Development, in separate and independent phases, of a new concourse west of the Bradley West Project, along with construction of a connection system for moving passengers, baggage, and materials between the MSC, TBIT, and the CTA. Completion of the MSC Program would also include development of a new passenger processor within the CTA, to include ticketing, baggage handling, security screening, etc., which would be constructed within the CTA east of Parking Structures 3 and 4. The existing two-directional arrival roadway of West Way is planned to be replaced with two southbound streets, one on each side of the processor, with one for public curbside use and the other for private vehicles (i.e., taxis, limousines, shuttles) only. The first phase of the MSC Program, the MSC North Concourse Facility, is estimated to be completed by 2019, and schedule for future phases, including the new passenger processor, to be determined.

North Terminals Improvements – Improvements to areas within and between the existing passenger processing facilities at Terminals 1, 2, and 3 to provide more efficient space for security screening equipment and processes; baggage handling; ticketing; terminal operations; airline lounges; concession areas; utility rooms; mechanical, electrical, and plumbing systems; information technology upgrades; general circulation; and secure connections. Schedule to be determined.

South Terminals Improvements – Major interior improvements and building system upgrades to Terminal 6 were completed in spring 2012 and similar improvements to Terminal 5 are underway. Improvements and modifications are also anticipated for Terminals 7 and 8. Anticipated to be completed in 2015.

Miscellaneous Terminal Improvements – Miscellaneous projects, such as passenger and in-line baggage screening, major concessions area upgrades, fire life system upgrades, electrical service and mechanical system upgrades, Americans with Disabilities Act (ADA) improvements, and other such improvements, have occurred or are anticipated to continue on an ongoing basis at various terminals throughout the CTA.

"New Face" of the Central Terminal Area Improvements/Enhancements – Various improvements and enhancements to exterior lighting, signage, walkways, curbside waiting areas, and other such areas in the CTA to complement the improvements being completed for the Bradley West Project. Phase 1 of the project includes a new canopy and replacement of the roadway light poles at TBIT and other miscellaneous improvements/enhancements. Phase 1 to be completed by 2013; remainder to occur on an ongoing basis.

Parking Lot Rehabilitation and Reallocations – Rehabilitation of LAX parking lot surfaces and reallocation of spaces assigned for public parking, airport employee parking, and commercial vehicle holding areas to improve efficiencies and reduce costs relative to parking lot shuttles and in response to a Federal Aviation Administration

(FAA) directive to clear certain areas near runway protection zones. Such changes are ongoing in the normal course of business.

CTA Second Level Roadway Expansion Joint and Deck Repairs – Repair and/or replacement of expansion joints and bearing pads on the CTA upper level roadway, as well as repair and sealing of cracks of the roadway surface. Scheduled for completion in 2014.

Various Landside Improvements – General improvements, such as road repairs, curb signage, data system upgrades, parking structure repairs, etc., on an ongoing basis.

***Airport Airside Improvements***

Passenger Boarding Bridge Replacements/Improvements – Replacement of aged passenger boarding bridges with modern equipment that, in addition to new enclosed walkways, includes connections to provide parked aircraft with water, power, and preconditioned (cooled or heated) air. Scheduled for completion in 2013.

Annual Pavement Maintenance and Miscellaneous Airfield Management Improvements – Reconstruction of various taxiways, taxilanes, and service roads including lighting, markings, signage, and rubber removal on an ongoing basis.

***LAX Infrastructure/Security/Miscellaneous Improvements***

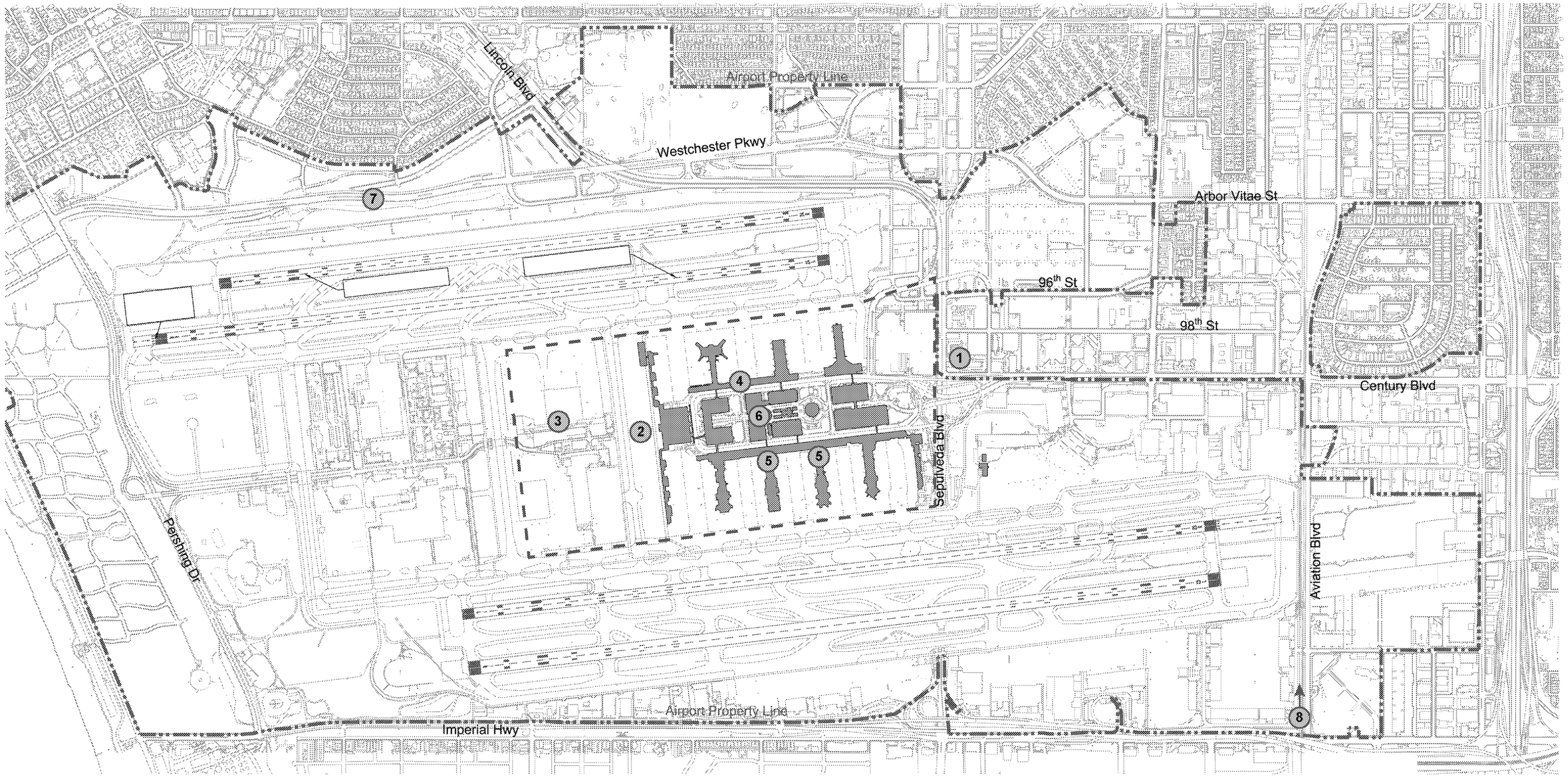
Central Utility Plant (CUP) Replacement Project – Replacement of existing outdated CUP with new systems to provide heat/steam and chilled water for space conditioning in terminal and concourse areas, as well as cogeneration of electricity. The project will include development of a water treatment plant near Jenny Avenue and West 96$^{th}$ Street and an associated delivery pipeline to enable the use of reclaimed water in the CUP cooling towers, installation of a thermal energy storage system, and replacement of related piping beneath the CTA roadways. As part of the CUP project, Center Way North between East Way and West Way will be widened to three lanes, with Center Way South used only as a service road and egress from Parking Structures 5 and 6. CUP replacement/improvement currently under construction with completion projected in 2014. Schedule for water treatment plant to be determined.

Network Power Station Upgrade – Development of an electrical network station to provide additional capacity and improve the reliability and distribution of power within the airport. Potential sites for such a facility are currently being evaluated, with the desire to install the network station by 2016.

Replacement of Elevators and Escalators – Replacement of existing elevators and escalators and installation of new ones within CTA parking structures and terminals. Currently in process; scheduled for completion in 2014.

Airfield Operating Area (AOA) Perimeter Fence Enhancements – Improvements to the AOA perimeter fence have been underway in phases for several years, with Phase 4 to be complete in 2013. Also, various improvements to the perimeter lighting and security detection have been completed and additional improvements are in process.

Airport Response Coordination Center (ARCC) – Development of a new facility for centralized coordination in responding to airport emergencies. Completed in 2010.




1. Radisson Hotel
2. Bradley West Project
3. Midfield Satellite Concourse
4. North Terminals Improvements
5. South Terminals Improvements
6. Central Utility Plant Replacement
7. LAX Northside
8. Airport Metro Connector Project

**Note: Development projects not shown on map either occur at multiple locations within the airport, have not yet been sited, or the location is not general public information.**

Source. Los Angeles World Airports 2012, CDM Smith, 2012.
Prepared by: CDM Smith, 2012.

| LAX Sign District Project EIR | Development Projects At or Adjacent to LAX Sign District | Figure III-6 |
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LAX Northside – Development of LAX Northside area with a mix of employment, retail, restaurant, office, hotel, research and development, education, civic, airport support, recreation, and buffer uses that support the needs of surrounding communities and LAWA. The approved development plan provides entitlements for up to 4.5 million square feet of development, subject to a limitation on the total number of vehicle trips (a "trip cap"). Formulation of a new reduced land use development program for the subject area is currently in process, which will be followed by completion of environmental review studies. Schedule for development to be determined.

LAX Public Safety Building and Supporting Facilities – Development of a new consolidated essential services facility to centralize police, fire, and other public safety administrative operations and functions. Potential sites for such a facility are currently being evaluated. Development of the consolidated services facility is being planned to occur within approximately the next 5 years.

LAX Specific Plan Amendment Study – In accordance with the LAX Master Plan Stipulated Settlement and Section 7.H. of the LAX Specific Plan, LAWA is completing the LAX Specific Plan Amendment Study (SPAS) to identify and evaluate alternatives to certain improvements delineated in the LAX Master Plan. Those proposed Master Plan improvements, generally referred to as the "Yellow-Light Projects," include the Ground Transportation Center (GTC), the Automated People Mover (APM) between the GTC and the CTA, demolition of Terminals 1, 2, and 3, reconfiguration of the north runway complex, and on-airport road improvements associated with the GTC. Nine alternatives comprised of various combinations of airfield, terminal, and ground access improvements are addressed within the SPAS Draft EIR, which was published in July 2012. The EIR analysis assumes buildout of the improvements identified in the SPAS alternatives to occur by 2025.

Miscellaneous – In conjunction with the Bradley West Project, LAWA completed improvements to Imperial Highway at Main Street and Pershing Drive, and on Pershing Drive and Bradley West Drive. Other miscellaneous projects currently being considered include demolition of the former Continental Airlines training building and administrative building on World Way West; reconfiguring/consolidating certain maintenance facilities/areas; electrification of passenger gates, cargo areas, and maintenance hangars; cargo/maintenance hangar interior renovations; upgrades to AOA security access posts, and electrification of ground support equipment (GSE). Schedules to be determined. In addition, LAWA undertakes general improvements, such as road repairs, curb signage, data system upgrades, parking structure repairs, etc., on an ongoing basis.

***Other Related Projects***

Airport Metro Connector Project – Metro is studying ways to connect the Metro rail system to LAX. Initial modes under consideration include Light Rail Transit, APM, and Bus Rapid Transit along a number of different alignments, including an underground option. Metro's current planning horizon is 2035, with project implementation to be determined.

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# IV. ENVIRONMENTAL IMPACT ANALYSIS

## 1. INTRODUCTION

The four (4) sections contained within this chapter discuss the possible environmental effects of the proposed Project for the specific environmental issue (or resource) area identified by the Initial Study (IS)/Notice of Preparation (NOP) as requiring additional analysis.

Based on a review of environmental issues by the Department of City Planning, this Draft EIR assesses the following environmental impact areas:

- Land Use and Planning (Section IV.A)
- Visual Resources (Section IV.B)
- Artificial Light and Glare (Section IV.C)
- Transportation Safety (Section IV.D)

To assist the reader in comparing information about the various environmental issues, Sections IV.A through IV.D each present the following information for each specific resource area analyzed in this Draft EIR:

- Environmental Setting (the physical condition that existed at the time of the NOP, which was circulated for a 30-day review period starting on March 16, 2012, and ending on April 16, 2012);
- Environmental Impacts;
- Cumulative Impacts;
- Project Design Features and Mitigation Measures; and
- Level of Significance After Mitigation.

The proposed Project alternatives are presented and analyzed in Chapter V, Alternatives to the Project. The Project alternatives are compared to the proposed Project and are ranked relative to each other based on anticipated impacts for each resource area to determine the environmentally superior alternative.

## 2. TERMINOLOGY USED IN THIS ENVIRONMENTAL ANALYSIS

In evaluating the potential impacts of the proposed Project (in the IS/NOP as well as this Draft EIR, as applicable) and the Project alternatives, the level of significance is determined by applying the threshold of significance (significance criteria) presented for each resource evaluation area. The following terms are used to describe each impact:

- *No Impact* : A designation of no impact is given when no adverse changes in the environment are expected.

- *Less than Significant Impact*: A less than significant impact would be identified when the proposed Project or alternatives would cause no substantial adverse change in the environment (i.e., the impact would not reach the threshold of significance).
- *Significant Impact:* A significant impact would create a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the proposed Project or alternatives. Such an impact would exceed the applicable significance threshold established by CEQA but would be reduced to a level that is less than significant by the required application of a mitigation measure.
- *Significant Unavoidable Impact*: As required by Section 15126.2(b) of the State CEQA Guidelines, this is used when a residual impact that would cause a substantial adverse effect on the environment could not be reduced to a level that is less than significant through any feasible mitigation measure(s).
- *Project Design Features:* Project Design Features are elements and/or commitments that have been added to the Project that would be implemented to avoid or lessen potentially significant impacts.
- *Mitigation*: Mitigation refers to measures that would be implemented to avoid or lessen potentially significant impacts. Mitigation includes:
  - avoiding the impact completely by not taking a certain action or parts of an action;
  - minimizing the impact by limiting the degree or magnitude of the action and its implementation;
  - rectifying the impact by repairing, rehabilitating, or restoring the affected environment;
  - reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action; and
  - compensating for the impact by replacing or providing substitute resources or environments.

  The mitigation measures would be proposed as a condition of Project approval and would be monitored to ensure compliance and implementation.

# IV. ENVIRONMENTAL IMPACT ANALYSIS
# A. LAND USE AND PLANNING

This section addresses the potential impacts of the proposed Project with regard to consistency with applicable land use plans, policies and regulations. The analysis describes the regulatory setting, the existing setting of the proposed Project, including the existing uses on, and surrounding, the Project site.

## 1. ENVIRONMENTAL SETTING

### a. Introduction

The Project site is characterized by a highly-built environment, with roadway and airfield vehicle and passenger movement activity within and adjacent to the Project site throughout the day and much of the night. The Project site is located entirely within the Los Angeles International Airport (LAX) Plan and LAX Specific Plan area. The Project site is within an interior area designated in the LAX Plan as "Airport Landside" and "Airport Airside." Existing zoning is LAX–L Zone (Airport Landside Sub-Area) and LAX–A Zone (Airport Airside Sub-Area).

### b. Surrounding Land Uses

The Project site encompasses an interior portion of LAX, and is limited to the CTA and portions of the airfield associated with the terminals and gates (i.e., passenger boarding bridges). The environmental setting of the Project site is characterized by a highly-built environment with high levels of roadway and airfield vehicle traffic and approximately 61.9 million annual passengers (Crowe, 2012). The land uses immediately surrounding the Project site include airport operations and facilities (including taxiways and runways) to the north, west, and south, and commercial and industrial uses to the east (along Sepulveda Boulevard and its intersection with Century Boulevard).

Land uses north of airport operations include vacant land (portions of the LAX Northside - a 340-acre area that lies between the airfield and the Westchester and Playa del Rey communities), recreation (i.e., Westchester Golf Course, which is LAX property), and residential (within the community of Westchester). Land uses to the north range in height from one to five stories. Land uses surrounding LAX to the east include hotel, office, parking, and buildings ranging in height from one to 17 stories. Land uses surrounding LAX to the south and west of Sepulveda Boulevard are predominately residential and commercial, which includes single-family residential, multi-family residential, office and retail land uses. Land uses to the south range in height from one to 11 stories. To the west of LAX are the Los Angeles/El Segundo Dunes, Dockweiler State Beach, and the Pacific Ocean. Residential areas closest to the Project site are approximately 0.4 mile northeast to 0.6 mile north (community of Westchester) and 0.5 mile south (City of El Segundo).

### c. Regulatory Setting

#### *i. Regional Plans*

*(1) Regional Comprehensive Plan*

LAX is located within the Southern California Association of Governments (SCAG) Planning Area, which includes Los Angeles, Orange, San Bernardino, Riverside, Ventura and Imperial counties. As mandated by federal and state law, SCAG is the Metropolitan Planning Organization for the six counties comprising Southern California and is responsible for the development and integration of regional plans that address transportation, growth management, hazardous waste management, and air quality.

The 2008 Regional Comprehensive Plan (RCP) serves as an advisory plan to address important regional issues such as housing, traffic/transportation, water, and air quality (SCAG, 2008). It presents a concept for how Southern California can balance resource conservation, economic growth, and quality of life. The Guiding Principles consist of (1) improving the efficiency and connectivity of the transportation system; (2) fostering livability in all communities through safe, healthy, walkable communities with affordable housing and distribution of environmental benefits; (3) ensuring prosperity for all people by promoting economic vitality and new economies; and (4) promoting sustainability of natural resources for future generations.

*(2) Southern California Compass Blueprint Growth Vision*

In an effort to maintain the region's prosperity, continue to expand its economy, house its residents affordably, and protect its environmental setting as a whole, SCAG has collaborated with interdependent sub-regions, counties, cities, communities, and neighborhoods in a process referred to by SCAG as "Southern California Compass," which resulted in the development of a shared "Growth Vision" for Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura counties. SCAG began the "Compass Blueprint" in 2000, spearheaded by the Growth Vision Subcommittee, which consists of civic leaders from throughout the region. The shared regional vision sought to address issues, such as congestion and housing availability, which may threaten the region's livability (SCAG, 2012).

The underlying goal of the growth visioning effort is to make the SCAG region a better place to live, work, and play for all residents. To organize the strategies for improving the quality of life in the SCAG region, four principles were established by the Growth Vision Subcommittee. These goals are contained in the Compass Blueprint Growth Vision Report and are the guiding principles of the RCP discussed above. The principles are intended to promote and maximize regional mobility, livability, prosperity, and sustainability. Decisions regarding growth, transportation, land use, and economic development should support and be guided by these principles. Specific policy and planning strategies also are provided as a way to achieve each of the principles. In addition, the Compass 2% Strategy provides guidance for how and where SCAG can implement the Growth Vision goals for the region's future. The strategy calls for modest changes to current land use and transportation trends on 2 percent of the land area of the region. As indicated on the Compass 2% Strategy Opportunity Areas map for the City of Los Angeles - Central, portions of LAX, including the Project site, are located within a Compass 2% Strategy Opportunity Area.

*(3) SCAG 2012 - 2035 Regional Transportation Plan/Sustainable Communities Strategy*

The Regional Transportation Plan (RTP) is a federal- and state-mandated transportation plan that envisions the future multi-modal transportation system for the region and provides the basic framework for coordinated, long-term investment in the regional transportation system over the RTP planning horizon of 2035. On April 4, 2012, SCAG adopted the 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS):

Towards a Sustainable Future (SCAG, 2012). The RTP/SCS is the culmination of a multi-year effort involving stakeholders from across the SCAG Region.

As the process for development of regional transportation plans has evolved, SCAG has broadened its focus by including air quality considerations in its planning process. The RTP/SCS has mobility as an important component of a much larger picture, with added emphasis on sustainability and integrated planning. The RTP/SCS includes goals and policies that pertain to mobility, accessibility, safety, productivity of the transportation system, protection of the environment and energy efficiency, and land use and growth patterns that complement the state and region's transportation investments.

The RTP/SCS's regional air passenger demand forecast for 2035 is 145.9 million annual passengers for the SCAG region. This long-range forecast is based on the premise that the urban capacity-constrained airports of LAX, Bob Hope (formerly Burbank), Long Beach, and John Wayne airports will all reach their defined legally allowable or other recognized capacity constraints before 2035. Remaining air travel demand is, and would continue to be, served by the other suburban and commuter airports with ample capacity to serve future demands (SCAG, 2012).

(a) SCAG 2012-2035 RTP/SCS Aviation and Airport Ground Access Appendix

The RTP/SCS includes an Aviation and Airport Ground Access Appendix that indicates that the challenge of meeting future aviation demand in the SCAG region is linked to ground access, as regional air passengers from the urban areas of Los Angeles and Orange counties will need to go to airports with available capacity in the Inland Empire and North Los Angeles County in the future (SCAG, 2012). SCAG's adopted Aviation Decentralization Strategy calls for making substantial airport ground access improvements throughout the region, with the short-term program emphasizing the relief of immediate bottlenecks around airports through arterial, intersection and interchange improvements, and increasing transit access to airports. The Aviation and Airport Ground Access Appendix outlines additional policies and action steps associated with the aviation program contained in the RTP/SCS, including consideration for "Airport Land Use Compatibility and Environmental Impacts," as well as other regional aviation topics such as infrastructure, economics, airspace planning, and new technologies. These policies respond to changing circumstances and new priorities in the regional aviation system, and each topic is divided into a corresponding set of policies and action steps for SCAG. The policies are focused on regional issues such as improved coordination and infrastructure to better accommodate the demand for air transportation at airports throughout the region.

*(4) Los Angeles County Airport Land Use Plan (ALUP)*

The Los Angeles County Regional Planning Commission is the designated Airport Land Use Commission (ALUC) for airports within Los Angeles County, as ALUC's are required to coordinate planning for the areas surrounding public use airports. The purpose of the ALUC is to protect the public health, safety, and welfare by ensuring orderly expansion of airports. This is achieved through review of proposed development surrounding airports and through policy and guidance provided in the ALUP. In formulating the ALUP, the ALUC establishes provisions to ensure safe airport operations, through the delineation of runway protection zones (RPZs) and height restriction boundaries, and to reduce excessive noise exposure to sensitive uses through noise insulation or land reuse (Los Angeles County Department of Regional Planning, 1991). The ALUP is implemented through General Plan, Specific Plan, and zoning amendments (Public Utilities Code [PUC] Section 21676). The extent of the planning boundary designated for the airports in the ALUP is determined by the 65 community noise equivalent level (CNEL) noise contours. The extent of existing noise levels also determines types of land uses that would be considered compatible based on Federal Aviation Regulations (FAR) Part 150 Land Use Compatibility Guidelines.

To supplement the plan consistency and implementation section of the ALUP, the ALUC prepared a separate Review Procedures document on December 1, 2004. The Review Procedures document provides additional guidance to the ALUC and applicants, and is considered a revision to the 1991 ALUP which it incorporates by reference (Los Angeles County Department of Regional Planning, 2004). The policies in the Review Procedures document and in the individual airport land use compatibility plans are based upon 1) state laws and guidelines and 2) master plans for the respective airports.

*(5) 2011 California Airport Land Use Planning Handbook*

The Caltrans Division of Aeronautics administers much of California State Aeronautics Act, pursuant to PUC Section 21991 et seq., whose stated purpose "is to protect the public interest in aeronautics and aeronautical progress." The purpose of the California Airport Land Use Planning Handbook is to provide guidance for conducting airport land use compatibility planning as required pursuant to Article 3.5, "Airport Land Use Commissions," PUC Sections 21670 - 21679.5. Article 3.5 describes the statutory requirements for ALUCs, including the preparation of an Airport Land Use Compatibility Plan (ALUCP). Article 3.5 further mandates that the Division of Aeronautics create a handbook which identifies essential elements for the preparation of an ALUCP (California PUC Sections 21674.5 and 21674.7).

The latest version of the Caltrans Handbook was released in October 2011, and it is intended to 1) provide information to ALUCs, their staffs, airport proprietors, cities, counties, consultants, and the public, 2) identify the requirements and procedures for preparing effective compatibility planning documents, and 3) define exemptions where applicable (California Department of Transportation, 2011). The Caltrans Handbook applies to ALUCs, established pursuant to the State Aeronautics Act, charged with providing for compatible land use planning in the vicinity of each existing and new public use airport within their jurisdiction. The Caltrans Handbook provides guidance for the preparation, adoption, and amendment of an ALUCP, and is further identified as a resource for airport land use compatibility planning.

The 2011 Caltrans Handbook provides guidance for complying with baseline safety and compatibility requirements; however, the ALUCs may choose to be more conservative or restrictive than the guidance when local conditions warrant doing so. The Division of Aeronautics does not have the authority to adopt land use development standards; however, the ALUCs are statutorily permitted to include building standards, height restrictions, and land uses in their ALUCPs (California PUC Section 21675[a]). If a conflict arises between the Caltrans Handbook and the State Aeronautics Act of any other California statute, as a result of legislative action, then the adopted statute shall govern (California Department of Transportation, 2011).

*(6) South Coast Air Quality Management District (SCAQMD) Air Quality Management Plan (AQMP)*

The Federal Clean Air Act (CAA) establishes federal air quality standards, known as National Ambient Air Quality Standards (NAAQS) and specifies future dates for achieving compliance. In addition, the CAA mandates that each state submit and implement a State Implementation Plan (SIP) for local areas not meeting these standards. The California SIP is comprised of plans developed at the regional or local level, which includes the SCAQMD's AQMP. The most recent AQMP, the 2007 Final AQMP/SIP, was adopted by the AQMD Board on June 1, 2007. The focus of the 2007 AQMP is to demonstrate compliance with the new NAAQS for $PM_{2.5}$ and 8-hour ozone ($O_3$) and other planning requirements, including compliance with the NAAQS for PM10 (SCAQMD, 2007).

The Initial Study for the proposed Project (Appendix A) determined that the proposed Project is consistent with the AQMP, and therefore further analysis of consistency is not required.

### *ii. Local Plans*

#### *(1) City of Los Angeles General Plan*

The City of Los Angeles General Plan represents the long-range vision for the City and guides the City's management and use of physical and economic resources. The General Plan consists of a Framework Element, a Land Use Element, and ten citywide elements. The ten citywide elements are the following: Air Quality Element, Conservation Element, Historic Preservation and Cultural Resources Element, Housing Element, Infrastructure Systems Element, Noise Element, Open Space Element, Public Facilities and Services Element, Safety Element, and the Transportation Element.

The Land Use Element of the General Plan consists of 35 Community Plans for the purpose of developing, maintaining, and implementing the General Plan and guiding development within each specified Community Plan boundary. Each plan has established goals, objectives, policies, and programs designed to meet the needs of the particular community it represents. All development activity is subject to the land use regulations set forth in the applicable community plan.

(a) City of Los Angeles General Plan Framework Element

The Framework Element of the General Plan serves as a guide for the City's overall long-range growth and development policies and provides a citywide context for local planning decisions. It contains Long Range Land Use Diagrams (Land Use Diagrams) for regions of the City. The Long Range Land Use Diagrams designate land uses that are encouraged in each of these regions and illustrate general areas that are designated as Neighborhood District, Community Center, Regional Center, Downtown Center and Mixed Use Boulevards. The Framework is flexible, while specific determinations are made in the Community Plans, which make up the Land Use Element of the General Plan.

(b) LAX Plan

The Project site is within the Community Plan boundary of the LAX Plan (City of Los Angeles, 2004), which is an element of the General Plan. The LAX Plan, adopted as part of the LAX Master Plan Program (see description of the LAX Master Plan on page IV.A-10), was approved by the Los Angeles City Council in December 2004. The LAX Plan promotes an arrangement of airport uses that encourages and contributes to the modernization of LAX in an orderly and flexible manner within the context of the City and region. It provides goals, objectives, policies, and programs that establish a framework for the development of facilities that promote the movement and processing of passengers and cargo within a safe and secure environment. The LAX Plan allows the airport to respond to emerging new technologies, economic trends, and functional needs.

As described in the LAX Plan, LAX is comprised of four general areas: Airport Landside, Airport Airside, LAX Northside,[1] and Open Space.[2] The proposed Project is located within the Airport Landside and a portion of the Airport Airside areas of LAX, which are described in the LAX plan as follows:

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[1] *LAX Northside, part of the LAX Specific Plan approved by the City of Los Angeles in 2004, is a property entitled for 4.5 million square feet of commercial and airport-related industrial land uses to be built on 340 acres of vacant land located to the north of LAX along and north of Westchester Parkway. Currently, LAWA is engaged in the LAX Northside Plan Update, which is intended to create a vibrant, sustainable center of employment, retail, restaurant, office, hotel, research and development, education, civic, airport support, recreation, and buffer uses that support the needs of surrounding communities and LAWA.*

[2] *The Open Space area comprises the Los Angeles/El Segundo Dunes.*

- *The Airport Landside area functions as the interface between Airport Airside and the regional ground transportation network, establishing access portals for the efficient processing of people and goods. This area includes the Central Terminal Area (CTA). Aircraft are not permitted in this area. Examples of uses within these areas include passenger handling services, airport administrative offices, parking areas, cargo facilities, and other ancillary airport facilities.*
- *The Airport Airside area includes those aspects of passenger and cargo movement that are associated with aircraft operating under power and related airfield support services. Uses may include runways, taxiways, aircraft gates, maintenance areas, airfield operation areas, air cargo areas, passenger handling facilities, fire protection facilities, and other ancillary airport facilities.*

The following discussion summarizes the development guidelines in the LAX Plan applicable to the proposed Project. These development guidelines are organized into two groups, "LAX Plan Goals" and "LAX Plan Policies and Programs" that are developed to implement the goals.

(i) LAX Plan Goals

The following goals, which have been developed to advance the LAX Plan vision and guide airport development, are applicable to the proposed Project:

- *Goal 1: Strengthen LAX's unique role within the regional airport network as the international gateway to the Southern California region.*
- *Goal 2: Develop and maintain the highest standards of air traffic safety and passenger security through design and the latest innovations.*
- *Goal 3: Optimize LAX's critical role in supporting the economy as a major generator of economic activity.*
- *Goal 4: Recognize the responsibility to minimize intrusions on the physical environment.*
- *Goal 5: Acknowledge neighborhood context and promote compatibility between LAX and the surrounding neighborhoods.*

(ii) LAX Plan Policies and Programs

A number of policies and programs have been developed to implement the LAX Plan goals and objectives to guide airport development that are applicable to the proposed Project. These policies and programs are organized into ten topics that address functional and operational aspects of the airport, including safety, security, land use (airport landside, airport airside, LAX Northside, and open space), conservation (energy/resources and biotic communities), circulation and access, economic benefits, noise, air quality, hazardous waste, and design. The policies and programs most pertinent to the proposed Project include:

**Safety**

- *Policy and Program #10: Prohibit uses that would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation.*

**Land Use - Airport Landside**

- *Policy and Program #1: Ensure that the scale and activity level of airport facilities appropriately relates to any abutting neighborhood edges.*

- *Policy and Program #6: Locate airport uses and activities with the potential to adversely affect nearby land uses through noise, light spillover, odor, vibration, and other consequences of airport operations and development as far from, or oriented away from, adjacent residential neighborhoods as feasible.*

**Land Use - Airport Airside**

- *Policy and Program #4: Locate airport uses and activities with the potential to adversely affect nearby residential land uses through noise, light spillover, odor, vibration, and other consequences of airport operations and development, as far from them as feasible.*

**Design**

- *Policy and Program #2: Appropriately relate those airport facilities that are adjacent to community land uses to the scale and level of activity of those uses.*
- *Policy and Program #3: Relate Airport Landside facilities to the existing airport infrastructure in a clear, well-organized, functional, and compatible manner.*
- *Policy and Program #5: Develop and incorporate signage guidelines that provide guidance and establish controls for signage that are appropriate to an airport.*

**Economic Benefits**

- *Policy and Program #2: Modernize, upgrade, and improve LAX in order to sustain the airport's economic benefits.*

*(2) City of Los Angeles Planning and Zoning Code*

(a) Permitted Uses

The proposed Project is also governed by the applicable land use and zoning requirements set forth in the Los Angeles Municipal Code (LAMC), particularly Chapter 1, General Provisions and Zoning. The Planning and Zoning Code defines permitted uses and development standards such as density, building height, property setbacks and parking requirements for the zoning districts in the City of Los Angeles. The Project site is within the LAX Los Angeles International Airport Specific Plan Zone identified in Section 12.19.1 of the Planning and Zoning Code. The LAX Los Angeles International Airport Specific Plan Zone requires that all development within this zone be consistent with the LAX Specific Plan. The LAX Specific Plan includes regulations in addition to those contained in the Planning and Zoning Code, and identifies Sub-Area zoning classifications and sets forth development standards for each. Where the LAX Specific Plan contains provisions that are different from the LAMC, the LAX Specific Plan supersedes the LAMC.

(b) Los Angeles International Airport Specific Plan

As described above, zoning and development regulations and standards are set forth in the LAX Specific Plan. It is a principal mechanism by which the goals and objectives of the LAX Plan are achieved and the policies and principles are implemented. The LAX Specific Plan is divided into three sub-areas: Airport Landside Sub-Area (LAX-L Zone), Airport Airside Sub-Area (LAX-A Zone), and LAX Northside (LAX-N Zone). The Project site is located within the Airport Landside Sub-Area (LAX-L Zone) and portions of the Airport Airside Sub-Area (LAX-A Zone). Permitted uses within these two zones are discussed below.

- *The intent of the Airport Landside Sub-Area is to provide for the safe and efficient operation of airport facilities, with the primary function of providing access to the airport and processing passengers. Permitted uses within the corresponding LAX-L Zone include, but are not limited to: airline clubs, retail*

*use, and restaurants; rental car operations; surface and structured parking lots; airline maintenance and support; air cargo facilities; commercial passenger vehicle staging and holding area; helicopter operations; navigational aids; passenger handling facilities; Automated People Movers, including stations and related facilities; and service roads, and all the uses permitted in the C2 and M2 Zone as specified in the Municipal Code, including advertising signs.*

- *The intent of the Airport Airside Sub-Area is to provide for the safe and efficient operation of airport airfield activities. Permitted uses within the corresponding LAX-A Zone include, but are not limited to: airline clubs, retail use, and restaurants; surface and structured parking lots; aircraft under power; airline maintenance and support; air cargo facilities; commercial passenger vehicle staging and holding area; helicopter operations; navigational aids; runways, taxiways, aircraft parking aprons, and service roads; passenger handling facilities; other ancillary airport facilities; and all the uses permitted in the C2 and M2 Zone as specified in the Municipal Code, including advertising signs.*

Most projects occurring within the Airport Landside and Airport Airside Sub-Areas except signs must undergo an LAX Plan Compliance Review prior to approval of City permits. The procedures for the compliance review are identified within the LAX Specific Plan, and include written findings that a project complies with all applicable provisions of the LAX Specific Plan and LAX Plan, including design guidelines, and that a project has been adequately analyzed in compliance with CEQA and incorporates LAX Master Plan commitments and mitigation measures as feasible.

Section 14 of the LAX Specific Plan addresses sign regulations. Provisions include requiring the Department of Building and Safety to issue sign permits. As stated above, signs are not required to go through the LAX Plan Compliance Review process, but instead are required to be reviewed and approved by the Executive Director of the Los Angeles World Airports (LAWA). The signs should be in conformance with sign guidelines adopted by the Board of Airport Commissioners (BOAC); however, if guidelines to address area, spacing, location, and height are not adopted by BOAC, signs must be consistent with sign regulations established in the LAMC. The LAX Specific Plan contemplated the established of a sign district, specifically, under Section 14(D). Signs not otherwise authorized under the LAMC, such as off-site and supergraphic signs, are permitted pursuant to the establishment of a sign district.

The proposed Project would establish a Supplemental Use District (SUD) to establish site-specific signage regulations pursuant to Zoning Code Section 12.32, which provides for the establishment of SUDs. SUDs regulate and restrict the location of certain types of uses that cannot be adequately provided for in the Comprehensive Zoning Plan. One type of SUD is a Sign District (SN), which allows for the establishment of special sign regulations designed to enhance the theme or unique qualities of the district as set forth in Zoning Code Section 13.11. Sign District regulations may address various aspects associated with a sign including location, number, square footage, height, light illumination, hours of illumination, design and types of signs, as well as other characteristics. A Sign SUD may allow supergraphics and off-site signs. The Department of Building and Safety may not issue a permit for a sign within a Sign District unless it conforms to the LAX Sign District ordinance.

(c) Citywide Sign Ordinance

Section 14.4 of the Planning and Zoning Code regulates the placement, construction, and modification of all exterior signs and sign support structures under Section 4.4, Sign Regulations (Sign Ordinance). Building permits must be obtained from the Department of Building and Safety for any proposed signs and electrical permits must be obtained for signs illuminated by electrical lighting. Specific LAMC requirements and restrictions are dependent upon signage type; however, general constraints on design, construction, materials, potential for hazard to traffic and determination of such hazards are applicable.

The LAMC prohibits supergraphic signs and off-site signs, including off-site digital displays. The prohibition on supergraphic and off-site signs does not apply if the signs are specifically permitted pursuant to (1) a legally adopted specific plan; (2) a supplemental use district; or (3) an approved development agreement.

(d) Proposed Citywide Sign Ordinance

The City of Los Angeles is in the process of revising the current Sign Ordinance, discussed above. The following description of the proposed revision is based on the draft ordinance and accompanying letter and documentation that was presented to the City Council's Planning and Land Use Management Committee on November 21, 2011 (City of Los Angeles, 2011).

The proposed Sign Ordinance includes revisions to the following: (1) Sign Districts – establishes revised regulations for sign districts; (2) baseline citywide provisions - includes establishment of civil penalties for sign violations, modified relief mechanisms for deviations, and new limitations on sign types and area; and (3) individual sign types - establishes new height and area regulations for various sign types.

The proposed revisions to sign district provisions include: (1) changes to the minimum size of sign districts; (2) changes to the areas where a sign district can be established within the City (limited to areas designated as regional centers, regional commercial areas, the downtown center, within the area of the LAX Specific Plan and Port of Los Angeles Plan, and a stadium with seating capacity of 50,000 or more); (3) establishes specific findings to establish a sign district, including the requirement that signs must have a unique design theme, not create a traffic hazard or light pollution, and further the design goals of the framework element; and (4) restricts sign districts from being 500 feet from a single-family residential zone, ecological preserve, or along the frontage of a scenic highway. The revisions would also establish a sign reduction program and/or an aesthetic improvement program that could implement measures such as sidewalk widening, streetscape improvements, public art/mural program, or other improvements.

The proposed Sign Ordinance includes a section that defines the rules for how and whether the proposed new regulations would apply to proposed Sign Districts and Specific Plans that are currently in the review process, but not yet approved, referred to as "grandfathering." The provision, which applies to the proposed Project, specifies that any new Sign Districts proposed or applied for on or before August 9, 2011 are subject to the sign regulations under the existing sign ordinance (as of August 9, 2011) rather than to subsequently updated regulations (i.e., the proposed Sign Ordinance). However, under this provision of the proposed Sign Ordinance, a project subject to the "grandfathering" provision would have to make two new findings. The findings that must be made are as follows:

- *If the Sign District provid es an exception to the city wide ban on off-site signs or any other provision of the citywide sign regulations, the ban or other provision will continue to directly advance the purposes of aesthetics and traffic safety despite the exception; and*
- *Any aesthetic or traffic saf ety harm resulting from a llowing signs that would otherwise be prohibited or restricted by the citywide ban on off-s ite signs or other provision of the cit ywide sign regulations, is outweighed by the elimination of blig ht, or the improvement of aesthetics or traffic safety, resulting from establishment of the Sign District.*

The application for the LAX Sign District was submitted to the Department of City Planning on August 2, 2011. Therefore, should the proposed revisions take effect prior to approval of the proposed Project, the proposed Project would be subject to the requirements of the Sign Ordinance in effect on August 9, 2011; however, approval would also require that the two findings listed above can be met. Additionally, whether or not the proposed citywide Sign Ordinance is in effect when the proposed LAX sign ordinance is being developed, the currently proposed revisions to the citywide Sign Ordinance, such as requirements pertaining to sign illumination

and reduction of off-site signage, would be taken into consideration during the preparation, review, and approval process of the proposed Project.

*(3) LAX Master Plan*

In December 2004, the Los Angeles City Council approved the LAX Master Plan and related entitlements for the future development of LAX (i.e., LAX Plan and LAX Specific Plan). The LAX Master Plan is a modernization plan that provides the first major new facilities for, and improvements to, the airport since 1984, and plans to accommodate projected growth in passengers and cargo at LAX through the year 2015. The approved LAX Master Plan includes airfield modifications, development of new terminals, and new landside facilities to accommodate passenger and employee traffic, parking, and circulation. The LAX Master Plan serves as a broad policy statement regarding the conceptual strategic planning framework for future improvements at LAX and working guidelines to be consulted by LAWA as it formulates and processes site-specific projects under the LAX Master Plan program.

The proposed Project is not a component of the LAX Master Plan program and therefore compatibility with the LAX Master Plan program is not addressed further. However, although not directly applicable, the basic framework and requirements of several of the LAX Master Plan commitments identified in the LAX Master Plan Mitigation Monitoring and Reporting Program (MMRP) would effectively address potential environmental impacts of the LAX Sign District. As such, LAWA will implement applicable commitments identified in the LAX Master Plan MMRP as part of the proposed Project.

*(4) LAX Street Frontage and Landscape Development Plan Update*

The LAX Street Frontage and Landscape Development Plan Update (Landscape Development Plan) prepared in 2005 provides integrated and coordinated landscape design guidelines for new development along the perimeter of LAX (LAWA, 2005). The plan focuses on incorporating all necessary airport security guidelines and maximizing neighborhood compatibility between buffer areas along the north and south perimeters of LAX.

The Landscape Development Plan includes the following objectives to promote land use compatibility, particularly between the airport and surrounding land uses to the north and south:

- *Objective 1: Coordinate and enhance the visual aesthetic appeal of streets, buffer areas, and open space surrounding the Los Angeles International Airport.*
- *Objective 4: Enhance Los Angeles International Airport's compatibility with adjacent land uses, neighborhoods, and communities.*

The Landscape Development Plan also requires compliance with LAX Master Plan commitments, including the Neighborhood Compatibility Program, discussed below.

*(5) Los Angeles International Airport Tenant Signage Standards*

The LAX Airport Tenant Signage Standards have been developed to detail on-airport tenant sign procedures, the submittal process, regulations and sign types within the airport to help establish consistency and a uniform standard of quality of signage. The document specifies standards for LAX tenants, including inside the airport, warehouse, hangar and service buildings, directional, and facility signage. The document does not specify standards for off-site signage. The proposed Project would not alter the LAX Airport Tenant Signage Standards or otherwise affect signage for LAX tenants; therefore, compatibility with the LAX Airport Tenant Signage Standards is not addressed further.

## 2. ENVIRONMENTAL IMPACTS

### a. Thresholds of Significance

In accordance with guidance provided in Appendix G to the State CEQA Guidelines, a project could have a potentially significant impact to land use if it were to result in one or more of the following:

(a) Physically divide an established community.

(b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.

(c) Conflict with any applicable habitat conservation plan or natural community conservation plan.

As discussed in the Initial Study for this environmental impact report (EIR) (Appendix A), the proposed Project would have no impact with respect to thresholds (a) and (c), listed above. As such, no further analysis of these topics is needed in this section.

Land use impacts are addressed in the *L.A. CEQA Thresholds Guide* under Section H.1 Land Use Consistency and Section H.2 Land Use Compatibility. As discussed further in Section IV.B, Visual Resources, the proposed Project has been designed to limit visibility from off-airport locations (i.e., surrounding communities) and to not visually or negatively affect airport operations or affect or alter historical buildings within LAX. Glancing views available to pedestrians on Sepulveda and Century Boulevards adjacent to the entrance to LAX are the only notable off-site views. Additionally, no changes to the existing land use at LAX which could potentially affect the surrounding community are proposed. Some existing billboards under LAWA's control would be removed; however, this would be considered a land use compatibility benefit and not result in potential land use incompatibilities with surrounding uses. Therefore, no potential land use incompatibilities would occur as result of the proposed Project and this issue is not analyzed further, other than in the context of consistency with applicable land use plans.

The *L.A. CEQA Thresholds Guide* addresses impact to Land Use Consistency under Section H.1. The *L.A. CEQA Thresholds Guide* (page H.1-1) states that a project would normally have a significant Land Use Consistency impact if it would:

- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect.
- Conflict with any applicable habitat conservation plan or natural community conservation plan.

As set forth in the *L.A. CEQA Thresholds Guide* (page H.1-2), the determination of significance shall be made on a case-by-case basis, considering the following factors:

- Whether the proposal is inconsistent with the General Plan or adopted land/use designation in the Community Plan, redevelopment plan or specific plan for the site; and
- Whether the proposal is inconsistent with the General Plan or adopted environmental goals or polices contained in other applicable plans.

### b. Project Design Features

Following is a list of all the Project Design Features and applicable LAX Master Plan (LAWA adopted) commitments that would be included with implementation of the proposed Project:

*Project Design Features*

- The allowable locations and sizes of signs have been designed to limit visibility from off-airport locations (i.e., surrounding communities) and to not visually or otherwise negatively affect airport operations or affect or alter historical buildings within LAX.
- No new off-site signage would be placed along the Project boundary, and no electronic or light enhanced signage would be visible from the adjacent residential areas (i.e., community of Westchester to the north and City of El Segundo to the south).
- No electronic or light enhanced signage would be installed within or be visible from the Airside Sub-Area.
- Off-site signs would not be permitted on a number of buildings within the Project site, including the Theme Building, the Airport Traffic Control Tower, and the Clifton A. Moore Administration Building (including the former Airport Traffic Control Tower [1961]).
- Limit illuminance contribution of signage to 0.3 footcandle (fc) at 350 feet from face of sign.
- The proposed signage locations and their placement would be in a manner that would prevent automobile headlight-related glare. For example, signage would be placed at a higher level than the roadway or perpendicular to headlights (i.e., signage placed on sky bridges).
- The proposed Project would include a plan to remove a number of billboards in LAWA's control and comply with other applicable requirements from the Department of City Planning.
- Digital displays signs would display static images only (i.e., restriction for any type of sign that contains images, text, parts, or illumination which flash, change, move, blink, or otherwise refresh in whole or in part).
- The digital displays would have the light emitting diodes (LEDs) aimed horizontally towards the street view using a cubic louvering system to help to limit light trespass, direct the visual impact of the display to the appropriate audience, and direct light away from flight paths and highly focused driving tasks. Refer to Figure IV.C-2 (in Section IV.C, Artificial Light and Glare) for a typical light emitting diode beam spread and plan view of the layout for the directionality of the LEDs associated with the digital display signs.
- The proposed location of the two types of digital display signs - Controlled Refresh (CR) I and CR III - have been chosen being mindful of driver, pedestrian, Air Traffic Control (ATC) personnel and pilot safety.
- Digital display signs shall be limited in their refresh events. CR I images would refresh (change) no more than one event every eight seconds (with the exception being Parking Structure 1 which would refresh every 14 seconds). CR III images would refresh no more than one event every 12 hours. In addition, the CR III images on the sky bridges would refresh simultaneously no more than one event every 12 hours.
- Digital signage would be subject to limits on brightness levels (i.e., 4,500 candelas per meters squared [cd/m$^2$] during the daytime and 300 cd/m$^2$ during the nighttime) and equipped with sensors that modify the brightness of the sign in response to ambient lighting conditions.

- Dim lights of digital displays slowly at dusk over a 45 minute fade rate, controlled by an astronomical time clock. The transition from day to nighttime brightness would be required to occur gradually, to prevent a sudden change in perceptible brightness levels by pedestrians and motorists.
- Digital displays would not include large areas of reflective elements and have a contrast ratio of less than 30:1 to eliminate glare.
- Supergraphic signage over 20-feet tall at parking structure locations would be illuminated with LED or metal halide floodlights consisting of adjustable floodlight fixtures mounted at the top of the signage element with a locking knuckle precisely aimed at the signage to eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Supergraphic signage over 20-feet tall on terminal facades above canopy locations would be illuminated with LED or metal halide floodlights mounted to the adjacent canopy. Adjustable floodlight fixtures would be mounted above the canopy with a locking knuckle to precisely aim at the signage and eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors, and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Maximum vertical luminance of illuminated supergraphic signage would be 5 to 7 fc during nighttime.
- Supergraphics/wall signs/column wraps would have matte finishes, which would prevent glare from the light fixtures.

*Applicable LAX Master Plan Commitments*

***LU-4. Neighborhood Compatibility Program.*** Ongoing coordination and planning will be undertaken by LAWA to ensure that the airport is as compatible as possible with surrounding properties and neighborhoods. Measures to enforce this policy will include: 1) Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive uses with the goal of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities. 2) Locate airport uses and activities with the potential to adversely affect nearby residential land uses through noise, light spill-over, odor, vibration and other consequences of airport operations and development as far from adjacent residential neighborhoods as feasible. 3) Provide community outreach efforts to property owners and occupants when new development on airport property is in proximity to and could potentially affect nearby residential uses.

***DA-1. Provide and Maintain Airport Buffer Areas.*** Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive improvements with the goals of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities.

***LI-2. Use of Non-Glare Generating Building Materials.*** Prior to approval of final plans, LAWA will ensure that proposed LAX facilities will be constructed to maximize use of non-reflective materials and minimize use of undifferentiated expanses of glass.

***LI-3. Lighting Controls.*** Prior to final approval of plans for new lighting, LAWA will conduct reviews of lighting type and placement to ensure that lighting will not interfere with aeronautical lights or otherwise impair

Airport Traffic Control Tower or pilot operations. Plan reviews will also ensure, where feasible, that lighting is shielded and focused to avoid glare or unnecessary light spill-over. In addition, LAWA or its designee will undertake consultation in selection of appropriate lighting type and placement, where feasible, to ensure that new lights or changes in lighting will not have an adverse effect on the natural behavior of sensitive flora and fauna within the Habitat Restoration Area.

### c. Project Impacts

#### *i. Project Activities*

##### *(1) Proposed Development*

The proposed Project entails the development and implementation of a SUD for signage (i.e., Sign District) to permit new off-site (non-airport related) signage within the Landside Sub-Area and Airside Sub-Area of LAX subject to certain restrictions. The signage would be subject to a new LAX-specific sign ordinance that would differ from and supersede LAMC requirements. The signage allowed under the proposed LAX Sign District would include a range of new off-site signage, including supergraphics, wall signs, digital display signs, signs on passenger boarding bridges, signs on columns, and hanging signs. The proposed Project includes Project Design Features that have been incorporated into the Project that are specifically intended to reduce or avoid potential impacts related to land use. The proposed Project has been designed to limit visibility from off-airport locations consistent with LAX Master Plan Commitment LU-4 which pertains to ensuring that the airport is as compatible as possible with surrounding properties and neighborhoods. Consistent with LAX Master Plan Commitment DA-1, the new off-site signage would be located internally within LAX and not within the buffer areas along the northerly and southerly boundaries. The signage is designed to be viewed by visitors to LAX and travelers as opposed to viewed from off-airport locations; thus, it would not affect the use of landscaping or other screening methods to obscure views of the airport from the surrounding communities. As specified in the Project Design Features, no new off-site signage would be placed along the Project boundary and no electronic or light enhanced signage would be visible from the adjacent residential areas. As part of the proposed Project, the LAX Sign District would allow flexibility to provide either a digital display or supergraphic at the locations where a digital display has been proposed. Table II-1 in Chapter II, Project Description, presents the types of signs and their proposed location throughout LAX.

##### *(2) Requested Discretionary Applications or Actions*

The proposed Project would establish a sign ordinance specific to LAX, subject to review and approval by the Department of City Planning, the City Planning Commission, and the City Council, which would govern the type and size of allowable off-site signs and their placement throughout the Project site. The proposed LAX sign ordinance would contain provisions that establish regulations such as sign types, placement, number, dimensions, illumination, motion/animation, etc., with a maximum of approximately 81,522 sq ft of new off-site signage within the Landside Sub-Area and approximately 289,600 sq ft of new off-site signage within the Airside Sub-Area (located on passenger boarding bridges).

The regulations of the proposed LAX Sign District would supersede the regulations set forth in the LAMC. The future LAX sign ordinance would include a Project Design Feature to establish a sign reduction program to remove a number of billboards under LAWA's control. The precise number and location would be established through coordination with the Department of City Planning.

### *ii. Consistency with Land Use Plans*

As previously discussed, the development of the proposed Project would be subject to numerous City land use plans as well as the regulations in the LAMC and the future LAX sign ordinance (which would supersede the sign regulations set forth in the LAMC). The Project's consistency with the policies and goals of applicable land use plans and policy documents described in Section IV.A.1.c are described in detail below.

#### *(1) Regional Comprehensive Plan*

The proposed Project would occur at a major regional facility (LAX) and as such, the proposed new off-site signage would be viewed by many throughout the region and beyond. However, it would be located fully within the interior boundaries of LAX and would not result in regional implications as, for example, it would not result in any change of use or affect passenger rates at LAX, nor would it affect population trends or traffic patterns throughout the region. Therefore, most of the objectives forth in the RCP are not applicable to the proposed Project and no inconsistency would occur. However, the proposed Project would promote the businesses and assets of the local region and support LAX's position as a vital component of the local, regional, and state economy. Thus, the proposed Project would support directly or indirectly, several of the goals set forth in the Security and Emergency Preparedness and Economy Chapters as shown in Table IV.A-1 and would be consistent with the RCP. Therefore the proposed Project would be less than significant as related to the RCP.

**Table IV.A-1**

**Comparison of the Proposed Project to SCAG's Regional Comprehensive Plan**

| Goals | Comparison |
|---|---|
| Ensure transportation safety, security, and reliability for all people and goods in the region | Consistent. The proposed Project would support LAX's position as one of the country's premier airports, providing essential passenger and cargo movement and supporting the region's future economic vitality, while establishing regulations to minimize potential traffic hazards and protect public safety and aviation safety. |
| Enable business to be profitable and competitive (locally, regionally, nationally, and internationally) | Consistent. The proposed LAX Sign District will allow vibrant commercial signage to help stimulate commerce and economic development in the region, and help create a sense of place within LAX, a bustling commercial center. |
| Ensure that the maximum number of residents participate in the growth of prosperity in the SCAG region | Consistent. LAX is a gateway destination for local, national, and international visitors and new off-site signage would enhance the means of promoting business, cultural, entertainment, and visitor-serving activities and events in the City of Los Angeles. |
| Promote sustained economic health through diversifying the region's economy, strengthening local self-reliance and expanding competitiveness | Consistent. The proposed Project would contribute to the branding of the City of Los Angeles and promotion of products and services, businesses, and cultural, entertainment, and visitor-serving events and activities within the City of Los Angeles to local residents and visitors alike. |

#### *(2) Southern California Compass Blueprint Growth Vision*

As described above, while the proposed Project would occur at a major regional facility, it would not have effects that would directly correspond to the Compass Blueprint Growth Vision principles on a regional level. However, it would support the promotion of business, cultural, entertainment, and visitor-serving activities within Los Angeles and the region as whole, promote Los Angeles as destination of regional importance, and help support and sustain LAX's position as a vital component of the local, regional, and state economy. Additionally, the proposed LAX Sign District would generate revenue to be used at LAX. Therefore, the proposed Project would

be consistent with the Compass Blueprint Growth Vision and land use impacts would be less than significant as related to the Compass Growth Vision.

*(3) RTP/SCS*

As described in Section IV.A.1.c, the RTP/SCS focuses on multi-modal transportation and sustainability on a regional level. As described above, the proposed Project would not directly affect existing or future regional aviation or ground transportation and therefore the objectives presented in the plan are not applicable to the proposed Project. However, the proposed LAX Sign District would generate revenue that would be used to support modernization throughout LAX, and as such would support LAX's position as a premier airport. Therefore, the proposed Project would be consistent with the RTP/SCS and land use impacts would be less than significant as related to the RTP/SCS.

*(4) ALUP and 2011 California Airport Land Use Planning Handbook*

The proposed Project would establish a Sign District at LAX and result in installation of signage within designated Landside and Airside areas. As required by Project Design Features, the proposed Project has been designed to limit visibility from off-airport locations (i.e., surrounding communities), and would not establish new uses or alter existing facilities at LAX that could create new incompatibilities or safety concerns relative to surrounding land uses (i.e., within the ALUP planning boundary). Therefore, no conflict with the ALUP or California Airport Land Use Planning Handbook would occur and the land use impacts would be less than significant as related to the ALUP and 2011 California Airport Land Use Planning Handbook.

*(5) City of Los Angeles General Plan Framework Element*

As shown in Table IV.A-2, the proposed Project would conform to the applicable objectives and policies identified in the Land Use and Economic Development Chapters of the Framework Element. Objectives and policies in other Framework Element chapters are not relevant to the proposed Project. Therefore, the impacts of the Project's land uses would be less than significant as related to the General Plan.

**Table IV.A-2**

**Comparison of the Proposed Project to General Plan Framework Element**

| Principle | Comparison |
|---|---|
| Objective 3.1: Accommodate a diversity of uses that support the needs of the City's existing and future residents, businesses, and visitors. | Consistent. The proposed Project would enhance the promotion of products and services, businesses, and cultural, entertainment, and visitor-serving events and activities within the City of Los Angeles to local residents and visitors. |
| Objective 7.1: Focus available resources on a coordinated and comprehensive effort to promote economic activity in Los Angeles, including an aggressive marketing program that communicates the resources and assets available within the City. | Consistent. LAX provides a unique opportunity to promote the City's assets and resources to a wide array of people who use LAX as a gateway to the Los Angeles region. The proposed Project would help support LAX's position as a premier airport, supporting the region's future economic viability. |
| Objective 7.1: Maintain and enhance the existing business in the City. | Consistent. The proposed LAX Sign District will allow vibrant commercial signage to help stimulate commerce and economic development in the region, and help create a sense of place within LAX, a bustling commercial center. |

*(6) LAX Plan*

(a) Consistency with LAX Plan Land Use Designations

The proposed Project would provide for the installation of new off-site signage within the LAX Plan's designated Airport Landside Sub-Area and portions of the Airport Airside Sub-Area. Uses allowed under the Airport Landside Sub-Area designation provide for use as an interface between the Airport Airside and the regional ground transportation network for the processing of people and goods. Signage would be located on existing facilities and would not alter or disrupt the existing uses or airport operations. As a Project Design Feature, digital signs and externally lit supergraphics would be allowed within the Airport Landside Sub-Area. The Project site is already within a highly lit environment and sign lighting within the Landside Sub-Area would not deter or distract from the area's primary function of the processing of people and goods.

Uses allowed under the Airport Airside Sub-Area designation support passenger and cargo movement. The signage in this area would be limited to passenger boarding bridges. Establishment of signage on passenger boarding bridges would not hinder passenger or cargo movement or otherwise conflict with essential airport operations or airside activities. Additionally, as discussed further in Section IV.C, Artificial Light and Glare, as a Project Design Feature, signs in the proposed Project's Airside Sub-Area (which is a portion of the Airport Airside Sub-Area) would not be lit and, thus, would not distract from airside aeronautical lights (i.e., approach lighting, runway/taxiway guidance lighting, runway end identifier lights, and ground lighting/marking).

Therefore, the proposed Project would be consistent with LAX Plan land use designations and no impact would occur.

(b) Consistency with LAX Plan Policies

As shown in Table IV.A-3, the proposed Project would conform to the applicable goals and policies and programs identified in the LAX Plan. Therefore, the land uses would be less than significant as related to the LAX Plan policies.

**Table IV.A-3**

**Comparison of the Proposed Project to LAX Plan**

| Principle | Comparison |
|---|---|
| Goal 1: Strengthen LAX's unique role within the regional airport network as the international gateway to the Southern California region. | Consistent. The proposed Project would promote and enhance LAX's unique role as a gateway to the Pacific Rim and Southern California region by encouraging creative, well-designed signs that enhance LAX's visual environment by creating a positive visual impression and promoting local businesses and activities to residents and visitors. |
| Goal 2: Develop and maintain the highest standards of air traffic safety and passenger security through design and the latest innovations. | Consistent. The proposed Project would not affect the ability of LAX to develop and maintain the highest standards of air traffic safety and passenger security. As discussed further in Section IV.D, Transportation Safety, the LAX sign ordinance would establish regulations to limit visual clutter, sign placement, and illumination, thereby ensuring that signs would not be a safety hazard to pilots and Air Traffic Control. |
| Goal 3: Optimize LAX's critical role in supporting the economy as a major generator of economic activity. | Consistent. The proposed Project would contribute to the branding of the City of Los Angeles and promotion of products and services, businesses, and cultural, entertainment, and visitor-serving events and activities within the City of Los Angeles by providing a source of advertising accessible to large numbers of both local residents and visitors. |
| Goal 4: Recognize the responsibility to minimize | Consistent. The proposed Project design minimizes intrusion on the physical |

**Table IV.A-3**

**Comparison of the Proposed Project to LAX Plan**

| Principle | Comparison |
|---|---|
| intrusions on the physical environment. | environment by establishing regulations on sign types, placement, number, dimensions, illumination, motion/animation, etc., and implements Project Design Features to prevent visual clutter and adverse lighting impacts. |
| Goal 5: Acknowledge neighborhood context and promote compatibility between LAX and the surrounding neighborhoods. | Consistent. The proposed Project would not affect neighborhood context or result in any incompatibility with the surrounding neighborhoods through the establishment of regulations and implementation of Project Design Features that would prevent excessive number of signs, and excessive sign size, and limit sign illumination within the Landside Sub-Area, which is not visible from off-airport locations (i.e., residential neighborhoods). |
| Safety Policy and Program #10: Prohibit uses that would generate electrical interference that may be detrimental to the operation of aircraft and/or aircraft instrumentation. | Consistent. Consistent with LAX Master Plan Commitment LI-3, the proposed Project would not be allowed to interfere with aeronautical lights or otherwise impair Airport Traffic Control Tower or pilot operations, subject to plan review by LAWA. Plan reviews and implementation of Project Design Features would also ensure, where feasible, that lighting is shielded and focused to avoid glare or unnecessary light spill-over and therefore, the proposed Project would not result in electrical interference that may be detrimental to operation of aircraft or aircraft instrumentation. Refer to Section IV.C, Artificial Light and Glare, for further discussion. |
| Land Use – Airport Landside Policy and Program P1: Ensure that the scale and activity level of airport facilities appropriately relates to any abutting neighborhood edges. | Consistent. The proposed Project involves new off-site signage installed on existing facilities internal to LAX. Project Design Features would be implemented to ensure that visibility from off-airport locations would be limited and neighborhood edges would not be negatively affected. |
| Land Use – Airport Landside Policy and Program P6: Locate airport uses and activities with the potential to adversely affect nearby land uses through noise, light spill-over, odor, vibration, and other consequences of airport operations and development as far from, or oriented away from, adjacent residential neighborhoods as feasible. | Consistent. The signage installed in the Landside Sub-Area would be within the CTA and with implementation of Project Design Features would not be visible from, or otherwise affect, off-airport locations (i.e., residential neighborhoods). |
| Land Use - Airport Airside Policy and Program P4: Locate airport uses and activities with the potential to adversely affect nearby residential land uses through noise, light spill-over, odor, vibration, and other consequences of airport operations and development, as far from them as feasible. | Consistent. Airside signage would consist of unlit supergraphic signs, as identified by Project Design Feature, applied to the exterior of the boarding bridges that connect passengers from the terminals to the aircraft and on terminal exteriors facing the airside. The area is only visible from a distance to residential communities in the area (i.e., approximately 0.4 mile northeast to 0.6 mile north [community of Westchester] and 0.5 mile south [City of El Segundo]) and is largely obscured by intervening airport facilities and aircraft. Given the distance and amount of intervening development and airport activities, and the unlit nature of these signs, the signage would not alter the views of the airside, or otherwise adversely impact the surrounding residential communities. |
| Design Policy and Program #2: Appropriately relate those airport facilities that are adjacent to community land uses to the scale and level of activity of those uses. | Consistent. The proposed Project has Project Design Features to limit visibility from off-airport locations. The new off-site signage would be located on existing facilities internal to LAX. No signs would be located adjacent to community land uses. |
| Design Policy and Program #3: Relate Airport Landside facilities to the existing airport infrastructure in a clear, well-organized, functional, and compatible manner. | Consistent. The proposed Project would establish a cohesive signage program that would implement a coordinated program of airport signage that would function in a well-organized manner that is compatible with airport facilities and infrastructure. |

**Table IV.A-3**

**Comparison of the Proposed Project to LAX Plan**

| Principle | Comparison |
|---|---|
| Design Policy and Program #5: Develop and incorporate signage guidelines that provide guidance and establish controls for signage that are appropriate to an airport. | Consistent. The proposed Project would implement Project Design Features and establish a Sign District that would include a sign ordinance in compliance with the LAMC. The sign ordinance would include regulations governing aspects such as sign placement, size, total area, sign type, and use of illumination and digital technology of off-site signs. As discussed further in Section IV.D, Transportation Safety, such restrictions on sign amount, placement, and illumination would reduce potential traffic hazards and protect public safety and aviation safety by minimizing potential for signs to act as distractions to drivers, pilots and Air Traffic Control. The sign ordinance would also include provisions to ensure that wayfinding signs would not be obscured or replaced. |
| Economic Benefits Policy and Program #2: Modernize, upgrade, and improve LAX in order to sustain the airport's economic benefits. | Consistent. The proposed LAX Sign District would establish a flexible signage program that would provide for well-designed, creative signs that would enhance the visual modernization of LAX. Additionally, the proposed LAX Sign District would help to generate much needed revenue required for the modernization of LAX's existing infrastructure to help LAWA maintain LAX's position as one of the nation's premier airports. |

*(7) Consistency with City of Los Angeles Planning and Zoning Code Requirements*

(a) LAX Specific Plan

The LAX Specific Plan sign regulations allow for establishment of a Sign District, pursuant to LAMC Section 13.11, which allows for off-site, supergraphic, and mural signs. The proposed Project would establish such a Sign District pursuant to LAMC Section 13.11, and subject to review and approval by the City of Los Angeles. The proposed LAX Sign District would allow off-site signage of various types, including digital signs and supergraphics, subject to certain limitations such as location, total amount of signage, and sign size. With approval of the proposed LAX Sign District, the proposed Project would be consistent with the LAX Specific Plan and impacts would be less than significant.

The proposed Project would provide for the installation of new off-site signage within the LAX Plan's designated Airport Landside Sub-Area (LAX-L Zone) and portions of the Airport Airside Sub-Area (LAX-A Zone). The permitted uses in both the LAX-L Zone and LAX-A Zone include all of the permitted uses in the M2 zone, as specified in LAMC Section 12.19. Allowable M2 uses include (on-site) advertising signage and pursuant to LAMC Section 13.11, SN Sign Districts may be established in M Zones.

(b) Citywide Sign Regulations and Policies

The proposed Project would establish a Sign District consistent with Zoning Code Section 13.11 and the LAX Specific Plan (discussed below). The approval of a Sign District would establish sign regulations that supersede regulations specified in the LAMC.

As described in detail in Chapter II, Project Description, the proposed LAX Sign District would allow off-site signs, including supergraphics and digital signs within the Sign District boundary. Other types of off-site signs that would be allowed include hanging signs and column wraps. The proposed LAX Sign District would establish regulations such as sign types, number of signs, sign dimensions, sign placement, sign illumination, sign motion/animation, etc., up to a maximum of approximately 81,522 sq ft of new off-site signage within the

Landside Sub-Area and a maximum of approximately 289,600 sq ft of new off-site signage within the Airside Sub-Area. Two types of digital display signs would be allowed within the proposed LAX Sign District: CR I with an image refresh rate of no more than one refresh event every eight seconds, and CR III with no more than one refresh event every 12 hours. The proposed Project includes Project Design Features that ensure all signs, including the digital signs, would not be visible from the surrounding residential properties.

As described above, the proposed LAX Sign District would set forth the regulations governing the proposed new off-site signage at LAX. With establishment of an approved Sign District, the proposed Project would be consistent with sign regulations and policies in the Zoning Code.

(c) Proposed Citywide Sign Ordinance

The proposed citywide Sign Ordinance designates the proposed LAX Sign District as eligible for adhering to the citywide Sign Ordinance existing on August 9, 2012 instead of the proposed citywide Sign Ordinance, should it be adopted prior to approval of the LAX Sign District. As described above, the proposed Project is consistent with the existing citywide Sign Ordinance. The proposed Project is also consistent with the proposed citywide Sign Ordinance, which specifically allows for a Sign District within the area of the LAX Specific Plan, where signage would have a unique design theme. Should the proposed citywide Sign Ordinance be adopted prior to approval of the LAX Sign District, additional findings pertaining to aesthetics and traffic impacts would be required as presented in Section IV.A.1.c.

An objective of the proposed Project is to encourage creative, well-designed signs that contribute in a positive way to LAX's visual environment. As discussed further in Section IV.B, Visual Resources, the proposed Project would contribute in a positive way to the visual environment at LAX by promoting more creative displays at street level and above that maintain an image of quality and excellence that support and enhance the overall airport design. Additionally, the proposed Project would be internal to LAX and designed to limit visibility from off-airport areas.

As discussed in Section IV.D, Transportation Safety, the proposed LAX Sign District would establish regulations that minimize potential traffic hazards and protect public safety. This would include regulations of digital signage such as restrictions on the refresh rate and lighting standards, and limitations on the placement and amount of signage displayed at any one time.

Therefore, the proposed Project can satisfy the required findings pertaining to aesthetics and traffic set forth in the proposed Sign Ordinance, if adopted.

Additionally, the proposed revisions to the citywide Sign Ordinance, such as requirements pertaining to sign illumination and reduction of off-sign signage, would be taken into consideration and applied to the proposed LAX Sign District, as feasible or applicable. Therefore, the proposed Project would comply with the proposed citywide Sign Ordinance, if adopted, and no significant impacts would occur.

*(8) LAX Street Frontage and Landscape Development Plan Update*

The LAX Street Frontage and Landscape Development Plan objectives applicable to the proposed Project relate to improving the visual aesthetic of the LAX buffer area and enhancing the compatibility with adjacent land uses. As described above, the proposed signage would be located internal to LAX and visibility from off-airport locations would be limited. Additionally, the proposed Project would not affect future visual improvements to the surrounding buffer area, streets, and open space. Therefore, the proposed Project would not conflict with the LAX Street Frontage and Landscape Development Plan and impacts would be less than significant as related to the LAX Street Frontage and Landscape Development Plan.

## 3. CUMULATIVE IMPACTS

The Project site is characterized by a highly-built environment, with roadway and airfield vehicle and passenger movement activity within and adjacent to the Project site throughout the day and much of the night. As indicated above, the proposed Project would be consistent with applicable land use plans and policies. Several related projects are currently planned or are underway on the airport property, as discussed in Chapter III, Environmental Setting, and would result in an intensification of the existing land uses at LAX and potentially result in land use and planning incompatibility. Such projects include the Bradley West Project, the Midfield Satellite Concourse, the LAX Specific Plan Amendment Study, and the LAX Northside project. These and other related projects would be required to comply with land use designations, zoning requirements, and other applicable land use plans or seek modifications to such plans (i.e., zone change or general plan amendments) which would entail a consistency review with surrounding land uses. As such, no incompatibilities with applicable land use plans are expected from related projects. Therefore, cumulative projects, in combination with the proposed Project, would not be expected to result in significant cumulative land use and planning impacts.

## 4. PROJECT DESIGN FEATURES AND MITIGATION MEASURES

As listed in Section 2(b) above, the following Project Design Features, including applicable LAX Master Plan Commitments, would reduce or avoid potential land use impacts associated with the proposed Project:

*Project Design Features*

- The allowable locations and sizes of signs have been designed to limit visibility from off-airport locations (i.e., surrounding communities) and to not visually or otherwise negatively affect airport operations or affect or alter historical buildings within LAX.
- No new off-site signage would be placed along the Project boundary, and no electronic or light enhanced signage would be visible from the adjacent residential areas (i.e., community of Westchester to the north and City of El Segundo to the south).
- No electronic or light enhanced signage would be installed within or be visible from the Airside Sub-Area.
- Off-site signs would not be permitted on a number of buildings within the Project site, including the Theme Building, the Airport Traffic Control Tower, and the Clifton A. Moore Administration Building (including the former Airport Traffic Control Tower [1961]).
- Limit illuminance contribution of signage to 0.3 fc at 350 feet from face of sign.
- The proposed signage locations and their placement would be in a manner that would prevent automobile headlight-related glare. For example, signage would be placed at a higher level than the roadway or perpendicular to headlights (i.e., signage placed on sky bridges).
- The proposed Project would include a plan to remove a number of billboards in LAWA's control and comply with other applicable requirements from the Department of City Planning.
- Digital displays signs would display static images only (i.e., restriction for any type of sign that contains images, text, parts, or illumination which flash, change, move, blink, or otherwise refresh in whole or in part).
- The digital displays would have the LEDs aimed horizontally towards the street view using a cubic louvering system to help to limit light trespass, direct the visual impact of the display to the appropriate audience, and direct light away from flight paths and highly focused driving tasks. Refer to Figure IV.C-

2 for a typical light emitting diode beam spread and plan view of the layout for the directionality of the LEDs associated with the digital display signs.

- The proposed location of the two types of digital display signs - CR I and CR III - have been chosen being mindful of driver, pedestrian, ATC personnel and pilot safety.
- Digital display signs shall be limited in their refresh events. CR I images would refresh (change) no more than one event every eight seconds (with the exception being Parking Structure 1 which would refresh every 14 seconds). CR III images would refresh no more than one event every 12 hours. In addition, the CR III images on the sky bridges would refresh simultaneously no more than one event every 12 hours.
- Digital signage would be subject to limits on brightness levels (i.e., 4,500 cd/m$^2$ during the daytime and 300 cd/m$^2$ during the nighttime) and equipped with sensors that modify the brightness of the sign in response to ambient lighting conditions.
- Dim lights of digital displays slowly at dusk over a 45 minute fade rate, controlled by an astronomical time clock. The transition from day to nighttime brightness would be required to occur gradually, to prevent a sudden change in perceptible brightness levels by pedestrians and motorists.
- Digital displays would not include large areas of reflective elements and have a contrast ratio of less than 30:1 to eliminate glare.
- Supergraphic signage over 20-feet tall at parking structure locations would be illuminated with LED or metal halide floodlights consisting of adjustable floodlight fixtures mounted at the top of the signage element with a locking knuckle precisely aimed at the signage to eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Supergraphic signage over 20-feet tall on terminal facades above canopy locations would be illuminated with LED or metal halide floodlights mounted to the adjacent canopy. Adjustable floodlight fixtures would be mounted above the canopy with a locking knuckle to precisely aim at the signage and eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors, and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Maximum vertical luminance of illuminated supergraphic signage would be 5 to 7 fc during nighttime.
- Supergraphics/wall signs/column wraps would have matte finishes, which would prevent glare from the light fixtures.

*Applicable LAX Master Plan Commitments*

***LU-4. Neighborhood Compatibility Program.*** Ongoing coordination and planning will be undertaken by LAWA to ensure that the airport is as compatible as possible with surrounding properties and neighborhoods. Measures to enforce this policy will include: 1) Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive uses with the goal of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities. 2) Locate airport uses and activities with the potential to adversely affect nearby residential land uses through noise, light spill-over, odor, vibration and other consequences of airport operations and development as far from adjacent residential neighborhoods as feasible. 3) Provide community outreach efforts to property owners and occupants when new development on airport property is in proximity to and could potentially affect nearby residential uses.

***DA-1. Provide and Maintain Airport Buffer Areas.*** Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive improvements with the goals of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities.

***LI-2. Use of Non-Glare Generating Building Materials.*** Prior to approval of final plans, LAWA will ensure that proposed LAX facilities will be constructed to maximize use of non-reflective materials and minimize use of undifferentiated expanses of glass.

***LI-3. Lighting Controls.*** Prior to final approval of plans for new lighting, LAWA will conduct reviews of lighting type and placement to ensure that lighting will not interfere with aeronautical lights or otherwise impair Airport Traffic Control Tower or pilot operations. Plan reviews will also ensure, where feasible, that lighting is shielded and focused to avoid glare or unnecessary light spill-over. In addition, LAWA or its designee will undertake consultation in selection of appropriate lighting type and placement, where feasible, to ensure that new lights or changes in lighting will not have an adverse effect on the natural behavior of sensitive flora and fauna within the Habitat Restoration Area.

With these Project Design Features and applicable LAX Master Plan Commitments, land use impacts would be less than significant and no mitigation measures are required.

## 5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant impacts related to land use and planning would occur as a result of the proposed Project; therefore, no mitigation measures are required.

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# IV. ENVIRONMENTAL IMPACT ANALYSIS
# B. VISUAL RESOURCES

This section describes the visual setting of the proposed Project and evaluates the potential for impacts to the visual (aesthetic) environment due to the development of the proposed Project, including views. Aesthetics generally refer to the identification of visual resources and the quality of what can be seen, as well as an overall visual perception of the environment. Views refer to visual access and/or obstruction, or whether it is possible to see a focal point or panoramic view from an area.

## 1. ENVIRONMENTAL SETTING

### a. Existing Conditions

The Project site encompasses a portion of the interior of Los Angeles International Airport (LAX), a busy international airport. The Project site is limited to the Central Terminal Area (CTA) and portions of the airfield (i.e., passenger boarding bridges). The environmental setting of the Project site is characterized by a highly-built environment with roadway and airfield vehicle and passenger movement activity within and adjacent to the Project site throughout the day and much of the night. The Project site (i.e., Sign District) encompasses a 502-acre area within the interior portion of LAX that includes the CTA, the perimeter of the Park One Property along Sepulveda Boulevard, and an area that extends to the west of Taxiway R. Off-site signage would be limited to approximately 203 acres of the Project site comprised of two distinct sub-areas within LAX – Landside and Airside. In total, the proposed signage would affect approximately 6 percent of LAX (or approximately 203 acres of the 3,650-acre LAX).

*Landside Sub-Area*

The Landside Sub-Area (approximately 101 acres) consists almost entirely of the CTA. The CTA features nine passenger terminals connected by the U-shaped, two-level roadway (World Way). The two-level airport roadway network is accessed from the following three off-airport roadways: Century Boulevard; Sepulveda Boulevard; and 96th Street Bridge/Sky Way. Each of these roadways provides vehicular access to both the departures (upper) level or the arrivals (lower) level curbsides and roadways, as well as recirculation access. Parking structures with perimeter landscaping and overhead walkways occupy a large part of the center of the terminal area.

In the center of the CTA is the arched Theme Building, which houses an observation deck and a restaurant approximately 70 feet aboveground. Views of the Theme Building within the CTA are primarily visible from vantage points from World Way, Center Way, pedestrian walkways, and surface and structured parking lots to the north and south. More intermittent views of the Theme Building area also available from World Way, Center Way, and parking structures to the east and west. The Theme Building is a City of Los Angeles Historic Cultural Monument symbolizing a "Jet Age" theme.

The Airport Traffic Control Tower (constructed in 1996), rising above the west side of the Theme Building, is another building that is distinctive because of its height. Visible from all directions and, in some cases, from a relatively great distance, the Airport Traffic Control Tower contributes to the airport's sense of destination.

In contrast to the valued aesthetic character of the Theme Building and the distinctive Airport Traffic Control Tower, the terminal buildings along the outside of the World Way ring road are of more utilitarian design emphasizing function and access. The Tom Bradley International Terminal (TBIT) is currently being upgraded and modernized with approximately 1.25 million square feet (sq ft) of new building area, including food/beverage and retail concessions, lounge space, enlarged federal inspection/customs and border protection facilities, new boarding gates, and enlarged passenger seating/holdroom areas. Known as the Bradley West Project, the architectural design of the new elements is inspired by the adjacent Pacific Ocean and will include modern design elements. The upgrades associated with the Bradley West Project are also designed to be complementary of the iconic Theme Building.

Various types of on-site signs (signs which promote a business, use, facility, service or product located at LAX or airport-related) are already allowed within the Landside Sub-Area. These on-site signs currently include tenant signage on the terminals and airport-related wall signs and supergraphics on sky bridges, as well as the existing off-site billboard signage within the Park One Property. Other signage within the Project site includes wayfinding, terminal identification, traffic, and parking signage. Views of the existing Landside Sub-Area are shown in Figures IV.B-1 and IV.B-2.

The Landside Sub-Area is visible primarily by visitors, passengers, and airport employees. With the exception of vantage points within the taller Theme Building, within the CTA, public views of the airfield and areas adjacent to the airport are blocked by the terminal buildings.

***Airside Sub-Area***

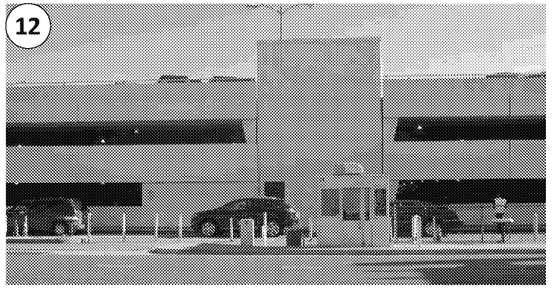
The Airside Sub-Area (approximately 102 acres) includes terminal concourses, gates, passenger boarding bridges, runways, airport access ways, and equipment which allow for the safe and efficient operation of airport airfield activities.

The Airside Sub-Area is characterized by active airfield operations associated with passenger and cargo movement and related airfield support services. The facilities within the Airside Sub-Area include the airside terminals, aircraft gates, and passenger boarding bridges. Aircraft and support vehicles such as baggage tractors, catering trucks, fuel trucks, aircraft tractors, and cargo loaders operate in the area. Only airfield employees and other authorized personnel are allowed outside within the Airside Sub-Area. Passengers access the aircraft via the boarding bridges from the terminal gates or from buses from the terminals to remote gates. The public (i.e., passenger) views are the limited vantage points available from windows of the gates, aircraft, and buses to the remote gates.

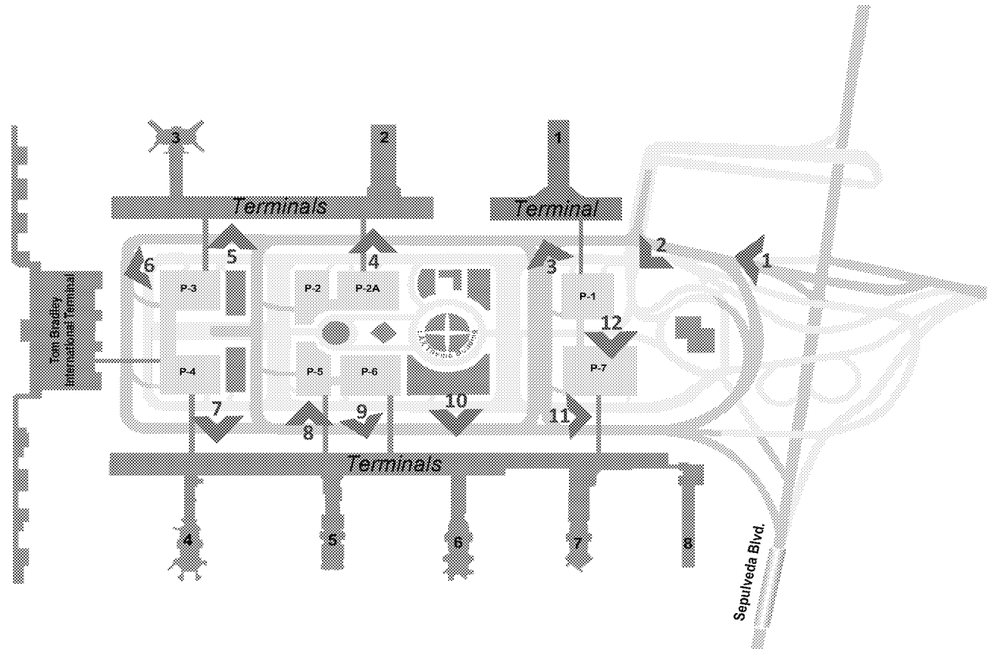
Existing signage within the Airside Sub-Area consists of Airfield Operations Area Signs (AOA Signs), such as runway/taxiway designation signs, location signs, direction signs, destination signs including terminal gate signs, and information signs. Views of the existing Airside Sub-Area, is shown in Figure IV.B-3.



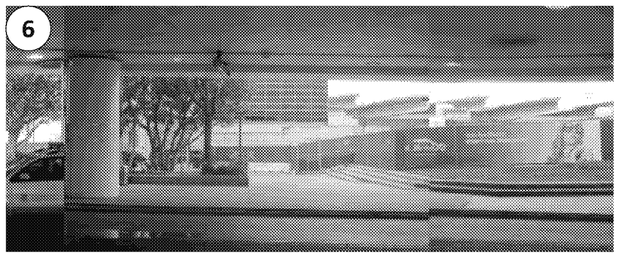


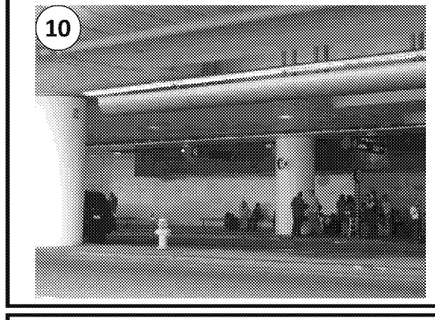


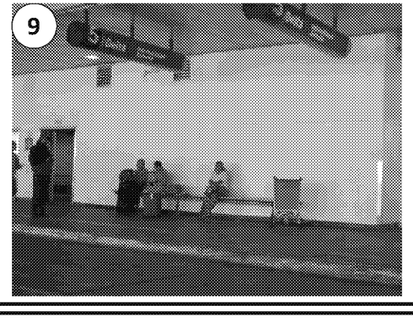




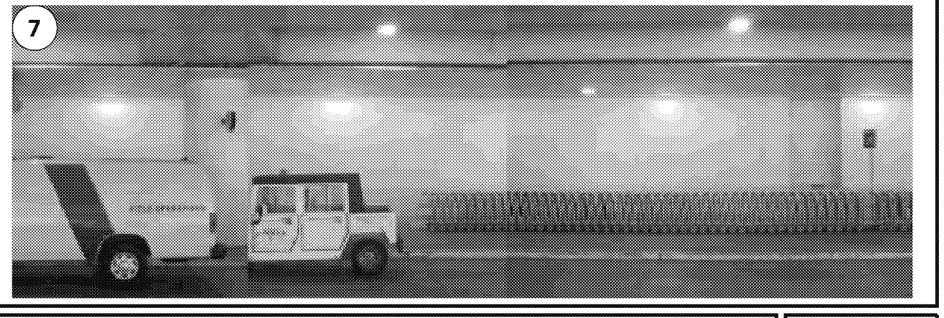









LAX Sign District Project EIR

Landside Sub-Area—Representative Views from Lower Level

Figure IV.B-1

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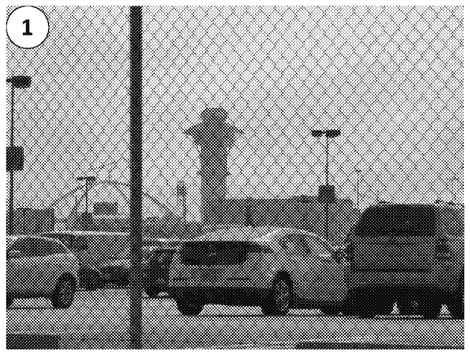



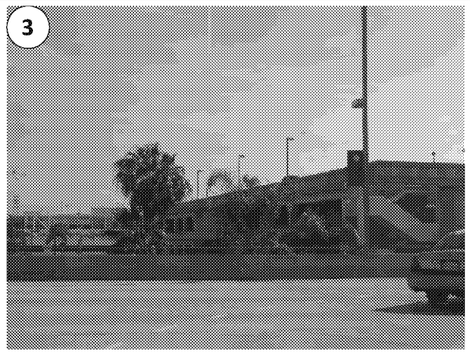







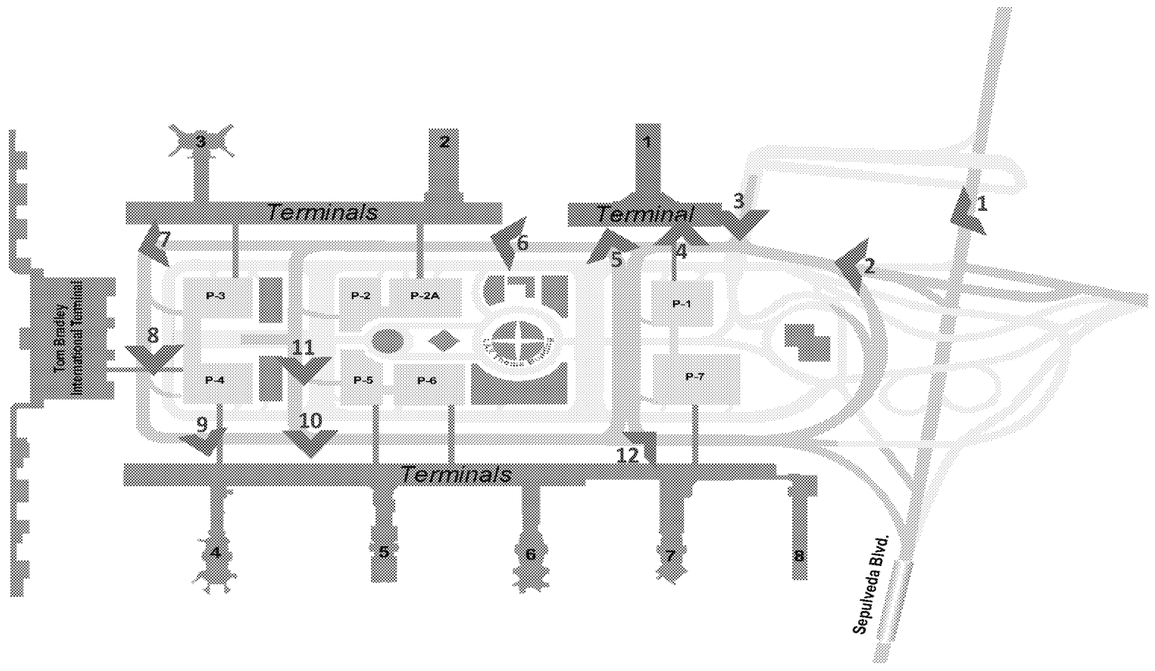






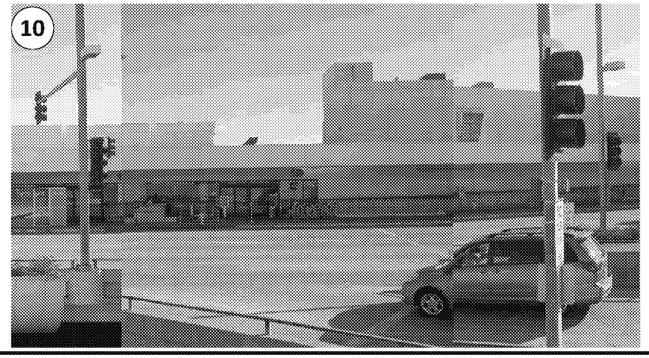


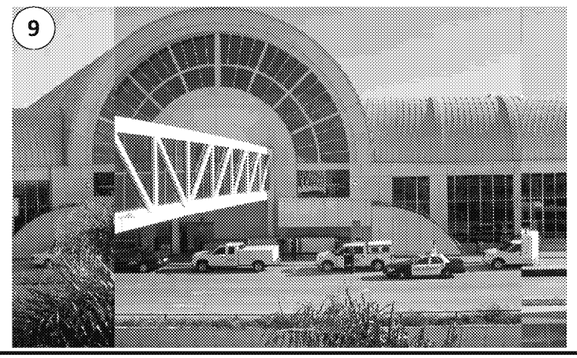




LAX Sign District Project EIR

Landside Sub-Area—Representative Views from Upper Level

Figure IV.B-2

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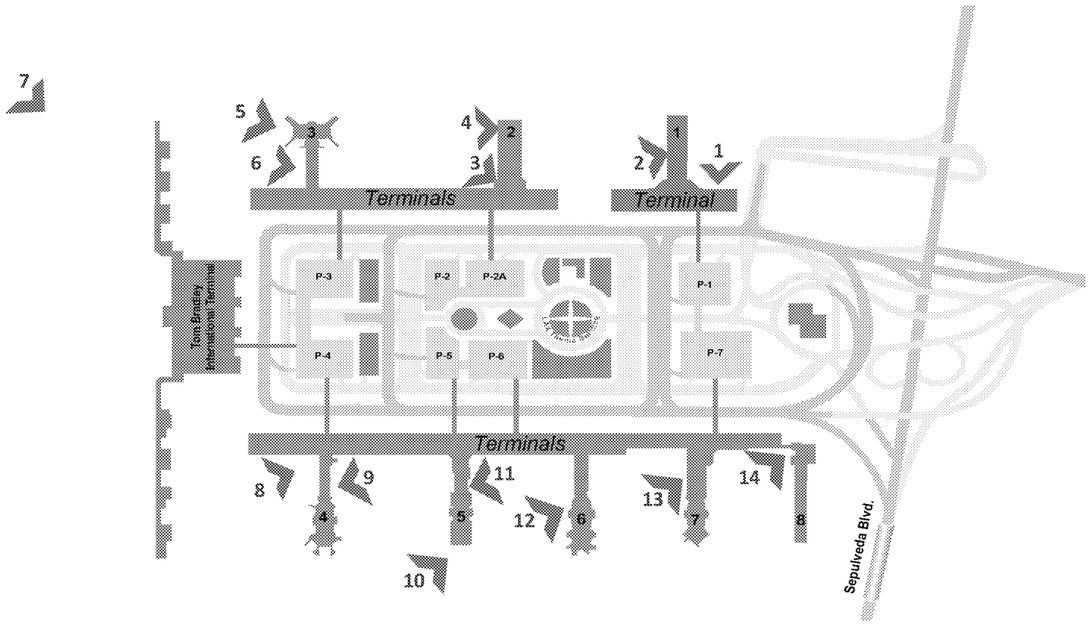









LAX Sign District Project EIR

Airside Sub-Area—Representative Views

Figure
IV.B-3

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***Surrounding Areas***

In general, the land uses immediately surrounding the Project site include airport operations and facilities (including taxiways and runways) to the north, west, and south, and commercial and industrial uses to the east (along Sepulveda Boulevard and its intersection with Century Boulevard).

LAX is located just east of the Pacific Ocean within a broad coastal plain that is surrounded by rising land to the south and north, with more level terrain extending to the east. With the exception of the open coastal and ocean expanse to the west, the airport is surrounded by heavily urbanized development. Panoramic vistas of the airport, arriving and departing aircraft, and visually prominent airport structures, such as the curved arches of the Theme Building and the thematic Airport Traffic Control Tower, are visible from off-airport approaches to LAX. Some of the more notable visual features on the airport property include the Habitat Restoration Area at the western edge of the property, the Theme Building and Airport Traffic Control Tower within the CTA, and the large lighted columns located along Century Boulevard and at the interchange at Century and Sepulveda Boulevards (the kinetic light display).

Beyond these features and urban design elements such as landscaping along the airport's major approach roadways, other areas of LAX generally include terminal and cargo development of various ages and visual quality, and large areas devoted to airfield and airport-related activities that are industrial in nature. In addition, there are four large areas of airport property, LAX Northside, Manchester Square, Belford area, and the Continental City site (on the northeast corner of Aviation Boulevard and Imperial Highway) that are largely vacant.

Refer to Figure IV.B-4 for representative views from the surrounding areas.

*Northern Boundary*

Land uses north of airport operations include vacant land (portions of the LAX Northside - a 340-acre area that lies between the airfield and the Westchester and Playa del Rey communities), recreation (i.e., Westchester Golf Course, which is LAX property), and residential (within the community of Westchester). Land uses to the north range in height from one to five stories.

Residential areas nearest to the Project site are approximately 0.4 mile northeast to 0.6 mile north (community of Westchester). The northern boundary of LAX (the LAX Northside area), along West 88$^{th}$ Place between Sepulveda Boulevard/West Way and the Westchester Golf Course, and then north to Manchester Avenue, borders residential uses. To screen the airport property from this residential area, the Los Angeles World Airports (LAWA) has constructed 20-foot-high buffers, consisting of 12-foot-high architecturally treated masonry sound walls on the crest of 8-foot-high landscaped berms within a 50-foot setback from 88$^{th}$ Street. The landscaping associated with the completed wall and associated buffering, east of the Westchester Golf Course, includes grass lawns with trees and sloping berms landscaped with ornamental vegetation. The Project site is not visible from residences located northwest of the airport near 92$^{nd}$ Street and farther west, given the distance of the Project site from these residences.

At the southern terminus of Emerson Avenue is the Los Angeles Fire Department Station 5 and Westchester Golf Course. Views from this street include vantages of the LAX north airfield and the Airport Traffic Control Tower, although these views are partially obscured by fencing and landscaping.

Sepulveda Boulevard is an additional primary approach roadway. Near the intersection of Sepulveda Boulevard and Manchester Avenue, the visual character is dominated by a diverse range of mid-rise commercial and office development with palm trees and landscaping along the sidewalks and center median. Views of the airport to the

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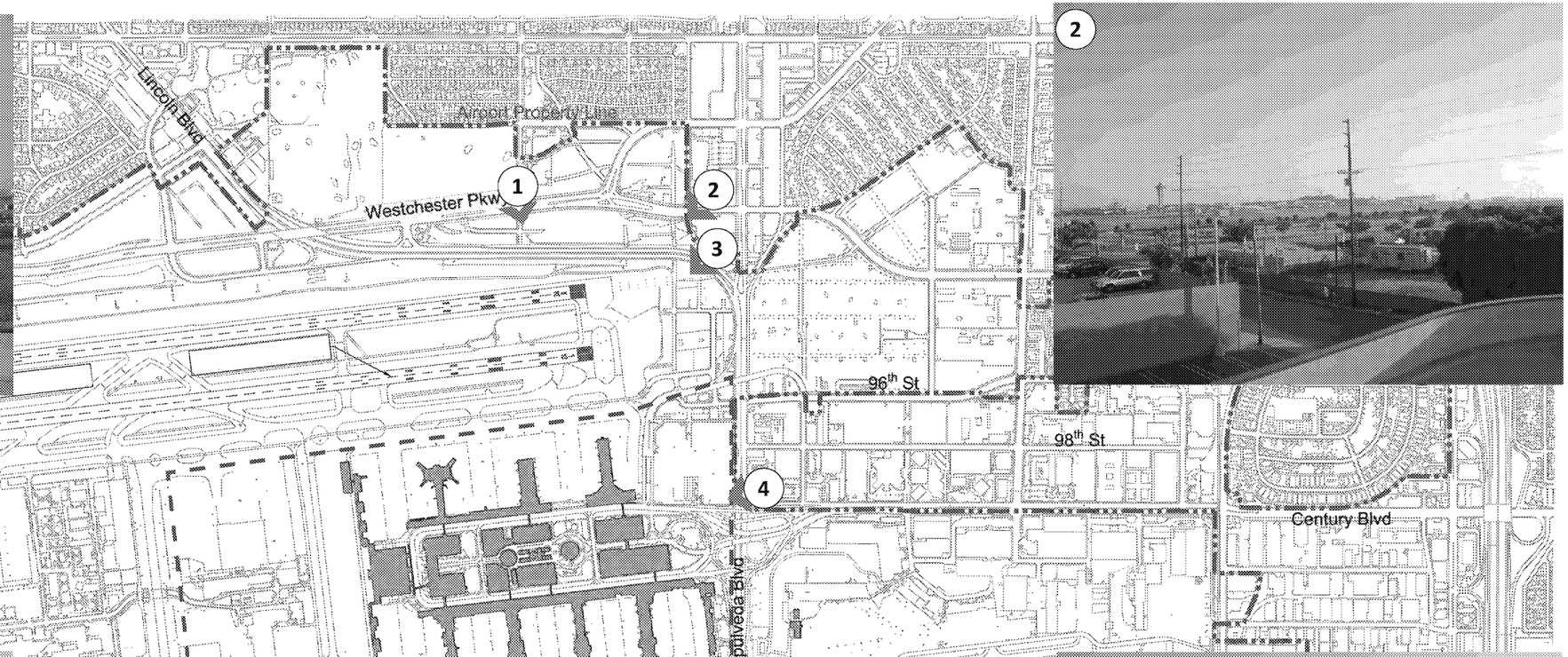





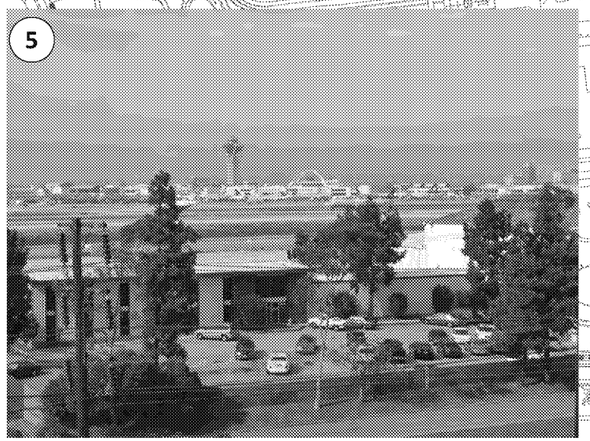




0 1,500 ft
Scale
north

Source: Los Angeles World Airports 2012, CDM Smith, 2012, Gensler, 2012
Prepared by: CDM Smith, 2012.

LAX Sign District Boundary

Airport Boundary

| LAX Sign District Project EIR | Views of LAX from Surrounding Land Uses | Figure IV.B-4 |
|---|---|---|

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west are largely obscured by development. More direct views of the airport are available near the intersection of Sepulveda Boulevard, West Way and Westchester Parkway. However, these uses, commercial, office, and parking, are not sensitive in nature.

*Southern Boundary*

Land uses surrounding LAX to the south are predominately residential and commercial, which includes single-family residential, multi-family residential, with some office and retail land uses. Land uses to the south range in height from one to 11 stories. The nearest residential area to the south of the Project site is approximately 0.5 mile south (City of El Segundo). Within the area south of the proposed Project site, as the Century Freeway transitions to Imperial Avenue, west of California Street, there are views of the airport, including terminal buildings, the Theme Building, the south airfield, urban areas farther to the north, and ocean views to the west/northwest from the bluff-top greenbelt and a number of residential properties.

From Sepulveda Boulevard to Pershing Drive on the west, the El Segundo bluff rises on the south side of Imperial Highway. Benches along the bluff-top greenbelt are frequently used by the public for viewing arriving and departing aircraft as well as for taking in scenic long-range views of the Santa Monica Mountains.

The number and quality of views among residential properties in this area are highly variable due to changes in topography, intervening trees along the greenbelt, and the design and orientation of apartment buildings. While there are notable views of the airfield and the more distant Santa Monica Mountains from more elevated properties, few of the single-family homes or apartment buildings are oriented with the objective of taking in long-range scenic views. The southwest portion of the airport property is developed with taxiways and with airfield-related structures, mainly due to the Federal Aviation Administration (FAA) clear zone requirements. Views of the airport from Imperial Highway, west of Main Street, are partially blocked by fencing and landscaping.

*Eastern Boundary*

Land uses surrounding LAX to the east include hotel, office, parking, and buildings ranging in height from one to 17 stories. The eastern boundary of the airport includes the Century Boulevard corridor from Sepulveda Boulevard and the entrance to the CTA to the west to the I-405 Freeway to the east. Between Aviation Boulevard and the entrance to the airport, Century Boulevard has been aesthetically improved with implementation of the Gateway LAX project. The Gateway LAX project included landscaping within the Century Boulevard median, as well as along either side of the street. The landscaping, together with the rows of palm trees and the large scale modern hotels along this roadway, create a "southern California" thematic impression. The Gateway LAX project also included the kinetic lighting display of pylons and LAX letter forms that is the landmark entry to LAX, Los Angeles, and to visitors from abroad. Located in the area leading to, and immediately adjacent to, the Project site is the western terminus of the kinetic lighting display, which is currently the world's largest permanent kinetic lighting installation, meant to symbolize the unity and diversity of the City of Los Angeles. The lighting installation is oriented skyward and is designed to mimic an aircraft takeoff pattern. The light installation is visible to airline passengers at 3,000 feet in the air. Constructed in 2000, the lighting installation includes a total of 26 translucent pylons as well as the three LAX letters. The lighting installation is comprised of a 1.5-mile lineup of 11 pylons that increase in height from 25 to 60 feet. Each of these 11 pylons are six feet in diameter and are located within the median along Century Boulevard and culminate with a "Gateway Circle" of 15 100-foot tall columns at the intersection of Sepulveda and Century Boulevards. The "Gateway Circle" is approximately 560 feet in diameter. Each of these 15 pylons is 12 feet in diameter. In 2006, LED technology was installed during a major refurbishment of the pylons, increasing energy-efficiency and reliability. The pylons are lit from dusk to

dawn daily and can feature approximately 16.7 million colors synchronized and computer-driven with lighting interface. Various programs are performed by the lighting installation lasting from 15 minutes to three hours per program and consist of lighting display, synchronous lighting activity, and color arrays. In addition to the pylons, at the entrance of the airport, 32-foot-high LAX letters greet airport patrons. Figure III-5 in Chapter 3, Environmental Setting, represents views of the Gateway Circle adjacent to the Project site.

The area surrounding LAX has existing billboards along Sepulveda Boulevard. There is also floodlighting of facades, existing on-site signage, and a number of buildings with prominent signage surrounding LAX.

Just northwest of the intersection of Century and Sepulveda Boulevards, the Park One Property (which includes existing billboards) and Terminal 1 are visible along Sepulveda Boulevard. The Radisson Hotel is located along Sepulveda Boulevard, northeast of the intersection of Century and Sepulveda Boulevards. However, the Radisson Hotel has south and north facing hotel room windows and no hotel room windows face west toward the Project site. Other development along the north side of Century Boulevard from Sepulveda Boulevard east to Aviation Boulevard is dominated with high-rise hotel and office development and associated parking structures. Due to the height of these structures, airfield and aircraft operations are partially visible from the upper stories of the hotel and office buildings. Along the south side of Century Boulevard from Sepulveda Boulevard east to Aviation Boulevard, structures are more industrial in nature and include various on-airport cargo facilities, parking structures, and Los Angeles Fire Department Station 95. Many of the buildings on the south side of Century Boulevard, between Aviation Boulevard and the entrance to the CTA, are equivalent in scale to the hotels on the north side of Century Boulevard. Together, the large structures and landscaping on both sides of Century Boulevard help define this approach as a gateway to the airport. There is existing signage in this area, including billboards along Sepulveda Boulevard and wall signs on businesses in the areas.

*Western Boundary*

To the west of the Project site are airport operations and facilities within LAX. To the west of LAX are the Los Angeles/El Segundo Dunes, Dockweiler State Beach, and the Pacific Ocean. Between Imperial Highway and Westchester Parkway, views to the east along Pershing Drive, approximately 90 feet above mean sea level (AMSL), are mostly obscured by the hilly terrain and the placement of fill which rises to 100 feet AMSL. The Habitat Restoration Area, a 203-acre portion of the Dunes, is located on the west side of Pershing Drive, and is enclosed by green security fencing. In addition, views of the ocean from Pershing Drive are obscured by the Los Angeles/El Segundo Dunes, which rise to levels of approximately 130 to 180 feet AMSL. Large areas of the Dunes are undeveloped and somewhat natural in appearance; other areas include remnant residential streets, radar, navigational aids, related safety facilities, and other ancillary facilities, which are generally not visible from public vantage points along Pershing Drive. Overall, the rural open space appearance of this section of the airport is dominated by the Pershing Drive/World Way West interchange.

### b. Existing Regulations

There are several local regulations that govern the consideration of visual quality and aesthetic character at and adjacent to LAX. These regulations consider the protection and enhancement of existing resources and aesthetic character, as well as the incorporation of design consideration in the development of new projects. The following regulatory policies and guidelines apply to the evaluation of visual effects for airport-related projects at LAX.

#### *i. City of Los Angeles General Plan*

The Framework Element of the General Plan serves as a guide for the City's overall long-range growth and development policies and provides a citywide context for local planning decisions. It contains Long Range Land Use Diagrams (Land Use Diagrams) for regions of the City. The Long Range Land Use Diagrams designate land

uses that are encouraged in each of these regions and illustrate general areas that are designated as Neighborhood District, Community Center, Regional Center, Downtown Center, and Mixed Use Boulevards. The Century Boulevard corridor, between La Cienega Boulevard and the entrance to the CTA west of Sepulveda Boulevard, is designated as the LAX/Century Boulevard Regional Center. According to the Framework, each Regional Center contains a distinct identity and can be made more aesthetic and livable through the implementation of urban landscape and appropriate development scale.

### *ii. LAX Plans and Policies*

#### *(1) The LAX Plan*

The LAX Plan, an element of the City of Los Angeles General Plan, provides goals, objectives, policies, and programs that establish a framework for the development of facilities for movement and processing of passengers and cargo at LAX. It is intended to promote an arrangement of airport uses that encourages and contributes to the modernization of the airport in an orderly and flexible manner within the context of the City and region. As discussed in greater detail in Section IV.A, Land Use and Planning, the LAX Plan goals and policies applicable to visual resources are focused on promoting compatibility between LAX and the surrounding neighborhoods, including the provision of buffer areas that incorporate setbacks, landscaping, screening, and other mechanisms for screening views of the airport facilities from residential communities.

#### *(2) LAX Specific Plan*

The LAX Specific Plan sets forth zoning and development regulations and standards applicable to development at LAX. It is a principal mechanism by which the goals and objectives of the LAX Plan are achieved and the policies and principles are implemented. The LAX Specific Plan includes regulations requiring setbacks, buffers, height limits, and landscaping within the airport area.

#### *(3) LAX Street Frontage and Landscape Development Plan Update*

In 1994, LAWA adopted a Street Frontage and Landscape Development Plan as the integrated and coordinated landscape design guidelines for the perimeter areas of LAX, including the southern boundary along Imperial Highway, the eastern boundary which includes Manchester Square, the Continental City site, and areas north and south of 111$^{th}$ Street west of the I-405, the northern boundary which includes the LAX Northside, and the Dunes to the west. The LAX Street Frontage and Landscape Development Plan Update, adopted in 2005, now serves as a basis for reviewing future public and private development projects at LAX.

The purpose of the LAX Street Frontage and Landscape Development Plan Update is to provide integrated and coordinated landscape design guidelines for new development along the perimeter areas of LAX and focuses on two issues related to the northern and southern buffer areas of the airport: incorporating all necessary airport security guidelines, and maximizing neighborhood compatibility. The LAX Street Frontage and Landscape Development Plan Update also defines a predictable review process to which all new projects along the perimeter of LAX are subject and establishes landscape profiles for various areas throughout LAX (i.e., LAX gateways and entry corridors, passenger terminals and facilities, and parking lots and parking structures).

The LAX Street Frontage and Landscape Development Plan Update also calls for the preparation of a Neighborhood Compatibility Program (NCP), based on commitments made in the LAX Master Plan, which outlines interface treatments along the airport perimeter for the purpose of "ensuring that the airport complements surrounding properties and neighborhoods." The NCP is to address all issues relating to compatibility, including landscape buffers, noise, light spill-over, odor, and vibration and support locating airport uses and activities with the potential to adversely affect nearby residential land uses as far from adjacent residential neighborhoods as feasible.

*(4) LAWA - Design and Construction Handbook*

The LAWA Design and Construction Handbook establishes broad design and construction guidelines for all infrastructure, terminal buildings, renovations, and other public facilities owned, operated, or maintained by LAWA, including LAX. Additionally, it serves as a roadmap and reference guide for design teams that have been contracted to provide design services at the airport.

*(5) LAWA Architectural/Design Review Process*

Plans for airport improvement projects, from schematic to final, go through a series of reviews starting at the LAWA Facilities Planning Division. The plans are then forwarded for review and comment to various other airport divisions. In general, review is based on compliance with the Design and Construction Handbook and the following three other design-related documents when applicable: typically, the LAX Street Frontage and Landscape Development Plan Update, LAX Air Cargo Facilities Design Guidelines, and the LAX Beautification Enhancements Program.

Prior to finalization, plans are also forwarded to the City of Los Angeles Building and Safety Department for review as part of the permitting process. The Building and Safety Department distributes the plans as appropriate to other City departments including Planning, Public Works, and Cultural Affairs. If a structure has been designated as a landmark by the City's Cultural Heritage Commission, consent from the Cultural Heritage Commission is required for all changes needing a Building and Safety permit. The Preservation Officer reviews applications and approves minor alterations that meet the Department's design guidelines (the Secretary of the Interior's Standards for Rehabilitation). Major projects and those inconsistent with the design guidelines are scheduled for a Cultural Heritage Commission meeting. The proposed Project would not allow signs to be located on historical buildings at LAX.

*(6) LAX Beautification Enhancements Program*

LAWA is currently implementing a LAX Beautification Enhancements Program for the purpose of improving the image, function, circulation, and wayfinding of the airport, through the use of architecture, graphics, landscaping, lighting, and art. The mission of the LAX Beautification Enhancements Program is to recognize the importance of LAX as an international gateway, and to provide an eventual design program, which is inspired by the unique culture, energy, diversity, vision, and excitement of the Los Angeles experience. Several projects that have been completed under the LAX Beautification Enhancements Program include the Imperial/Sepulveda Landscape Improvement Project and the Gateway LAX Enhancement Project. The latest project is the New Face of the CTA Improvements/Enhancements (refer to Section 2, Related Projects, of Chapter III, Environmental Setting, for a description of this project).

## 2. ENVIRONMENTAL IMPACTS

### a. Thresholds of Significance

In accordance with guidance provided in Appendix G to the State CEQA Guidelines, a project could have a potentially significant impact to aesthetic resources if it were to result in one or more of the following:

a. *Have a substantial adverse effect on a scenic vista?*

b. *Substantially damage scenic resources, including , but not lim ited to, trees, rock outcroppings, and historic buildings within a state scenic highway?*

c. *Substantially degrade the existing visual character or quality of the site and its surroundings?*

d. *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

As discussed in the Initial Study (Appendix A) to this Draft EIR, the proposed Project would have no impact with respect to threshold (a) and a less than significant impact with respect to threshold (b), listed above. As such, no further analysis of these topics is needed in this section, although additional discussion regarding potential Project-specific and cumulative impacts to views of the Theme Building is provided below. Threshold (d) is addressed in Section IV.C, Artificial Light and Glare.

The *L.A. CEQA Thresholds Guide* addresses impacts to visual resources under Section A.1., Aesthetics. The *L.A. CEQA Thresholds Guide* (page A.1-3) states that a determination of significance relative to aesthetic impacts shall be made on a case-by-case basis considering the following factors:

- The amount or relative proportion of existing features or elements that substantially contribute to the valued visual character or image of a neighborhood community, or localized area, which would be removed, altered, or demolished;
- The amount of natural open space to be graded or developed;
- The degree to which proposed structures in natural open space areas would be effectively integrated into the aesthetics of the site, through appropriate design, etc.;
- The degree of contrast between proposed features and existing features that represent the area's valued aesthetic image;
- The degree to which a proposed zone change would result in buildings that would detract from the existing style or image of the area due to density, height, bulk, setback, signage, or other physical elements;
- The degree to which the project would contribute to the area's aesthetic value; and
- Applicable guidelines and regulations.

The proposed Project would not involve any development of natural open space areas. Therefore, the two factors above related to the grading and development of natural open space areas would not be applicable.

Based on the factors above, the Project would have a significant impact if:

- It would substantially alter, degrade, or eliminate the existing visual character of an area, including valued existing features or resources; or
- It would substantially contrast with the visual character of the surrounding area and its aesthetic image.

**b. Project Design Features**

Following is a list of all the Project Design Features and applicable LAX Master Plan (LAWA adopted) commitments that would be included with implementation of the proposed Project:

*Project Design Features*

- The allowable locations and sizes of signs have been designed to limit visibility from off-airport locations (i.e., surrounding communities) and to not visually or otherwise negatively affect airport operations or affect or alter historical buildings within LAX.
- No new off-site signage would be placed along the Project boundary, and no electronic or light enhanced signage would be visible from the adjacent residential areas (i.e., community of Westchester to the north and City of El Segundo to the south).
- No electronic or light enhanced signage would be installed within or be visible from the Airside Sub-Area.
- Off-site signs would not be permitted on a number of buildings within the Project site, including the Theme Building, the Airport Traffic Control Tower, and the Clifton A. Moore Administration Building (including the former Airport Traffic Control Tower [1961]).
- Limit illuminance contribution of signage to 0.3 footcandle (fc) at 350 feet from face of sign.
- The proposed signage locations and their placement would be in a manner that would prevent automobile headlight-related glare. For example, signage would be placed at a higher level than the roadway or perpendicular to headlights (i.e., signage placed on sky bridges).
- The proposed Project would include a plan to remove a number of billboards in LAWA's control and comply with other applicable requirements from the Department of City Planning.
- Digital displays signs would display static images only (i.e., restriction for any type of sign that contains images, text, parts, or illumination which flash, change, move, blink, or otherwise refresh in whole or in part).
- The digital displays would have the light emitting diodes (LEDs) aimed horizontally towards the street view using a cubic louvering system to help to limit light trespass, direct the visual impact of the display to the appropriate audience, and direct light away from flight paths and highly focused driving tasks. Refer to Figure IV.C-2 (in Section IV.C, Artificial Light and Glare) for a typical light emitting diode beam spread and plan view of the layout for the directionality of the LEDs associated with the digital display signs.
- The proposed location of the two types of digital display signs - Controlled Refresh (CR) I and CR III - have been chosen being mindful of driver, pedestrian, Air Traffic Control (ATC) personnel and pilot safety.
- Digital display signs shall be limited in their refresh events. CR I images would refresh (change) no more than one event every eight seconds (with the exception being Parking Structure 1 which would refresh every 14 seconds). CR III images would refresh no more than one event every 12 hours. In addition, the CR III images on the sky bridges would refresh simultaneously no more than one event every 12 hours.
- Digital signage would be subject to limits on brightness levels (i.e., 4,500 candelas per meters squared [cd/m$^2$] during the daytime and 300 cd/m$^2$ during the nighttime) and equipped with sensors that modify the brightness of the sign in response to ambient lighting conditions.
- Dim lights of digital displays slowly at dusk over a 45 minute fade rate, controlled by an astronomical time clock. The transition from day to nighttime brightness would be required to occur gradually, to prevent a sudden change in perceptible brightness levels by pedestrians and motorists.
- Digital displays would not include large areas of reflective elements and have a contrast ratio of less than 30:1 to eliminate glare.

- Supergraphic signage over 20-feet tall at parking structure locations would be illuminated with LED or metal halide floodlights consisting of adjustable floodlight fixtures mounted at the top of the signage element with a locking knuckle precisely aimed at the signage to eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Supergraphic signage over 20-feet tall on terminal facades above canopy locations would be illuminated with LED or metal halide floodlights mounted to the adjacent canopy. Adjustable floodlight fixtures would be mounted above the canopy with a locking knuckle to precisely aim at the signage and eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors, and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Maximum vertical luminance of illuminated supergraphic signage would be 5 to 7 fc during nighttime.
- Supergraphics/wall signs/column wraps would have matte finishes, which would prevent glare from the light fixtures.

*Applicable LAX Master Plan Commitments*

***LU-4. Neighborhood Compatibility Program.*** Ongoing coordination and planning will be undertaken by LAWA to ensure that the airport is as compatible as possible with surrounding properties and neighborhoods. Measures to enforce this policy will include: 1) Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive uses with the goal of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities. 2) Locate airport uses and activities with the potential to adversely affect nearby residential land uses through noise, light spill-over, odor, vibration and other consequences of airport operations and development as far from adjacent residential neighborhoods as feasible. 3) Provide community outreach efforts to property owners and occupants when new development on airport property is in proximity to and could potentially affect nearby residential uses.

***DA-1. Provide and Maintain Airport Buffer Areas.*** Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive improvements with the goals of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities.

***LI-2. Use of Non-Glare Generating Building Materials.*** Prior to approval of final plans, LAWA will ensure that proposed LAX facilities will be constructed to maximize use of non-reflective materials and minimize use of undifferentiated expanses of glass.

***LI-3. Lighting Controls.*** Prior to final approval of plans for new lighting, LAWA will conduct reviews of lighting type and placement to ensure that lighting will not interfere with aeronautical lights or otherwise impair Airport Traffic Control Tower or pilot operations. Plan reviews will also ensure, where feasible, that lighting is shielded and focused to avoid glare or unnecessary light spill-over. In addition, LAWA or its designee will undertake consultation in selection of appropriate lighting type and placement, where feasible, to ensure that new lights or changes in lighting will not have an adverse effect on the natural behavior of sensitive flora and fauna within the Habitat Restoration Area.

### c. Project Impacts

#### *i. Project Activities*

The proposed Project entails the development and implementation of a Sign District at LAX to permit new off-site signs. The proposed Project includes a maximum of approximately 81,522 sq ft of proposed new off-site signage within the Landside Sub-Area and a maximum of approximately 289,600 sq ft of proposed new off-site signage within the Airside Sub-Area (i.e., passenger boarding bridges). The proposed 81,522 sq ft of signage on the Landside Sub-Area would consist of the following types of signs: 24,388 sq ft CR I; 14,261 sq ft CR III; 15,414 sq ft column wrap; 8,131 sq ft supergraphics; 8,960 sq ft hanging; and 10,368 sq ft wall signs. Since preparation of the Initial Study, the square footage of supergraphic signage has been refined to include wall signage as part of the Project. Wall signs are similar to supergraphics signs, but smaller in size (300 sq ft or less). As part of the proposed Project, the Sign District would allow flexibility to provide either a digital display or supergraphic sign at the locations where a digital display has been proposed.

The proposed Project would contain provisions that establish regulations such as sign types, number of signs, sign dimensions, sign placement, sign illumination, sign motion/animation, etc. The regulations of the proposed Sign District (also known as a Supplemental Use District) would supersede the regulations set forth in the LAMC. The proposed Project includes Project Design Features that have been incorporated into the Project that are specifically intended to reduce or avoid potential impacts related to visual resources. Such Project Design Features include designing the proposed signage to limit visibility from off-airport locations (i.e., surrounding communities) and to not visually or negatively affect airport operations or affect or alter historical buildings within LAX. Consistent with LAX Master Plan Commitment DA-1, Provide and Maintain Airport Buffer Areas, the new off-site signage would be located internally within LAX and not within the buffer areas along the northerly and southerly boundaries. The signage is designed to be viewed by visitors and travelers to LAX as opposed to viewed from off-airport locations; thus, it would not affect the use of landscaping or other screening methods to obscure views of the airport from off-airport locations (i.e., surrounding communities).

#### *ii. Potential Impacts*

##### *(1) Construction*

Depending on the type of sign, the duration of construction for signage installation would range from six hours for column and hanging signs to approximately one week for a supergraphic sign and digital display and would require two to six workers. Depending on the type of sign installed, construction equipment could include one to two cranes, lifts, utility truck, flatbed truck, and hand-held drilling equipment. In terms of visual character, construction activities under the Project would result in temporary changes as viewed from nearby vantage points. However, given the short duration of construction for each sign and the limited amount of construction equipment and workers needed, impacts to the visual character of the site would be less than significant.

##### *(2) Operation*

(a) <u>On-Airport Views</u>

*Landside Sub-Area*

The proposed Project includes a maximum of approximately 81,522 sq ft of proposed new off-site signage within the CTA in the Landside Sub-Area. As detailed in Table II-1 in Chapter II, Project Description, the proposed signage within the Landside Sub-Area includes a range of new off-site signage, including supergraphics, wall signs, digital display signs, signs on columns, and hanging signs. The CTA consists of LAX's nine passenger terminals arranged in a U-shape with a two-level layout to separate departures and arrivals. The CTA is visible

primarily by visitors, passengers, and airport employees. Figure IV.B-5 through Figure IV.B-9 show renderings of the proposed signage throughout the CTA. The figures show the maximum amount of signage that could be displayed at one time throughout the Project site depicted from different viewing locations. The amount of signage that would be visible to each visitor/passenger would vary depending upon his or her viewshed while at LAX (i.e., a visitor/passenger to LAX would not view all signage within the Project area, but only those signs that are within visual range).

The proposed signs would, and are intended to, be visible to motorists and pedestrians within the CTA. As it relates to impacts on visual resources, motorists are generally not considered to be sensitive viewers, especially in urbanized areas, because passage through viewsheds is generally quick and the attention of motorists is primarily focused on road conditions. Pedestrians within the CTA would typically be the visitors, passengers, and airport employees transiting to and from ground transportation and the terminals and would also not be considered sensitive users.

The notable public views within the CTA consist of views of buildings with distinctive architecture, in particular the Theme Building and Airport Traffic Control Tower. As required by Project Design Features, no signage would be located on the Theme Building and Airport Traffic Control Tower buildings, nor would signage be placed where it would obstruct or degrade views of the notable buildings. Therefore, the proposed Project would not detract from or constitute the loss of a valued visual resource.

Overall, the Landside Sub-Area has a vibrant and dynamic visual character that is distinguished by a highly built environment comprised of a variety of architectural styles and building materials and a high level of continuous motorized and pedestrian activity. Various types of on-site signs (signs which promote a business, use, facility, service or product located at the LAX or airport-related) are found within the Project site. These on-site signs currently include tenant signage on the terminals and on passenger boarding bridges and airport-related wall signs and supergraphics on sky bridges, as well as the existing off-site (non-airport related) billboard signs at the Park One Property. Other signage within the Project site includes wayfinding, terminal identification, traffic, and parking signage. Both on-site and off-site signage are similar in appearance. The difference is the content of the signage; on-site signage is airport-related signage, while off-site signage is non-airport related signage. The signage would be primarily located on existing structures that are largely functional in nature (terminal buildings, sky bridges, parking structures, and columns) without extensive architectural features, and thus, they do not contribute meaningfully to the aesthetic quality of the CTA. The introduction of new well-designed signage would add new and variable visual elements to these functional structures, contributing to the overall aesthetic of LAX. As such, the proposed Project is designed to contribute to and support the dynamic aspect of the CTA through the establishment of a Sign District that would allow flexibility and promote the installation of creative, well-designed signs that would enhance the airport's design. In addition, the proposed Project would not affect existing landscaping. Further, the LAX Sign District would include requirements such as Project Design Features restricting where signs could be located and limiting total square footage that would prevent visual clutter and help to ensure that important views of notable architecture and wayfinding signs would not be impacted by new off-site signage. Therefore, the proposed signage would not adversely alter the visual identity of the Landside Sub-Area.

As described above and in Section IV.A, Land Use and Planning, the various land use planning documents that guide uses and development within LAX, such as the LAX Plan and LAX Street Frontage and Landscape Development Plan Update, are designed to encourage and contribute to the modernization of LAX, including the enhancing of the visual environment, to reinforce LAX's position as a premier airport and Gateway to the Pacific Rim. As shown in Figures IV.B-10a through Figure IV.B-10c, the proposed Project would contribute to a modern character similar to the types of signage at other international airports.

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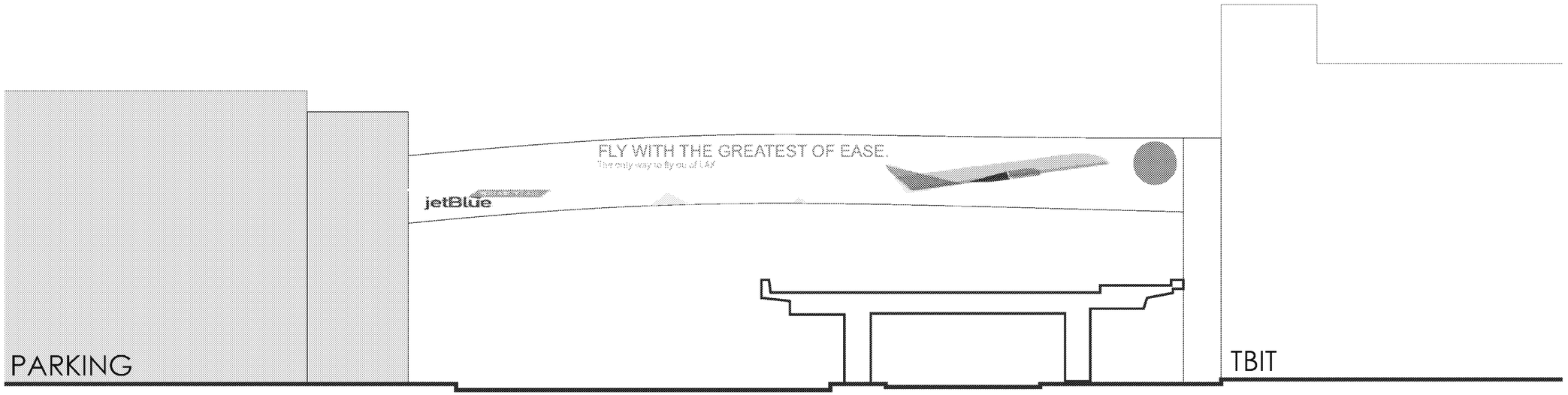


**SKY BRIDGE TERMINAL TBIT - NORTH ELEVATION**
TOTAL SIGN AREA OF FACADE = 2,080 SF

SCALE: 1"= 10'-0"


LOS ANGELES INTERNATIONAL AIRPORT (LAX), CA (on-site signage)


SALT LAKE CITY INTERNATIONAL AIRPORT, UT

MIAMI INTERNATIONAL AIRPORT, FL

Source. Gensler, 2012.

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| **LAX Sign District Project EIR** | **Proposed Signage & Examples — Sky Bridges** | Figure **IV.B-5** |

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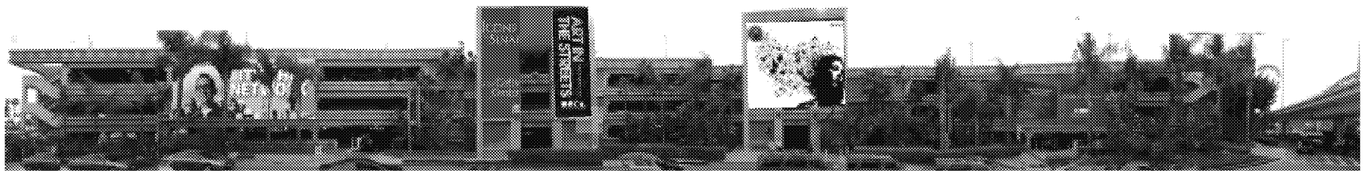
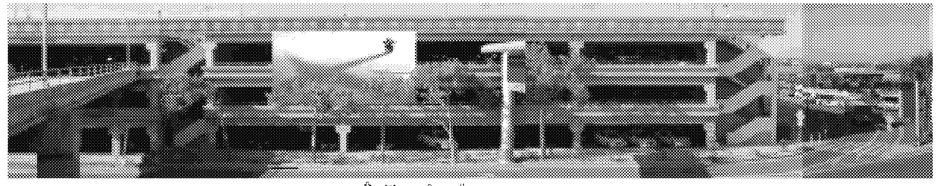
Parking 1- East Elevation



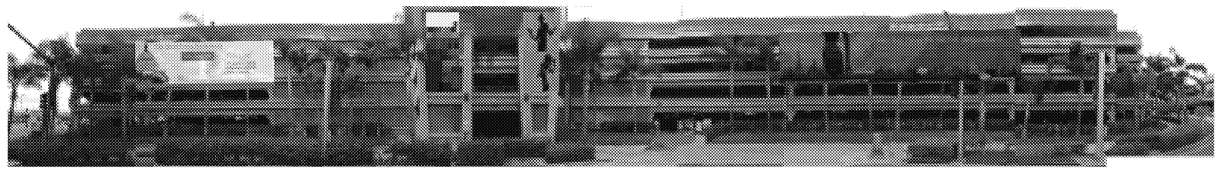
Parking 1- North Elevation



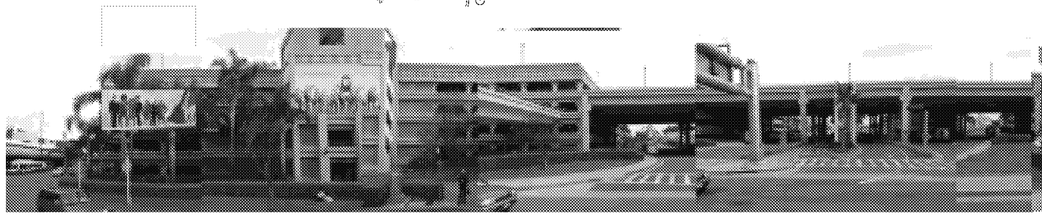
Parking 1- South Elevation

Parking 2A- North Elevation

Parking 2B- North Elevation



Parking 3- North Elevation



Parking 3- West Elevation

Parking 4- West Elevation

Source: Gensler, 2012.

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| LAX Sign District Project EIR | Proposed Sign Locations —Parking Structures - P1, P2A, P2B, & P3 | Figure IV.B-6a |

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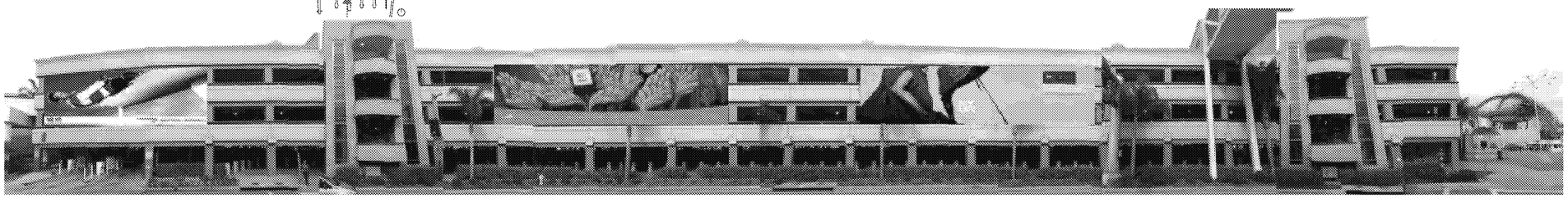
Parking 4- South Elevation

Parking 5- South Elevation



Parking 6- South Elevation


Parking 7- South Elevation

Parking 7- North Elevation

Source: Gensler, 2012.

| LAX Sign District Project EIR | Proposed Sign Locations — Parking Structures - P4, P5, P6, & P7 | Figure IV.B-6b |
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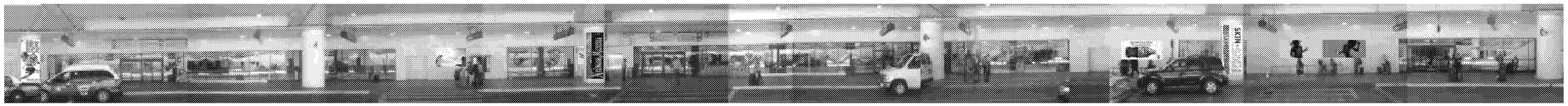
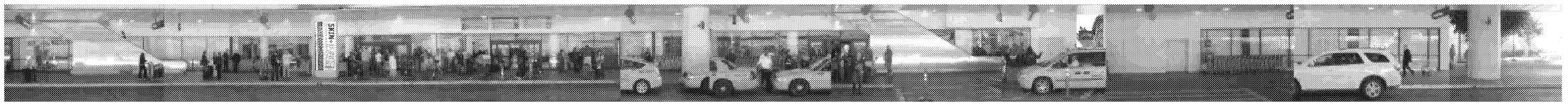
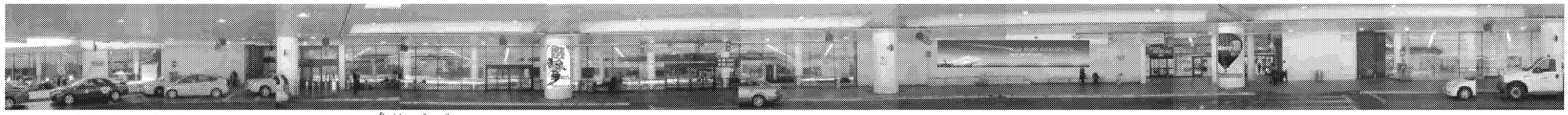
Terminal 1 - South Elevation



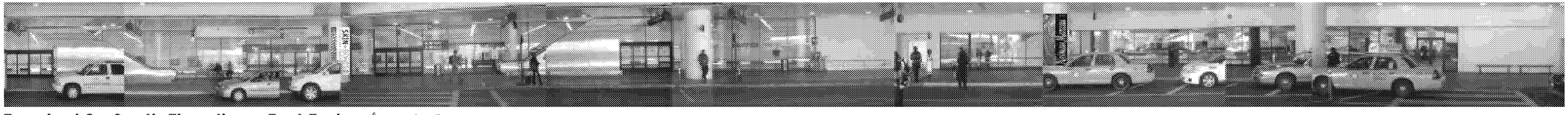
Terminal 2 - South Elevation - West End



Terminal 2 - South Elevation - East End



Terminal 3 - South Elevation - West End



Terminal 3 - South Elevation - East End

Source: Gensler, 2012.

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| LAX Sign District Project EIR | Proposed Sign Locations — Terminal Facades - Lower Level - T1, T2, & T3 | Figure IV.B-7a |

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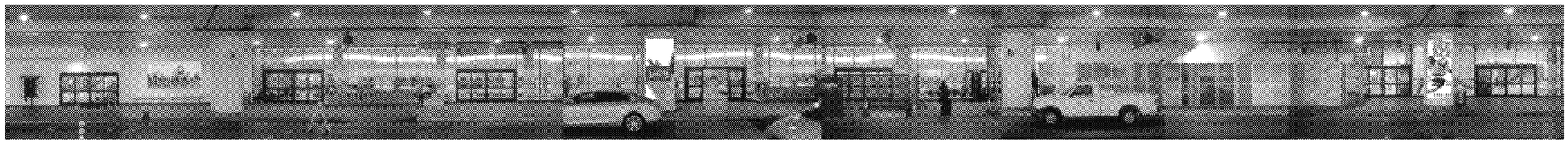
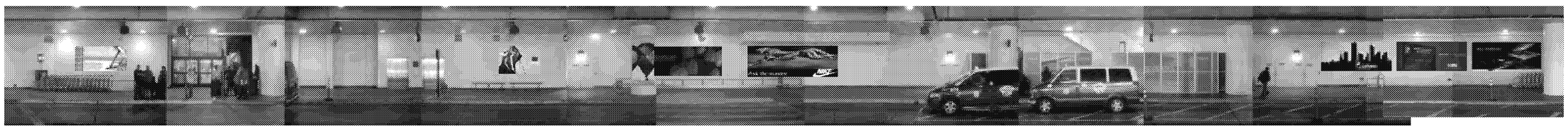
Terminal 4- South Elevation - East End

Terminal 4- South Elevation - West End



Terminal 5- South Elevation - East End



Terminal 5- South Elevation - West End

Source: Gensler, 2012.

| LAX Sign District Project EIR | Proposed Sign Locations — Terminal Facades - Lower Level - T4 & T5 | Figure IV.B-7b |
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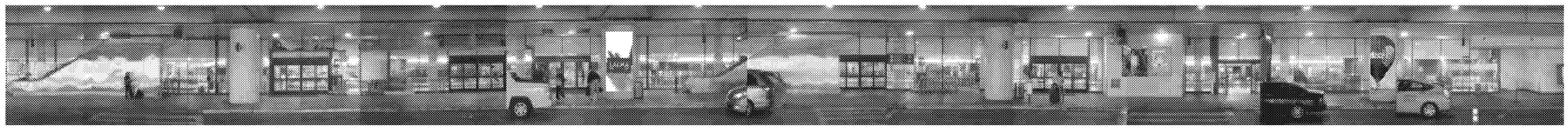
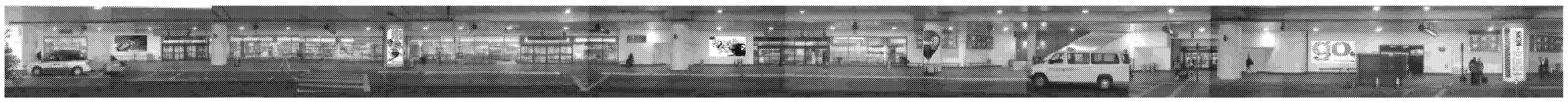
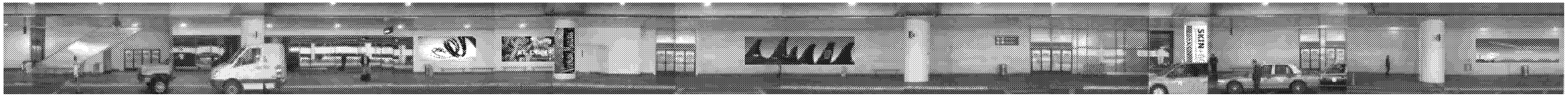
**Terminal 6- South Elevation - East End**



**Terminal 6- South Elevation - West End**



**Terminal 7- South Elevation - East End**



**Terminal 7- South Elevation - West End**

Source: Gensler, 2012.

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| LAX Sign District Project EIR | Proposed Sign Locations — Terminal Facades - Lower Level - T6 & T7 | Figure IV.B-7c |

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Tom Bradley International Terminal - East Elevation - Upper Level

Tom Bradley International Terminal - East Elevation - Lower Level - South End

Tom Bradley International Terminal - East Elevation - Lower Level - North End

Source: Gensler, 2012.

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| LAX Sign District Project EIR | Proposed Sign Locations — Terminal Facades - TBIT | Figure IV.B-8 |

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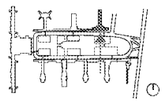
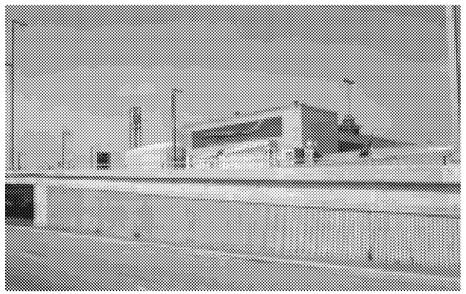
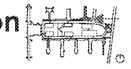
Terminal 1 - South Elevation

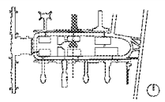




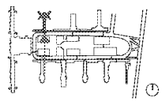
Terminal 1 - East Elevation



Terminal 2 - South Elevation



Terminal 3 - South Elevation



Source: Gensler, 2012.

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| LAX Sign District Project EIR | Proposed Sign Locations — Terminal Facades - Upper Level - T1, T2, & T3 | Figure IV.B-9a |

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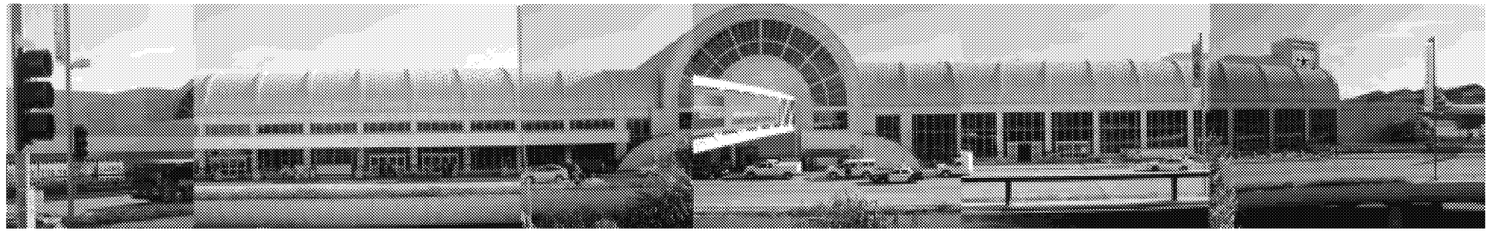
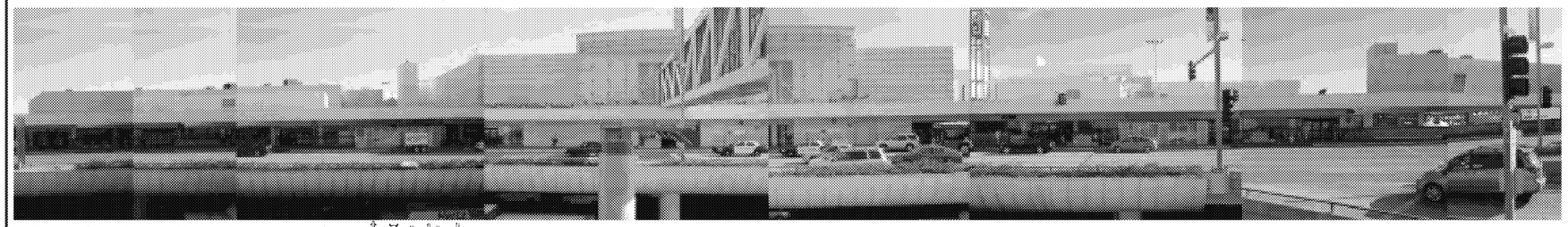
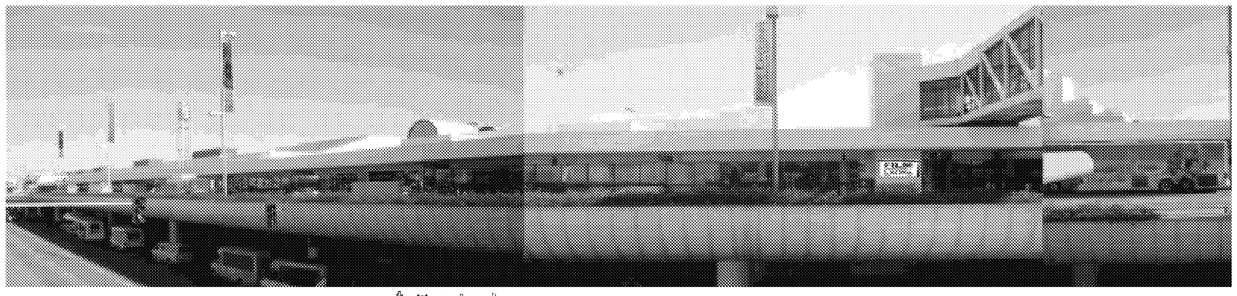


Terminal 4 - South Elevation



Terminal 5 - South Elevation



Terminal 6 - South Elevation

Terminal 7 - South Elevation

Source: Gensler, 2012.

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| LAX Sign District Project EIR | Proposed Sign Locations — Terminal Facades - Upper Level - T4, T5, T6, & T7 | Figure IV.B-9b |

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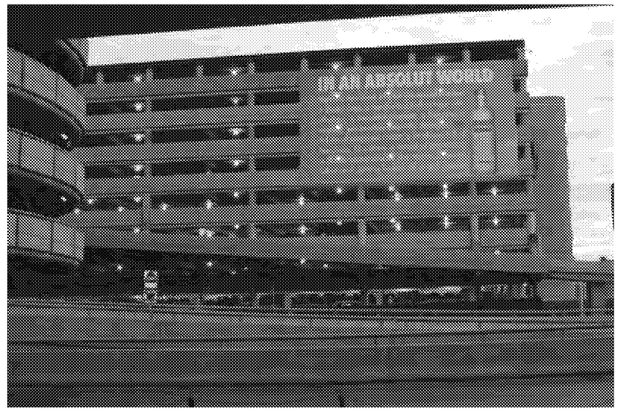
LOS ANGELES BURBANK BOB HOPE AIRPORT


LONDON HEATHROW INTERNATIONAL AIRPORT, ENGLAND


JOHN F.KENNEDY INTERNATIONAL AIPRORT, NY



LAS VEGAS MCCARRAN INTERNATIONAL AIRPORT


LAS VEGAS MCCARRAN INTERNATIONAL AIRPORT


LA GUARDIA AIPRORT, NY

Source. Gensler, 2012.

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| **LAX Sign District Project EIR** | **Example of Signage at Other Airports** | Figure **IV.B-10a** |

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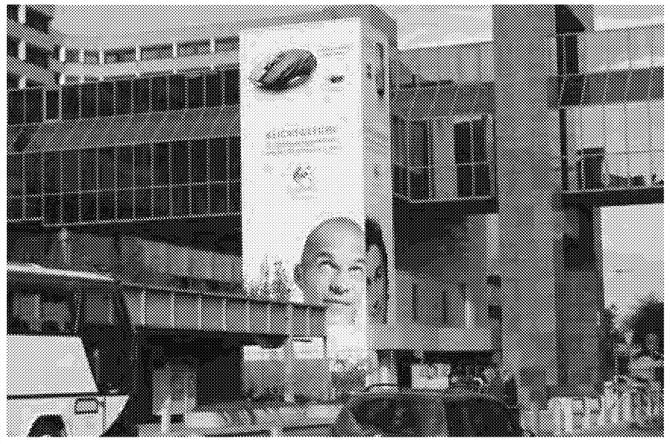
LAS VEGAS MCCARRAN INTERNATIONAL AIRPORT


ABERDEEN INTERNATIONAL AIRPORT , SCOTLAND

SALT LAKE CITY INTERNATIONAL AIRPORT



FRANKFURT INTERNATIONAL AIRPORT, GERMANY


BALTIMORE - WASHINGTON INTERNATIONAL THURGOOD MARSHALL AIRPORT


LAS VEGAS MCCARRAN INTERNATIONAL AIRPORT

Source: Gensler, 2012.

| LAX Sign District Project EIR | Example of Signage at Other Airports | Figure IV.B-10b |
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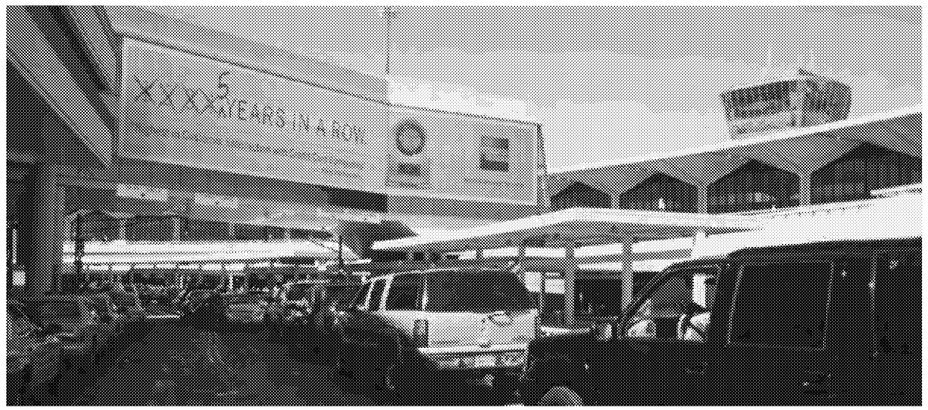
JOHN F. KENNEDY INTERNATIONAL AIRPORT, NY

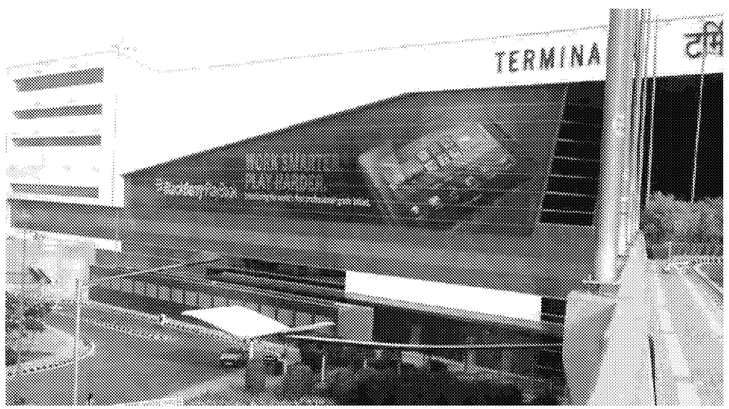

TORONTO INTERNATIONAL AIRPORT, CANADA

FIUMICINO INTERNATIONAL AIRPORT, ROME, ITALY




NEWARK AIRPORT, NJ

NINOY AQUINO INTERNATIONAL AIRPORT, PHILIPPINES




DEHLI INTERNATIONAL AIRPORT, INDIA

MIAMI INTERNATIONAL AIRPORT, FL


DUBAI INTERNATIONAL AIRPORT, UNITED ARAB EMIRATES

Source: Gensler, 2012.

| LAX Sign District Project EIR | Example of Signage at Other Airports | Figure IV.B-10c |
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The proposed Project would not substantially alter, degrade, or eliminate the existing visual character of an area, including valued existing features or resources, nor would it substantially contrast with the visual character of the surrounding area and its aesthetic image. Therefore, impacts to aesthetic and visual resources relative to the Landside Sub-Area would be less than significant.

*Airside Sub-Area*

The proposed Project includes a maximum of approximately 289,600 sq ft of proposed new off-site signage within the Airside Sub-Area. The LAX Airside Sub-Area (approximately 102 acres) includes terminal concourses, gates, passenger boarding bridges, runways, airport access ways, and equipment which allow for the safe and efficient operation of airport airfield activities. The Airside Sub-Area is primarily visible to passengers and employees who handle airfield operations. There is some limited visibility to passengers and employees from the gates.

Other than general views of active airfield operations, there are no notable visual resources within the Airside Sub-Area. The public (i.e., passenger) views from the Airport Sub-Area are limited, consisting of views available from gate windows, aircraft windows, and bus windows for passengers traveling to and from remote gates. The visual character in this area is utilitarian with a high level of vehicle and employee activity in close proximity to the gates (i.e., baggage handling, cargo loading and unloading, etc.) and the open areas of the runway as aircraft take off, land, and taxi to and from the gates. The proposed signage is intended for passenger boarding bridges and intended to be visible to passengers from aircraft and terminal gates. This signage would add to the complex visual imagery occurring in the foreground and would not change the utilitarian and active character of the site as seen at other major airports in the United States and the world.

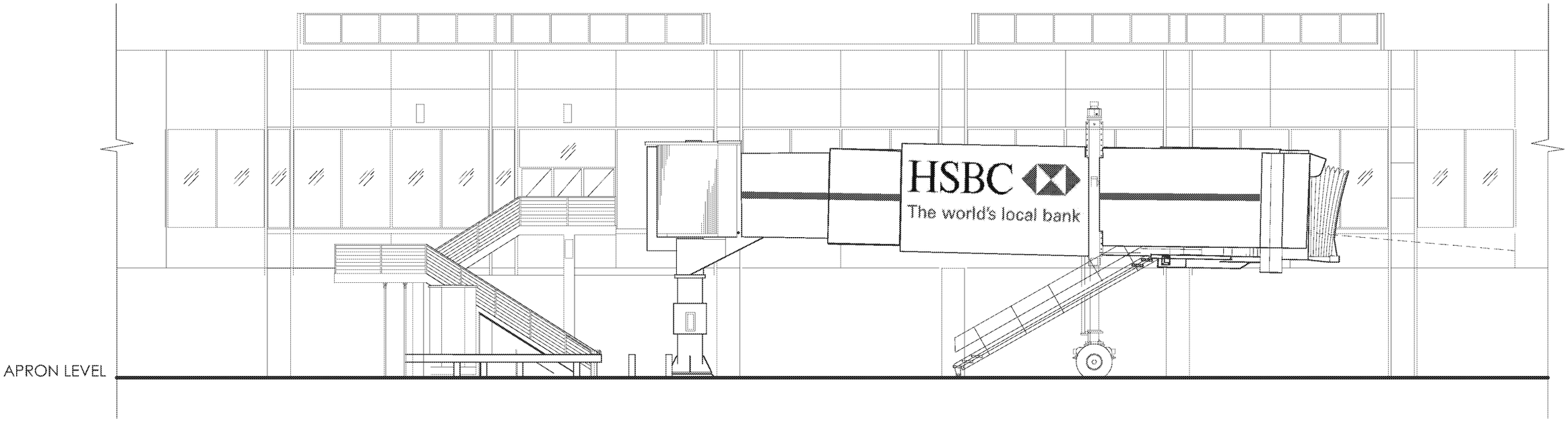
Figure IV.B-11 provides an example view of passenger boarding bridge signage at London Heathrow International Airport, which is similar to signage that can be found at other international airports. The signage contributes to a modern look and supports the gateway image that typifies a large international airport.

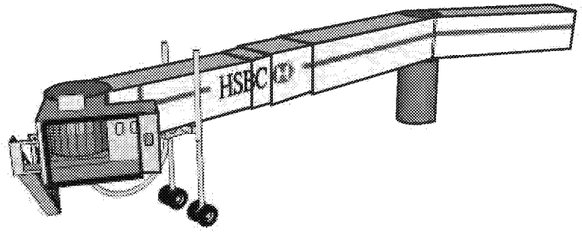
The proposed Project would not substantially alter, degrade, or eliminate the existing visual character of an area, including valued existing features or resources, nor would it substantially contrast with the visual character of the surrounding area and its aesthetic image. Therefore, impacts to aesthetic and visual resources relative to the Airside Sub-Area would be less than significant.

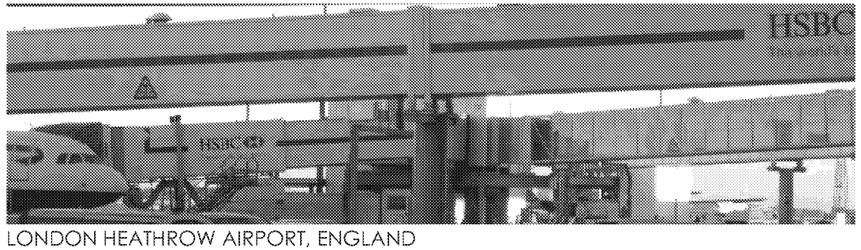
(b) Off-Airport Views

*Northern Boundary*

The proposed Project includes a Project Design Feature that limits visibility of the proposed signage from off-airport locations and prohibits new off-site signage from being placed along the Project boundary. As indicated above, the closest sensitive viewers to the northern Project boundary are residential uses located approximately 0.4 mile northeast to 0.6 mile north in the community of Westchester. An earthen berm and opaque perimeter fence intervene between most of the LAX boundary and the community, thus blocking direct views of the Project site from Manchester Parkway. Farther east, the Westchester Golf Course and a 12-foot-high sound wall atop an 8-foot-high berm buffer views of the airport from residential uses north and immediately east of the golf course. Proposed signage within the Landside Sub-Area (CTA) would not be visible from the northern area. The only signage that would be on the Landside Sub-Area that is not interior to the CTA is the proposed digital display sign on Terminal 1. However, the proposed digital display is located on the eastern facade of the terminal; therefore, based on location of the signage, distance and intervening structures, the existing visual character of the area would not be substantially altered or degraded. Within the Airside Sub-Area, Terminals 1 through 3 and the northern portion of the TBIT/future Bradley West Terminal would be the closest portions of the Project site to the community along the LAX northern boundary. Limited long distance views are available of the Airside Sub-Area




LONDON HEATHROW AIRPORT, ENGLAND

LONDON HEATHROW AIRPORT, ENGLAND

Source. Gensler, 2012.

| | | |
|---|---|---|
| **LAX Sign District Project EIR** | **Airside Sub-Area: Example of Signage on Passenger Boarding Bridge** | Figure **IV.B-11** |

portion of the Project site. However, Airside Sub-Area terminal features (including the passenger boarding bridges) and other facilities within the Project site are indistinguishable (Figure IV.B-12). Signage would blend into this distant background and would not change the visual character or aesthetics. The proposed Project would not substantially alter, degrade, or eliminate the existing visual character of an area, including valued existing features or resources, nor would it substantially contrast with the visual character of the surrounding area and its aesthetic image. Therefore, impacts to aesthetic and visual resources relative to the character along the northern boundary of LAX would be less than significant.

*Southern Boundary*

The proposed Project includes a Project Design Feature that limits visibility of the proposed signage from off-airport locations and prohibits new off-site signage from being placed along the Project boundary. As indicated previously, the nearest sensitive receptors to the southern Project boundary are residential uses located approximately 0.5 mile south in the City of El Segundo. Proposed signage within the Landside Sub-Area (CTA) would not be visible from the southern area. Within the Airside Sub-Area, Terminals 4 through 8 and the southern portion of the TBIT/future Bradley West Terminal would be the closest portions of the Project site to the community along the LAX southern boundary. As from the northern Project boundary, only limited long distance views are available of the Airside Sub-Area portion of the Project site. Airside Sub-Area terminal features (including passenger boarding bridges) and other facilities within the Project site are indistinguishable, as shown in Figure IV.B-3. Signage would blend into this distant background and not change the visual character or aesthetics of the Project site. The proposed Project would not substantially alter, degrade, or eliminate the existing visual character of an area, including valued existing features or resources, nor would it substantially contrast with the visual character of the surrounding area and its aesthetic image. Therefore, impacts to aesthetic and visual resources relative to the character along the southern boundary of LAX would be less than significant.

*Eastern Boundary*

The proposed Project includes a Project Design Feature that limits visibility of the proposed signage from off-airport locations and prohibits new off-site signage from being placed along the Project boundary. The eastern boundary of the Project site is located approximately 125 feet from the nearest sensitive receptor, hotel guests associated with the Radisson Hotel. Digital display signs that are proposed on the east elevations of Terminal 1, the first CTA sky bridge, and Parking Structure 1 would be the closest proposed signs to the Radisson Hotel (approximately 0.2 mile from the closest proposed signage). From Sepulveda Boulevard north of Century Boulevard, the proposed Terminal 1 signage, and to a limited extent the proposed signage on the first sky bridge, would be visible to pedestrians and motorists on a portion of Sepulveda Boulevard adjacent to LAX. Due to intervening structures (including a LAWA office building and the elevated airport roadways for departures) and landscaping, the proposed digital display on Parking Structure 1 is not expected to be visible from this location. The Radisson Hotel has no hotel room windows facing west toward the Project site. Therefore, the Radisson Hotel does not have direct views of the Project site. Figure IV.B-13 shows a view of the proposed signage on Terminal 1. From Sepulveda Boulevard south of Century Boulevard, due to intervening structures (including a LAWA office building and the elevated airport roadways for departures) and landscaping, the proposed Landside Sub-Area signage is not expected to be visible to pedestrians and motorists.

The Project site is in a highly developed area. The viewscape is occupied by urban uses such as multi-story buildings, heavily traveled roadways (including raised roadways), surface parking lots, and existing signage, including billboards and wall signs. The signage visible from the eastern boundary would occupy only a small portion of the viewshed. It would be located on existing facilities, separated from the viewer by intervening development or features (i.e., raised roadways, surface parking, and light poles). Thus, the signage would not be visually prominent, and would not change or detract from the existing urban character of the site. In addition, various types of on-site signs within the Project site are visible from the eastern boundary. These on-site signs

Source: Gensler, 2012.

| | | |
|---|---|---|
| **LAX Sign District Project EIR** | **View of Project Site from Westchester Parkway near Sepulveda Westway** | Figure **IV.B-12** |

EXISTING

PROPOSED

Source: Gensler, 2012.

| | | |
|---|---|---|
| **LAX Sign District Project EIR** | **Terminal 1 - Existing Conditions and Proposed Sign Location** | Figure **IV.B-13** |

visible from the eastern boundary include wayfinding signs, wall signs and supergraphics on sky bridges, as well as the existing off-site billboard signs at the Park One Property. Both on-site and off-site signage are similar in appearance. The difference is the content of the signage; on-site signage is airport-related signage, while off-site signage is non-airport related signage. The proposed Project would not substantially alter, degrade, or eliminate the existing visual character of an area, including valued existing features or resources, nor would it substantially contrast with the visual character of the surrounding area and its aesthetic image. Therefore, impacts to aesthetic and visual resources relative to the character along the eastern boundary of LAX would be less than significant.

*Western Boundary*

As discussed previously, there are no sensitive receptors within approximately one mile west of the Project site. To the immediate west of the Project site are hangars and various structures associated with LAX airport operations, which would not be affected by the proposed Project. Proposed signage within the Landside Sub-Area (CTA) and Airside Sub-Area would not be visible from the western area given the distance (greater than one mile) and the presence of intervening structures. In addition, there are no sensitive receptors along the western boundary. Therefore, the proposed Project would not substantially alter, degrade, or eliminate the existing visual character of an area, including valued existing features or resources, nor would it substantially contrast with the visual character of the surrounding area and its aesthetic image. No impacts to aesthetic and visual resources relative to the character along the western boundary of LAX would occur.

## 3. CUMULATIVE IMPACTS

The Project site is characterized by a highly-built environment, with roadway and airfield vehicle and passenger movement activity within and adjacent to the Project site throughout the day and much of the night. As indicated above, the proposed Project would be consistent with the urban character and the airport aesthetics. The proposed LAX Sign District would codify specific regulations and standards regarding the location, type, and size of allowable signs associated with non-airport related advertising, and their placement within the CTA and on terminals and passenger boarding bridges visible from airside areas. Implementation of the LAX Sign District would enhance the ability for signage at the airport to be cohesive and fit within a unified design theme.

Several related projects are currently planned or are underway on the airport property, as discussed in Chapter III, Environmental Setting, and would result in an intensification of development at LAX and potentially result in changes to the visual environment. Such projects include the Bradley West Project, the Midfield Satellite Concourse, the "New Face" of the CTA Improvements/Enhancements, the Central Utility Plant Replacement Project, the LAX Specific Plan Amendment Study, and the LAX Northside project.

Cumulative projects within the CTA, including the Bradley West Project, the Midfield Satellite Concourse, the "New Face" of the CTA Improvements/Enhancements, the Central Utility Plant Replacement Project, and the LAX Specific Plan Amendment Study, would enhance visual and aesthetic quality since they would improve and modernize the existing structures, create new visual treatments, introduce modern design elements and greater architectural articulation, and impose stricter design guidance than current conditions. New and modified facilities are expected to represent an aesthetic improvement within the CTA that would promote the airport's image as a Gateway to the City of Los Angeles and would not involve the removal of features that contribute to the aesthetic character of the area. Further, these projects would be required to comply with applicable design guidelines and policies that include landscape buffers or other screening to minimize potential visual impacts on surrounding communities and to be approved through the design review process. In addition, each related project would be required to incorporate mitigation measures as necessary to ensure that visual impacts would be reduced to a less than significant level.

The conversion of the largely vacant LAX Northside would represent a substantial change in visual character and has the potential to affect views from residential development to the north. However, the LAX Northside area is subject to height restrictions, setback requirements, and lighting and landscape guidelines and requirements contained in the LAX Northside Design Plan and Development Guidelines and the LAX Specific Plan, with the goal of avoiding land use conflicts, creating a visually open appearance, and promoting design sensitivity to the residential interface, enhancing privacy. Implementation of these design provisions would create an aesthetically pleasing interface with the Westchester community to the north, and setbacks and height limits would reduce visual intrusion and the obscuring of distant views. Implementation of the LAX Northside Plan would create intervening development between residential uses and existing views of the airfield would be further limited. Although views from certain high-rise apartment buildings on the west side of Lincoln Boulevard would change, existing views of LAX Northside and LAX are not considered scenic or of high aesthetic quality. More distant views of the Theme Building would also be limited by the new development; however, due to the distance of the Theme Building from northern vantage points, existing views of the Theme Building that might be obstructed are not considered scenic.

Compliance with regulatory requirements, Project Design Features, and applicable design plans, including LAX Master Plan Commitment DA-1, Provide and Maintain Airport Buffer Areas, and implementation of mitigation measures specified in the LAX Specific Plan Amendment Study, would ensure that cumulative projects would not substantially alter, degrade, or eliminate the existing visual character of an area, including valued existing features or resources, nor would they substantially contrast with the visual character of the surrounding area and its aesthetic image. Therefore, cumulative projects, in combination with the proposed Project, would not be expected to result in significant cumulative visual resources impacts.

## 4. PROJECT DESIGN FEATURES AND MITIGATION MEASURES

As listed in Section 2(b) above, the following Project Design Features, including applicable LAX Master Plan Commitments, would reduce or avoid potential visual impacts associated with the proposed Project:

*Project Design Features*

- The allowable locations and sizes of signs have been designed to limit visibility from off-airport locations (i.e., surrounding communities) and to not visually or otherwise negatively affect airport operations or affect or alter historical buildings within LAX.
- No new off-site signage would be placed along the Project boundary, and no electronic or light enhanced signage would be visible from the adjacent residential areas (i.e., community of Westchester to the north and City of El Segundo to the south).
- No electronic or light enhanced signage would be installed within or be visible from the Airside Sub-Area.
- Off-site signs would not be permitted on a number of buildings within the Project site, including the Theme Building, the Airport Traffic Control Tower, and the Clifton A. Moore Administration Building (including the former Airport Traffic Control Tower [1961]).
- Limit illuminance contribution of signage to 0.3 fc at 350 feet from face of sign.
- The proposed signage locations and their placement would be in a manner that would prevent automobile headlight-related glare. For example, signage would be placed at a higher level than the roadway or perpendicular to headlights (i.e., signage placed on sky bridges).
- The proposed Project would include a plan to remove a number of billboards in LAWA's control and comply with other applicable requirements from the Department of City Planning.

- Digital displays signs would display static images only (i.e., restriction for any type of sign that contains images, text, parts, or illumination which flash, change, move, blink, or otherwise refresh in whole or in part).
- The digital displays would have the LEDs aimed horizontally towards the street view using a cubic louvering system to help to limit light trespass, direct the visual impact of the display to the appropriate audience, and direct light away from flight paths and highly focused driving tasks. Refer to Figure IV.C-2 for a typical light emitting diode beam spread and plan view of the layout for the directionality of the LEDs associated with the digital display signs.
- The proposed location of the two types of digital display signs - CR I and CR III - have been chosen being mindful of driver, pedestrian, ATC personnel and pilot safety.
- Digital display signs shall be limited in their refresh events. CR I images would refresh (change) no more than one event every eight seconds (with the exception being Parking Structure 1 which would refresh every 14 seconds). CR III images would refresh no more than one event every 12 hours. In addition, the CR III images on the sky bridges would refresh simultaneously no more than one event every 12 hours.
- Digital signage would be subject to limits on brightness levels (i.e., 4,500 cd/m$^2$ during the daytime and 300 cd/m$^2$ during the nighttime) and equipped with sensors that modify the brightness of the sign in response to ambient lighting conditions.
- Dim lights of digital displays slowly at dusk over a 45 minute fade rate, controlled by an astronomical time clock. The transition from day to nighttime brightness would be required to occur gradually, to prevent a sudden change in perceptible brightness levels by pedestrians and motorists.
- Digital displays would not include large areas of reflective elements and have a contrast ratio of less than 30:1 to eliminate glare.
- Supergraphic signage over 20-feet tall at parking structure locations would be illuminated with LED or metal halide floodlights consisting of adjustable floodlight fixtures mounted at the top of the signage element with a locking knuckle precisely aimed at the signage to eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Supergraphic signage over 20-feet tall on terminal facades above canopy locations would be illuminated with LED or metal halide floodlights mounted to the adjacent canopy. Adjustable floodlight fixtures would be mounted above the canopy with a locking knuckle to precisely aim at the signage and eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors, and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Maximum vertical luminance of illuminated supergraphic signage would be 5 to 7 fc during nighttime.
- Supergraphics/wall signs/column wraps would have matte finishes, which would prevent glare from the light fixtures.

*Applicable LAX Master Plan Commitments*

***LU-4. Neighborhood Compatibility Program.*** Ongoing coordination and planning will be undertaken by LAWA to ensure that the airport is as compatible as possible with surrounding properties and neighborhoods. Measures to enforce this policy will include: 1) Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive uses with the goal of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer

areas may continue as required until LAWA can develop alternative facilities. 2) Locate airport uses and activities with the potential to adversely affect nearby residential land uses through noise, light spill-over, odor, vibration and other consequences of airport operations and development as far from adjacent residential neighborhoods as feasible. 3) Provide community outreach efforts to property owners and occupants when new development on airport property is in proximity to and could potentially affect nearby residential uses.

***DA-1. Provide and Maintain Airport Buffer Areas.*** Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive improvements with the goals of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities.

***LI-2. Use of Non-Glare Generating Building Materials.*** Prior to approval of final plans, LAWA will ensure that proposed LAX facilities will be constructed to maximize use of non-reflective materials and minimize use of undifferentiated expanses of glass.

***LI-3. Lighting Controls.*** Prior to final approval of plans for new lighting, LAWA will conduct reviews of lighting type and placement to ensure that lighting will not interfere with aeronautical lights or otherwise impair Airport Traffic Control Tower or pilot operations. Plan reviews will also ensure, where feasible, that lighting is shielded and focused to avoid glare or unnecessary light spill-over. In addition, LAWA or its designee will undertake consultation in selection of appropriate lighting type and placement, where feasible, to ensure that new lights or changes in lighting will not have an adverse effect on the natural behavior of sensitive flora and fauna within the Habitat Restoration Area.

With these Project Design Features and applicable LAX Master Plan Commitments, visual impacts would be less than significant and no mitigation measures are required.

## 5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant impacts related to visual resources would occur as a result of the proposed Project; therefore, no mitigation measures are required.

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# IV. ENVIRONMENTAL IMPACT ANALYSIS
# C. ARTIFICIAL LIGHT AND GLARE

This section describes the artificial light and glare setting of the Project and evaluates the potential for impacts to existing daytime and nighttime light and glare at the Project site and surrounding area due to the proposed Project. Nighttime illumination addresses the effects of a Project's lighting (artificial light) upon adjoining uses and receptors. Glare includes 1) the daytime reflection of the sun off reflective surfaces during the day (i.e., daytime glare); or 2) the reflection of artificial light sources (i.e., automobile headlights, special events lighting) off reflective surfaces at night (i.e., nighttime glare). Aesthetics and view issues are analyzed in Section IV.B, Visual Resources. Also related to the effects of artificial light and glare, Section IV.D, Transportation Safety, analyzes the potential for the proposed Project to result in driver, Air Traffic Control (ATC), or pilot distraction to occur to a degree that compromises transportation safety.

## 1. ENVIRONMENTAL SETTING

### a. Introduction

Vision is perhaps the most complex of the senses and a very important mechanism we have for apprehending the world. Vision results from the interaction of the eye and brain from which perceptions are formed, and ultimately results in how we build our individual worlds. Many variables affect vision, such as age and physical limitations (such as color deficiencies like color blindness, or partial sight or complete blindness), as well as spatial frequency and brightness conditions.

#### *i. Artificial Light*

The term "artificial light" in this analysis refers to man-made nighttime light. Artificial light sources are generally of two types, including: 1) point sources of light which include unshielded light sources (e.g., lenses or lamp reflectors); and 2) illuminated surfaces which may include light reflected off of the ground, walls, or trees. According to the *L.A. CEQA Thresholds Guide* , nighttime spill-over of light onto adjacent properties has the potential to interfere with certain functions, including vision, sleep, privacy, and general enjoyment of the natural light. The significance of the impact depends on the type of use affected, proximity to the affected use, the intensity of the light source, and the existing ambient light environment. According to the *L.A. CEQA Thresholds Guide*, light-sensitive land uses may include, but are not limited to, residences, including board and care facilities, commercial or institutional uses that require minimal nighttime illumination for proper function, physical comfort, or commerce, and natural areas.

Brightness is the perceptual response to luminance. It is our response to a source of light, sources being categorized between bright and dim. Luminance is a photometric measure of the luminous intensity of a surface. The luminance indicates how much luminous power will be detected by an eye looking at the surface from a particular angle of view. It is an indicator of how bright the surface will appear. Luminance is measured in candelas per meters squared ($cd/m^2$). A light source emits luminous power which is measured in candlepower (cp). Illuminance is the amount of light coming from a light source that lands on a surface. The unit used to measure illumination is the footcandle (fc) which represents the illumination cast by a one-cp light source on an area of one square foot (sq ft), measured at a distance of one foot from the light source. For a point of reference, illumination associated with natural conditions ranges from 0.004 fc for a moonless night, 25.0 fc for dawn and

125.0 fc for a bright day. Footcandle measurements associated with a number of natural conditions are shown in Table IV.C-1, Range of Natural Variation of Illuminance. The analysis provided in this section is based on $cd/m^2$, which is a better standard, as it is measurable regardless of distance, viewing angle, etc., and is easily measured with a luminance meter. In addition, $cd/m^2$ is typically what is used for LED signs as it is the impression made on the viewer of the signs and provides the most relevant measurement associated with views of pedestrians and motorists that would be viewing digital display signs including the amount of brightness they perceive.

**Table IV.C-1**

**Range of Natural Variation of Illuminance**

| Condition | Illuminance (footcandles) |
|---|---|
| Moonless Night | 0.004 |
| Full Moon | 0.030 |
| Twilight | 20.00 |
| Dawn | 25.00 |
| Foggy Day | 15.00 |
| Overcast Day | 54.00 |
| Bright Day Light | 125.00 |

Source: International Committee on Illumination, March 2000

### *ii. Glare*

Glare is a lighting condition that causes an observer to experience adverse visual effects as a result of high brightness. Glare is common throughout the City of Los Angeles and urbanized areas in general and can be caused by either: (1) the reflection of the sun off reflective surfaces during the day (i.e., daytime glare); or (2) the reflection of artificial light sources (i.e., automobile headlights, special events lighting) off reflective surfaces at night (i.e., nighttime glare). Glare, both daytime reflection of sunlight off of large expanses of reflective surface, and unshielded nighttime lighting, can have adverse effects on glare-sensitive uses. For this Project, glare-sensitive uses are pedestrians and motorists within the Central Terminal Area (CTA) and airport operations area.

For the proposed Project, the generation of substantial amounts of daytime glare is dependent on the following factors: the presence of signs that provide the opportunity for the reflection of sunlight; and the location of signs within close proximity to a glare-sensitive use that has a direct and unobstructed line-of-sight of the glare source, provided the glare source is not located south of the glare-sensitive use.[1]

Lighting may also result in nighttime glare. The generation of substantial amounts of nighttime glare depends on the same factors as the generation of daytime glare (in this case, signs that include reflective materials and the location of such uses in highly visible areas and in close proximity to glare-sensitive uses). No adopted City policies exist regarding the measurement of reflective glare impacts. Therefore, the determination of significance is generally subjective and relative to existing conditions.

[1] *The sun does not shine on the north faces of buildings because of the latitude of the Project site.*

### b. Existing Conditions

#### *i. Artificial Light*

The Project site (the interior portion of the Los Angeles International Airport [LAX])/LAX and the surrounding environment generate light emissions common in highly urbanized areas. Illumination associated with the Project site (and LAX as a whole) provides for the safe and secure movement of pedestrians and vehicles, and does not interfere with the nighttime visibility of Airport Traffic Control Tower operators and incoming pilots, or interfere with lighting used to guide aircrafts such as approach lighting, runway/taxiway guidance lighting, runway end identifier lights, and ground lighting/marking. Of the lighting sources described below, those that are located in proximity to light-sensitive receptors are most pertinent for analysis. Sensitive receptors are primarily concentrated along the airport's northern and southern edges (e.g., residential uses). The closest residential areas to the Project site are approximately 0.4 mile northeast to 0.6 mile north (community of Westchester) and 0.5 mile south (City of El Segundo). Hotel uses are located along Century Boulevard as you approach the entrance to the Project site/LAX, with the closest hotel located approximately 125 feet east of the Project site.

Illumination sources at the Project site include the following.

*(1) Landside Sub-Area*

The illumination sources within the Landside Sub-Area (i.e., the CTA) include street lights, security lighting, signage lights, roof perimeter lights, parapet lights, parking structure interior and exterior lighting, and terminal entrance lights. Lighting associated with the upper roadway (departure area) and lower roadway (arrival area) is similar; however, the lighting on the upper level is more visible to the surrounding areas with fewer structures to shield the lighting (for example, the lower roadway is covered by the upper roadway). Conversely, lighting associated with the departure area is primarily confined to the CTA with minimal off-airport spill-over and contribute to ambient lighting levels in the vicinity. Illumination sources within the Landside Sub-Area also include interior lighting emitting from the terminals, sky bridges, and parking structures that have a large amount of non-opaque (i.e., glass doors and windows) or open (i.e., parking structures) surfaces. The roof perimeter and parapet lights, shielded and directed down, generally do not spill over more than 30 feet onto the surrounding areas. Interior light emitting from the terminals and parking structures does not generally spill over beyond these structures.

A lighting survey and study was conducted on June 25, 2012 and June 26, 2012 between 10:30 pm and 4:30 am to measure luminance of existing signage and lighting within the Project site (existing Park One Property and various CTA signage). All measurements were taken from ground level, which is the viewpoint of the pedestrian and automobile traffic, using a luminance meter that measures in cd/m$^2$. Illuminance measurements were taken using a light meter, which measures in fc. Refer to Appendix B of this Draft EIR for the detailed survey. During the lighting survey, the following conditions associated with existing types of billboards/signage were found:

*Typical Airport Downlighted Overhead Directional (Wayfinding) Signage:* A typical airport sign bridging over traffic downlighted with metal halide floodlights measured between 2 to 517 cd/m$^2$. The brightness of the sign depends on factors such as the color of the exact measurement point, the relative age of the lamp, maintenance and dirt depreciation (refer to Appendix B - 4.A.1 for additional data and images).

*Typical Airport Uplighted Roadway-Adjacent Directional (Wayfinding) Signage:* A typical airport sign located to the left-hand side of traffic to designate parking and terminals uplighted with surface mount accents measured between 6 to 18 cd/m$^2$. The brightness of the sign depends on factors such as the color of the signage and the wattage and relative age of the lamps, maintenance, dirt depreciation, and lens quality in the roadway environment (refer to Appendix B - 4.A.2 for additional data and images).

*Encounter Building Accent Lighting (Inside Airport):* The Encounter restaurant facade is uplit with colored LEDs and measured between 1 to 8 cd/m². The brightness of the facade depends on the color of the floodlighting at any moment and the depreciation of the LEDs over time (refer to Appendix B - 4.F for additional data and images).

*The Gateway LAX Full Size Illuminated Entry Pylons:* The LAX Gateway pylons are internally illuminated using colored LEDs and measured between 9 to 15 cd/m². The brightness of the column facade depends on the color of the floodlighting at any moment and the depreciation of the LEDs over time. See Appendix B - 4.C for additional data and images.

*Terminal 4 A merican Flag:* The large scale American Flag at Terminal 4 facade measured between 17 to 62 cd/m². The brightness of the flag depends on the relative age of the lamp, maintenance, dirt depreciation in the roadway environment, colors in the flag, and light fixture lens quality (refer to Appendix B - 4.D for additional data).

*(2) Airside Sub-Area*

Within the Airside Sub-Area, the illumination sources include airport beacons, approach lighting, runway/taxiway guidance lighting, runway end identifier lights, apron/ramp floodlighting, and ground lighting/marking. Lighting associated with the airfield area is generally low to the ground and low in intensity. In general, runway/taxiway lights are directed towards the runway or taxiway and not off the pavement. Illumination sources within the Airside Sub-Area also include interior lighting emitting from the terminals, as well as from the hangar facilities immediately west of the CTA. Lighting associated with the hangars and terminal buildings also includes roof perimeter lights, and light emitting from the interiors of these structures. The roof perimeter and parapet lights, shielded and directed down, generally do not spill over more than 30 feet onto the surrounding areas. Interior light emitting from hangars and terminals does not generally spill over beyond the hangar doors and terminal aprons.

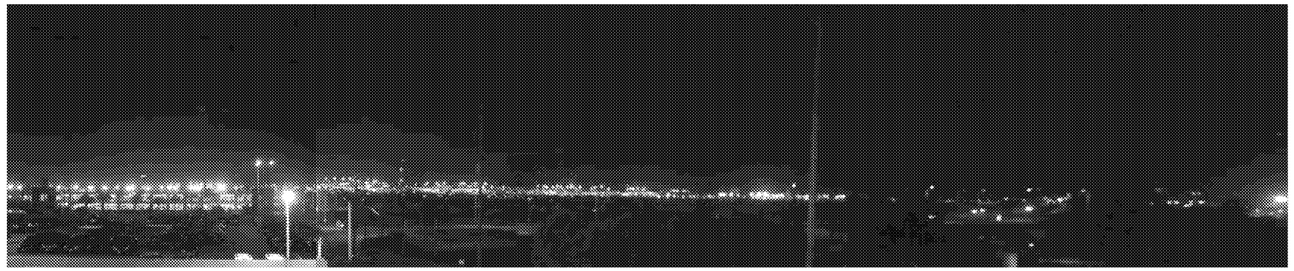
*(3) Surrounding Areas*

The existing lighting conditions within and along each of the boundary areas surrounding the airport property are described below. Figure IV.C-1 shows nighttime views of the airport from the communities of Westchester and El Segundo.

*Northern Boundary*

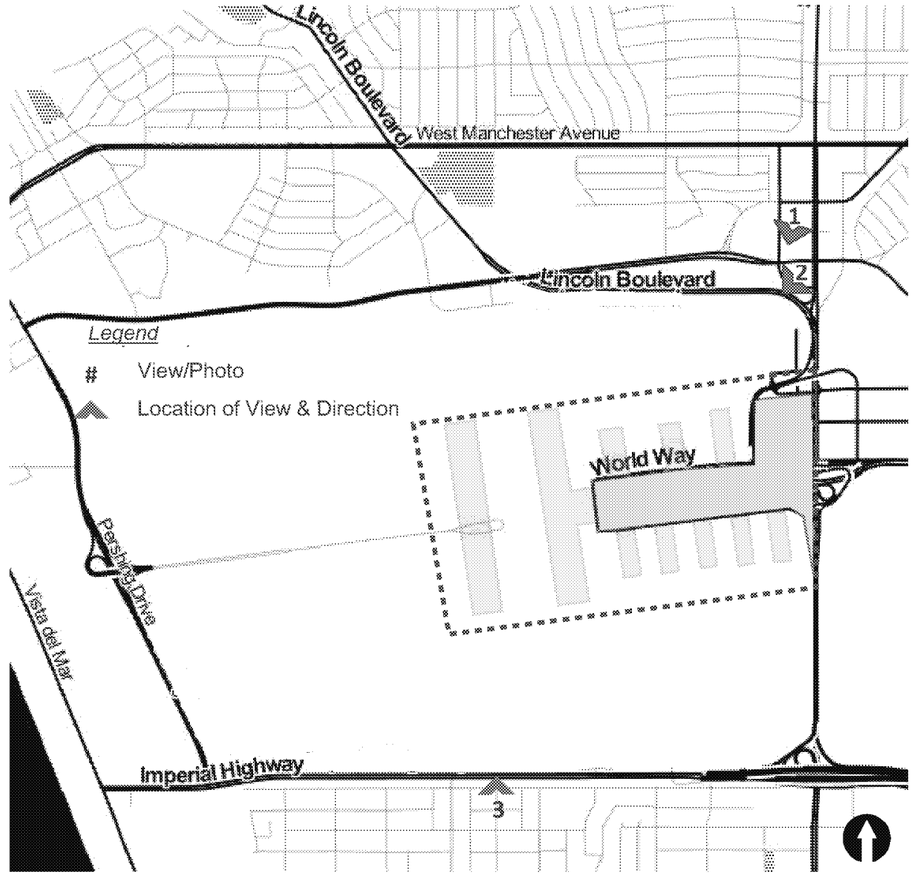
To the north of the Project site, Parking Lots C and D, located near Sepulveda Boulevard and Westchester Parkway, have 6-foot fences and walls, set within 15-foot landscaped buffers along the street frontages. The parking lot lights are similar in intensity to the adjacent street lights. Although located throughout the parking lot, these lights are not at the perimeters; they are shielded and directed downward in accordance with Los Angeles Municipal Code (LAMC) requirements, and do not spill over beyond the parking surfaces. The residential area north of LAX and east of Sepulveda Boulevard is adjacent to these existing airport parking facilities. The parking lot lighting is visible from this residential area, as is lighting from the adjacent commercial uses to the west and east and industrial uses to the southeast, but because the lighting is shielded and directed downward, light spill-over onto light-sensitive uses is limited.

The residential area north of LAX and west of Sepulveda Boulevard is separated by at least 1,000 feet from existing airport facilities by Westchester Parkway, a berm (or the Los Angeles/El Segundo Dunes in some areas near Pershing Drive), or the largely vacant LAX Northside area (part of the LAX property). Where direct views of LAX are available, they are distant and generally look across the dimly or unlit Dunes or the LAX Northside



View 1: View of LAX from Westchester - At the top of Ralph's parking structure near Sepulveda Blvd and Westchester Pkwy

View 2: View of LAX from Westchester - Along Lincoln Blvd.




View 3: View of LAX from El Segundo – Along Imperial Ave. west of Sheldon St.

Photo Source: Gensler, 2012; Location View Map Source: Stamen, 2012.

| | | |
|---|---|---|
| **LAX Sign District Project EIR** | **Off-Airport Nighttime Views** | Figure IV.C-1 |

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area (except for the Westchester Golf Course which is not considered a light-sensitive use for purposes of this analysis). The Westchester Golf Course provides lighting for evening golf course use. This lighting is visible from surrounding off-airport areas.

*Southern Boundary*

The southern boundary of the Project site is approximately 0.5 mile from the City of El Segundo. The land uses to the south of LAX in the City of El Segundo, which consist of light-sensitive uses, are separated from the airport by a combination of Imperial Highway, Imperial Avenue, Interstate 105 (I-105), the Imperial Strip (a 7.35-acre landscaped open space corridor that parallels Imperial Highway), and partially opaque perimeter fencing and/or an earthen berm with a service road on top. While some of the adjacent sensitive receptor views of LAX are blocked by these intervening features, others have direct views of LAX. However, while LAX light sources are visible to certain residences between the trees of the Imperial Strip and from the upper floors of some of the apartments and hotels, the distances and intervening lighting (i.e., street lights) are such that the light-sensitive uses are not affected by light spill-over or high ambient lighting levels from LAX.

*Eastern Boundary*

The area east of the Project site consists of several sources of artificial light, such as the lit pylon display, various billboards, and lit building facades. On the eastern boundary of the Project site is a kinetic lighting display that is the landmark entry to LAX, Los Angeles, and to visitors from abroad, the United States. The lighting installation is comprised of a 1.5-mile lineup of 11 pylons six feet in diameter that increase in height from 25 to 60 feet. The 11 pylons are located within the median along Century Boulevard and culminate with a "Gateway Circle" of 15 100-foot tall columns 12 feet in diameter at the intersection of Century Boulevard and Sepulveda Boulevard. The "Gateway Circle" is approximately 560 feet in diameter. The pylons are lit daily from dusk to dawn and can feature varying programs of up to approximately 16.7 million colors synchronized by computer (LAWA, 2012). The program can last between 5 minutes to three hours and consist of lighting display, synchronous lighting activity, and color arrays. In addition to the pylons, at the entrance of the airport, there are 32-foot-high LAX letter forms. The pylons utilize low-level lighting that is emitted from within the columns and therefore does not spill over off-airport. The LAX letter forms are lit from the ground by spotlights at the base. During the lighting survey, the measured luminance range of the pylons was 9 to 15 cd/m$^2$ (Appendix B). Although the lighting does not spill off-airport, and the luminance range is low, the backlighting associated with this light installation is a source of illumination that is meant to be visible to pilots and airline passengers at 3,000 feet in the air.

In addition to the lighting display, light sources in the vicinity of Sepulveda Boulevard and Century Boulevard include light from billboards, hotels, commercial buildings, and street lights. As detailed in the lighting survey, there is an LED digital billboard along Sepulveda Boulevard near 96th Street (facing southbound traffic), which had a luminance range of 40 to 200 cd/m² depending on the image being presented (refer to Appendix B for additional data and images). In the vicinity of the intersection of Sepulveda and Century Boulevards is a billboard with floodlights, which had a measured luminance range of 2 to 40 cd/m$^2$. When all the lighting sources are considered, the luminance associated with the adjacent southern boundary uses is similar to the Landside Sub-Area of the airport. The hotel buildings along Century Boulevard are the only light-sensitive receptors within this area. While airport light sources are visible from hotel buildings within the Century Corridor, especially from the upper floors of the westerly-most hotel (i.e., Radisson which is located approximately 125 feet to the east of the Landside Sub-Area portion of the Project site and approximately 0.2 mile from the proposed signage at the east elevation of Terminal 1), there is no spill-over of lighting onto the hotel buildings from airport sources and airport lighting effects are generally less apparent than the hotels' own environmental lighting.

*Western Boundary*

To the west of the Project site, lighting in the Los Angeles/El Segundo Dunes and El Segundo Blue Butterfly Habitat Restoration Area (Habitat Restoration Area) west of Pershing Drive currently consists of navigational aids for LAX aircraft and security lighting for two small buildings. All of the security lights are on motion detection settings that turn off when the motion stopped. The lighting, while visible, is low in profile. Also, street lights on Pershing Drive emit amber light, and older low-profile street lights along Vista del Mar, adjacent to the Dunes, emit white light at low intensities. As airfield development in this area is currently limited, airport light sources in this area are less intense than those found on the remainder of the airport site and are primarily comprised of airfield lighting. The Dunes/Habitat Restoration Area is considered a light-sensitive use. Additionally, there are several intervening airport-related structures with existing lighting between the Project site and the Dunes that would obscure any lighting associated with the proposed Project from the Dunes.

#### *ii. Glare*

Vehicles are the primary source of glare within the Project site. The Park One Property, a surface parking lot visible from Sepulveda Boulevard, is a source of reflective light occurring from windshield glass and other reflective surfaces on parked automobiles during certain hours of the day. Other reflective surfaces include vehicles within both the Landside and Airside Sub-Areas, and aircraft within the Airside Sub-Area. Building windows within the Project site are tinted and coated to reduce potential for glare.

Sources of glare in the surrounding area include building windows, light-colored building surfaces, metal surfaces, and car windshields and other reflective surfaces. Sensitive receptors relative to daytime glare from reflected sunlight include motorists traveling within the Project site and on the adjacent roadways and pilots.

### c. Existing Regulations

The following policies and guidelines are associated with artificial light and glare:

#### *i. California Code of Regulations Title 24*

Title 24 of the California Code of Regulations limits energy use for exterior signage in California. Table IV.C-2 presents Title-24 2008 limits on exterior, internally illuminated signs, and integral electronic displays to 12 watts/ sq ft.

**Table IV.C-2**

**Title 24 Wattage limits for Exterior, Internally Illuminated Signs, and Integral Electronic Displays**

| Time of Day | Watt/Sq Ft at Full White | Brightness at Full White (cd/m$^2$) | Hours on Per Day | Total Watt-Hours Per Day Per Sq Ft of Sign |
|---|---|---|---|---|
| **Daytime Usage (7 am to 7 pm)** | 12 | 3,500* | 12 | 144 |
| **Nighttime Usage (7 pm to 2 am)** | 5 | 1,500 | 7 | 35 |
| **Total Watt-Hours Per Day Per Sq Ft of Sign** | | | | 179 |

*Title 24 only restricts energy usage and does not restrict brightness
Source: LDA, 2012

### *ii. Los Angeles Municipal Code (LAMC)*

The LAMC, Section 12.50, Airport Approach Zoning Regulations, establishes special airport zoning regulations for land uses within the approach zones of LAX (specifically within the areas mapped in the Airport Hazards Area Maps referenced in the LAMC) in order to prevent the creation or establishment of airports hazards. These zoning regulations are primarily directed toward height limits but also address light emissions to avoid potential hazards to aircraft resulting from illuminated signs and structures within airport hazard areas. These regulations are applicable to uses immediately east and west of the LAX north and south runways. Use restrictions within the airport hazard area include no illuminated or flashing advertising or business sign, and billboards that would make it difficult for pilots to distinguish between those lights and the aeronautical lights of the airport (includes glare that could impair or endanger the landing, taking off or maneuvering of aircraft). Although the proposed Project does not include placement of new off-site signage within the Airport Hazards Area, the intent of the Project is to be mindful of placement of the proposed signage related to hazards (obstruction and light emissions) in the airport.

The LAMC Building Code Section 93.0117 regulates light spill-over in residential areas. Specifically, Section 9.0117 prohibits the establishment of exterior stationary sources of lighting that illuminate windows, decks, or backyards at residential units by more than 2 fc of lighting intensity or cause direct glare. These regulations would apply to development along the north and south periphery of LAX.

The Sign Ordinance, Article 4.4, Sign Regulations, of the LAMC, provides regulations regarding the illumination of signs near residential zones. Section 14.4.4 (E) specifies that signs may not be arranged and illuminated in a manner that produces a light intensity greater than 3 fc above ambient lighting, as measured at the property line of the nearest residentially zoned property.

### *iii. Proposed Citywide Sign Ordinance*

The City of Los Angeles is in the process of revising the existing Sign Ordinance. Following is a brief summary of the proposed ordinance revisions that pertain to illumination (refer to Section IV.A – Land Use and Planning, for a detailed description of the proposed ordinance revisions):

- It is proposed that no sign shall be arranged and illuminated in a manner that will produce a light intensity of greater than 0.3 fc above ambient lighting, as measured at the property line of the nearest residentially zoned property (Section 14.4.4, General Provisions).
- The proposed maximum brightness of any digital displays may not exceed 300 cd/m² during the nighttime and 4,500 cd/m² during the daytime. The transition from day to nighttime brightness would occur smoothly at a consistent rate beginning 45 minutes prior to sunset and concluding 45 minutes after sunset.
- It is proposed that digital displays would be equipped with a sensor or other device to automatically adjust the brightness of the display according to changes in ambient lighting to comply with the proposed 0.3 fc ambient lighting limit.

### *iv. LAX Plans and Policies*

#### *(1) The LAX Plan*

The LAX Plan, an element of the City of Los Angeles General Plan, provides goals, objectives, policies, and programs that establish a framework for the development of facilities for movement and processing of passengers and cargo at LAX. It is intended to promote an arrangement of airport uses that encourages and contributes to the

modernization of the airport in an orderly and flexible manner within the context of the City and region. Applicable light-oriented regulations of the LAX Plan are listed below:

**Land Use (Airport Airside)**

- *Policy P4: Locate airport uses and activities with the potential to adversely affect nearby residential* land uses through noise, light spill-over, odor, vibration, and other consequences of airport operations and development, as far from them as feasible.

**Land Use (Airport Landside)**

- *Policy P6: Locate airport uses and activities wit h th e potenti al to adversely affect nearby land uses through noise, light spill -over, odor, vibration, a nd other consequences of airport operations and development as far from, or oriented away from adjacent residential neighborhoods as feasible.*

*(2) Los Angeles International Airport Street Frontage and Landscape Development Plan Update*

The LAX Street Frontage and Landscape Development Plan Update (Landscape Development Plan) prepared in 2005 provides integrated and coordinated landscape design guidelines for new development along the perimeter of LAX. The Landscape Development Plan focuses on incorporating all necessary airport security guidelines and maximizing neighborhood compatibility between buffer areas along the north and south perimeters of LAX. The Landscape Development Plan calls for the preparation of a Neighborhood Compatibility Program (NCP), based on commitments made in the LAX Master Plan, which outlines interface treatments along the airport perimeter for the purpose of "ensuring that the airport complements surrounding properties and neighborhoods." The NCP, which is to address all issues relating to compatibility, including landscape buffers, noise, light spill-over, odor, and vibration, is to include the following measures to ensure that this policy is achieved:

- Locate airport uses and activities with the potential to adversely affect nearby residential land uses through noise, light spill-over, odor, vibration, and other consequences of airport operations and development as far from adjacent residential neighborhoods as feasible.

- Provide community outreach efforts to property owners and occupants when new development on airport property is in proximity to and could potentially affect nearby residential uses …"

## 2. ENVIRONMENTAL IMPACTS

### a. Thresholds of Significance

#### *i. Artificial Light*

The *L.A. CEQA Threshol ds Guide* states that a determination of significance relative to nighttime illumination shall be made on a case-by-case basis, considering the following factors:

- The change in ambient illumination levels as a result of project sources; and

- The extent to which project lighting would spill off the project site and affect adjacent light-sensitive areas.

Based on these factors, similar types of projects, the thresholds used in the LAX Master Plan, and the proposed changes to the City's sign ordinance, the proposed Project would potentially result in a significant impact if:

- The Project results in substantial changes to existing artificial light conditions (i.e., going from a large, unlit, or dimly lit portion of the Project site to a highly lit condition);
- Project lighting interferes with the performance of an off-airport activity; or
- The Project results in an increase in lighting sources that generate light intensity of more than 0.3 fc above ambient lighting as measured at the property line of a residential property.
- The proposed maximum brightness of any digital displays may not exceed 300 cd/m² during the nighttime and 4,500 cd/m² during the daytime. The transition from day to nighttime brightness would occur smoothly at a consistent rate beginning 45 minutes prior to sunset and concluding 45 minutes after sunset.

***ii. Glare***

The *L.A. CEQA Thresholds Guide* does not expressly address the issue of daytime or nighttime glare. As noted previously, glare is a lighting condition that causes an observer to experience visual discomfort as a result of high brightness. This discomfort would be significant if the glare were experienced by an observer located at fixed point for an extended period of time. For the purposes of this EIR, the following thresholds based on the LAX Master Plan and similar types of projects have been utilized to determine if a significant glare (reflected light) impact would occur:

- Lighting or signage would make it difficult for pilots to distinguish between said lights and aeronautical lights, or result in glare in the eyes of pilots that would impair their ability to operate aircraft; or
- Future signage incorporates substantial amounts of reflective materials in close proximity to glare-sensitive uses, including on- or off-airport vehicle traffic, or if glare-sensitive uses are illuminated by high brightness lighting or special effects.

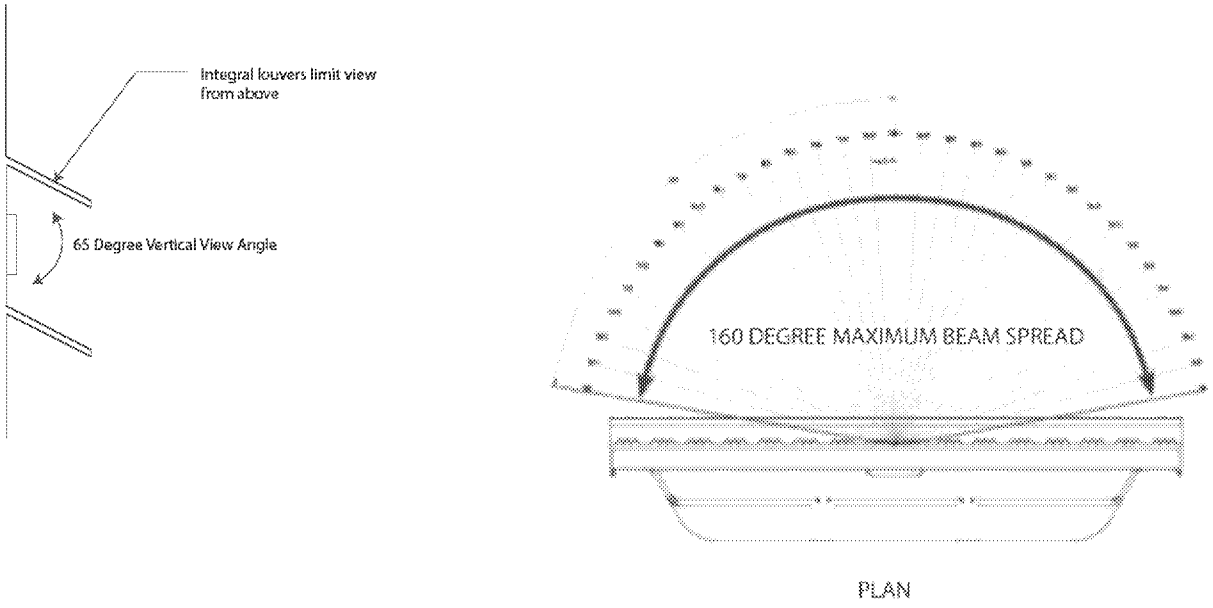
**b. Project Design Features**

Following is a list of all the Project Design Features and applicable LAX Master Plan (LAWA adopted) commitments that would be included with implementation of the proposed Project:

*Project Design Features*

- The allowable locations and sizes of signs have been designed to limit visibility from off-airport locations (i.e., surrounding communities) and to not visually or otherwise negatively affect airport operations or affect or alter historical buildings within LAX.
- No new off-site signage would be placed along the Project boundary, and no electronic or light enhanced signage would be visible from the adjacent residential areas (i.e., community of Westchester to the north and City of El Segundo to the south).
- No electronic or light enhanced signage would be installed within or be visible from the Airside Sub-Area.
- Off-site signs would not be permitted on a number of buildings within the Project site, including the Theme Building, the Airport Traffic Control Tower, and the Clifton A. Moore Administration Building (including the former Airport Traffic Control Tower [1961]).
- Limit illuminance contribution of signage to 0.3 fc at 350 feet from face of sign.

- The proposed signage locations and their placement would be in a manner that would prevent automobile headlight-related glare. For example, signage would be placed at a higher level than the roadway or perpendicular to headlights (i.e., signage placed on sky bridges).
- The proposed Project would include a plan to remove a number of billboards in LAWA's control and comply with other applicable requirements from the Department of City Planning.
- Digital displays signs would display static images only (i.e., restriction for any type of sign that contains images, text, parts, or illumination which flash, change, move, blink, or otherwise refresh in whole or in part).
- The digital displays would have the light emitting diodes (LEDs) aimed horizontally towards the street view using a cubic louvering system to help to limit light trespass, direct the visual impact of the display to the appropriate audience, and direct light away from flight paths and highly focused driving tasks. Refer to Figure IV.C-2 for a typical light emitting diode beam spread and plan view of the layout for the directionality of the LEDs associated with the digital display signs.
- The proposed location of the two types of digital display signs - Controlled Refresh (CR) I and CR III - have been chosen being mindful of driver, pedestrian, ATC personnel and pilot safety.
- Digital display signs shall be limited in their refresh events. CR I images would refresh (change) no more than one event every eight seconds (with the exception being Parking Structure 1 which would refresh every 14 seconds). CR III images would refresh no more than one event every 12 hours. In addition, the CR III images on the sky bridges would refresh simultaneously no more than one event every 12 hours.
- Digital signage would be subject to limits on brightness levels (i.e., 4,500 cd/m$^2$ during the daytime and 300 cd/m$^2$ during the nighttime) and equipped with sensors that modify the brightness of the sign in response to ambient lighting conditions.
- Dim lights of digital displays slowly at dusk over a 45 minute fade rate, controlled by an astronomical time clock. The transition from day to nighttime brightness would be required to occur gradually, to prevent a sudden change in perceptible brightness levels by pedestrians and motorists.
- Digital displays would not include large areas of reflective elements and have a contrast ratio of less than 30:1 to eliminate glare.
- Supergraphic signage over 20-feet tall at parking structure locations would be illuminated with LED or metal halide floodlights consisting of adjustable floodlight fixtures mounted at the top of the signage element with a locking knuckle precisely aimed at the signage to eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Supergraphic signage over 20-feet tall on terminal facades above canopy locations would be illuminated with LED or metal halide floodlights mounted to the adjacent canopy. Adjustable floodlight fixtures would be mounted above the canopy with a locking knuckle to precisely aim at the signage and eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors, and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.




Source: Lighting Design Alliance, Inc., LAX - Sign Use District Sign Lighting Survey, July 5, 2012.

| LAX Sign District Project EIR | Digital Display Characteristics | Figure IV.C-2 |
|---|---|---|

- Maximum vertical luminance of illuminated supergraphic signage would be 5 to 7 fc during nighttime.
- Supergraphics/wall signs/column wraps would have matte finishes, which would prevent glare from the light fixtures.

*Applicable LAX Master Plan Commitments*

***LU-4. Neighborhood Compatibility Program.*** Ongoing coordination and planning will be undertaken by LAWA to ensure that the airport is as compatible as possible with surrounding properties and neighborhoods. Measures to enforce this policy will include: 1) Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive uses with the goal of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities. 2) Locate airport uses and activities with the potential to adversely affect nearby residential land uses through noise, light spill-over, odor, vibration and other consequences of airport operations and development as far from adjacent residential neighborhoods as feasible. 3) Provide community outreach efforts to property owners and occupants when new development on airport property is in proximity to and could potentially affect nearby residential uses.

***DA-1. Provide and Maintain Airport Buffer Areas.*** Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive improvements with the goals of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities.

***LI-2. Use of Non-Glare Generating Building Materials.*** Prior to approval of final plans, LAWA will ensure that proposed LAX facilities will be constructed to maximize use of non-reflective materials and minimize use of undifferentiated expanses of glass.

***LI-3. Lighting Controls.*** Prior to final approval of plans for new lighting, LAWA will conduct reviews of lighting type and placement to ensure that lighting will not interfere with aeronautical lights or otherwise impair Airport Traffic Control Tower or pilot operations. Plan reviews will also ensure, where feasible, that lighting is shielded and focused to avoid glare or unnecessary light spill-over. In addition, LAWA or its designee will undertake consultation in selection of appropriate lighting type and placement, where feasible, to ensure that new lights or changes in lighting will not have an adverse effect on the natural behavior of sensitive flora and fauna within the Habitat Restoration Area.

### c. Project Impacts

#### *i. Project Activities*

The proposed Project entails the implementation of a Sign District at LAX to permit new off-site signs, which would result in establishment of new sources of light. New lighted off-site signs that would be allowed under the proposed Sign District include digital displays and externally lit supergraphics installed on parking structures and terminal buildings in the Landside Sub-Area. The lighting associated with the proposed signage that is the brightest and most prominent is associated with the digital displays. The proposed Project includes Project Design Features that have been incorporated into the Project that are specifically intended to reduce or avoid potential impacts related to artificial light and glare. Such Project Design Features for digital displays include directing inward and/or downward the lighting to minimize light spill-over, and requiring brightness limitations not exceed 4,500 cd/m² during the daytime and 300 cd/m² during the nighttime (which will be specified in the

Sign District sign ordinance). Another Project Design Feature that would avoid artificial light and glare impacts is that signage within the Airside Sub-Area would not include lighting.

Construction-related activities associated with the proposed Project would be relatively minor and involve securing framework for digital displays, welding of signage supports (i.e., hooks and/or railing systems), and sign installation. This would primarily occur during daytime hours so no lighting would be required. However, if nighttime construction occurs, additional lighting could be required. Nighttime construction lighting would likely consist of floodlights, which would be directed on the work area limiting spill-over.

### *ii. Potential Impacts*

#### *(1) Construction*

Construction of the proposed Project would be minimal (mostly comprised of the one-time installation of hooks, railings, or frameworks that would take six hours to one week for sign installation, depending on the type of sign) and it is expected that a majority of the construction associated with the proposed Project would occur during daytime hours. Therefore, the construction of the proposed Project is not expected to change existing artificial light and glare within the Project site or surrounding area. To limit traffic disruptions, nighttime construction could occur as part of the Project. If nighttime construction occurs, additional lighting such as floodlights could be required. If floodlights are required for nighttime construction, the lights would be directed on the work area to limit spill-over. Additionally, the Project site is in an area with a high ambient lighting level associated with lighted airport facilities, street lighting, traffic, and the surrounding urban development. The use of floodlights would be similar to existing lighting and would not create a substantial increase in the intensity of light that could affect light-sensitive uses.

*Artificial Light*

Most construction activities would occur within the interior of the CTA and thus off-airport visibility would be limited. Only the installation of proposed digital display sign on Terminal 1 would be directly visible from the eastern Project boundary. The closest sensitive receptor to the eastern Project boundary is the Radisson Hotel located approximately 125 feet to the east of the Landside Sub-Area portion of the Project site and approximately 0.2 mile east of Terminal 1. It should be noted, that the Radisson Hotel has north and south facing hotel room windows and no hotel room windows face west toward the Project site. The next closest residence (sensitive receptor) is 0.4 mile northeast in the community of Westchester.

Additionally, as described previously, construction is likely to take place during the day. However, even if floodlights are used to install the signage on the east elevation of Terminal 1 or on any of the Airside Sub-Area structures or equipment at the nearest terminal (Terminal 1) to these receptors, Project construction lighting would not result in high-brightness illuminated surfaces that are directly visible from affected light-sensitive uses, including in the direct view of the Airport Traffic Control Tower that would affect ATC personnel or that would make it difficult for pilots to distinguish between the construction zone (such as an instance if floodlights are necessary) and aeronautical lights. Further, construction lighting would not result in substantial changes to existing artificial light conditions; nor would the lighting interfere with the performance of an off-airport activity; and any increase in lighting would not generate light intensity of more than 0.3 fc above ambient lighting as measured at the property line of a residential property. Therefore, impacts related to construction would be less than significant.

*Glare*

Construction of the proposed Project would occur in conjunction with safety procedures and policies associated with the safe operation of the airport. Therefore, construction of lighting or signage would be performed in a

manner that would not make it difficult for pilots to distinguish between the construction zone (such as an instance if floodlights are necessary) and aeronautical lights, or result in glare in the eyes of pilots that would impair their ability to operate aircraft, or result in glare in the eyes of ATC personnel in the tower. In addition, neither daytime nor nighttime glare impacts would be significant because neither construction equipment nor the proposed signage would incorporate substantial amounts of reflective materials in close proximity to glare-sensitive uses, including vehicle traffic, on- or off-airport, nor would the proposed signage be illuminated by high brightness lighting or special effects. Therefore, impacts related to construction would be less than significant.

*(2) Operation*

The proposed Project would be located within the interior area of LAX. The Project site has been subdivided into two sub-areas – the Landside and Airside. The viewers of the proposed signage within the Landside Sub-Area would be people within vehicles (private automobiles and public or private transportation) and pedestrians either entering or leaving the airport terminal areas, as well as employees (including ATC personnel in the Airport Traffic Control Tower) that work at LAX. Within the Airside Sub-Area, observers of the proposed signage include passengers traveling into or out of LAX with views from the terminal gate windows and from within aircraft, as well as pilots and employees associated with airport operations occurring on the Airside Sub-Area. As potential sensitive receptors (such as residences and hotel guests) are located in the areas surrounding the Project site, the following analysis addresses views and potential impacts associated with the two Project sub-areas from the surrounding areas relative to artificial light and glare.

(a) On-Site Views

*Landside Sub-Area*

The proposed Project would include a sign ordinance which would govern the type and size of allowable off-site signs and their placement throughout the Project site. The sign ordinance associated with the proposed Project would contain provisions that establish regulations such as sign types, number of signs, sign dimensions, sign placement, sign illumination/brightness levels, sign motion/animation, sign content, etc. The regulations of the proposed Sign District would supersede the regulations set forth in the LAMC.

In addition, the proposed Project includes several Project Design Features (refer to Section 2(b), above for the complete list) that have been incorporated into the Project that are specifically intended to reduce or avoid potential impacts related to artificial light and glare, such as the proposed locations of the two types of digital display signs - CR I and CR III - have been chosen being mindful of driver, pedestrian, ATC personnel, and pilot safety. For example, in areas within the Landside Sub-Area (i.e., CTA) where traffic is moving, CR III digital display signs are proposed because they would have no more than one refresh event every 12 hours. In contrast, areas within the CTA not directly in the line-of-sight of moving traffic (such as on the surfaces of parking structures parallel to the roadway) are proposed locations for CR I digital display signs, which have a controlled refresh of no more than one refresh event every eight seconds. The exception is the proposed location of the CR I digital display sign on the east elevation of Parking Structure 1 which would refresh every 14 seconds (refer to Figures II-5 to II-12 and II-14 in Chapter II, Project Description). This location is at the southwestern area of a traffic signal (a three-way stop associated with westbound traffic on World Way and northbound and southbound traffic on Sky Way/96th Street at the entrance to the CTA). In addition, in order to be mindful of pilot and surrounding neighborhood views, the proposed Project includes a Project Design Feature that no digital display signs are proposed in direct view of the Airside Sub-Area. All Landside Sub-Area signage, including digital displays, would be located at a lower elevation from the Airport Traffic Control Tower and thus none would be in direct line-of-sight from the tower.

*Artificial Light*

The existing illumination sources within the Landside Sub-Area (i.e., the CTA) includes street lights, security lighting, signage lights, roof perimeter lights, parapet lights, parking structure interior and exterior lighting, and terminal entrance lights. Lighting associated with the upper roadway (departure area) and lower roadway (arrival area) is similar; however, the lighting on the upper level is more open with fewer structures to shield the lighting. Illumination sources within the Landside Sub-Area also include interior lighting emitting from the terminals and parking structures. The roof perimeter and parapet lights, shielded and directed down, generally do not spill over more than 30 feet onto the surrounding areas. Interior light emitting from the terminals and parking structures does not generally spill over beyond these structures.

Proposed signage within the Landside Sub-Area includes lighting associated with the digital display signs and supergraphics, which would be an additional source of light. Although the CTA does not contain traditional light-sensitive receptors, operators of vehicles could perceive additional artificial light associated with the proposed Project signs. However, the Project area is already characterized by high ambient light levels. The proposed Project includes the several Project Design Features that are specifically intended to reduce or avoid potential impacts related to artificial light: diodes associated with the digital displays would be pointed down and towards the airport roadways and would have dimming capacity, that would ensure compliance with limitations on brightness levels specified in the Sign District sign ordinance (i.e., brightness levels would not exceed 4,500 cd/m$^2$ during the daytime and 300 cd/m$^2$ during the nighttime); accent lighting of supergraphics would use adjustable fixtures to aim the signage and eliminate any chance of throwing light into the flight path or create skyglow; and, the use of louvers, barn doors, and glare shields would allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively. These Project Design Features would comply with the applicable LAX Master Plan Commitments LU-4 and DA-1 (i.e., no light spill-over and shielding of lighting).

With implementation of the Project Design Features, Project lighting would not spill off the Project site to affect any adjacent light-sensitive areas due to the location of the digital displays within the Project site, orientation parallel to the terminals, and directional LEDs with louvers. In addition, the closest residence (sensitive receptor) to the nearest proposed digital display (on eastern elevation of Terminal 1) is 0.4 mile northeast in the community of Westchester. The Project Design Feature of dimming LED digital display signs at night would allow tuning of the emitted light from the signage to be below the designated threshold of 0.3 fc above ambient as measured at 350 feet from the face of the sign. Therefore, lighting associated with proposed signage would not be a substantial new source of new artificial light that could substantial increase or change the existing ambient light levels of the CTA (refer to Figure IV.C-3 through Figure IV.C-6). In addition, by limiting brightness and illumination to the area at and immediately adjacent to the signage, the proposed Project would not make it difficult for pilots to distinguish between existing lights and aeronautical lights or otherwise impair their ability to operate aircraft. In addition, there would be no new lighting that would be in the direct view of the Airport Traffic Control Tower. The proposed Project would comply with LAX Master Plan Commitment LI-3, which would ensure that type and placement of lighting would not interfere with aeronautical lights or otherwise impair their ability to operate or guide aircraft. Therefore, impacts would be less than significant.

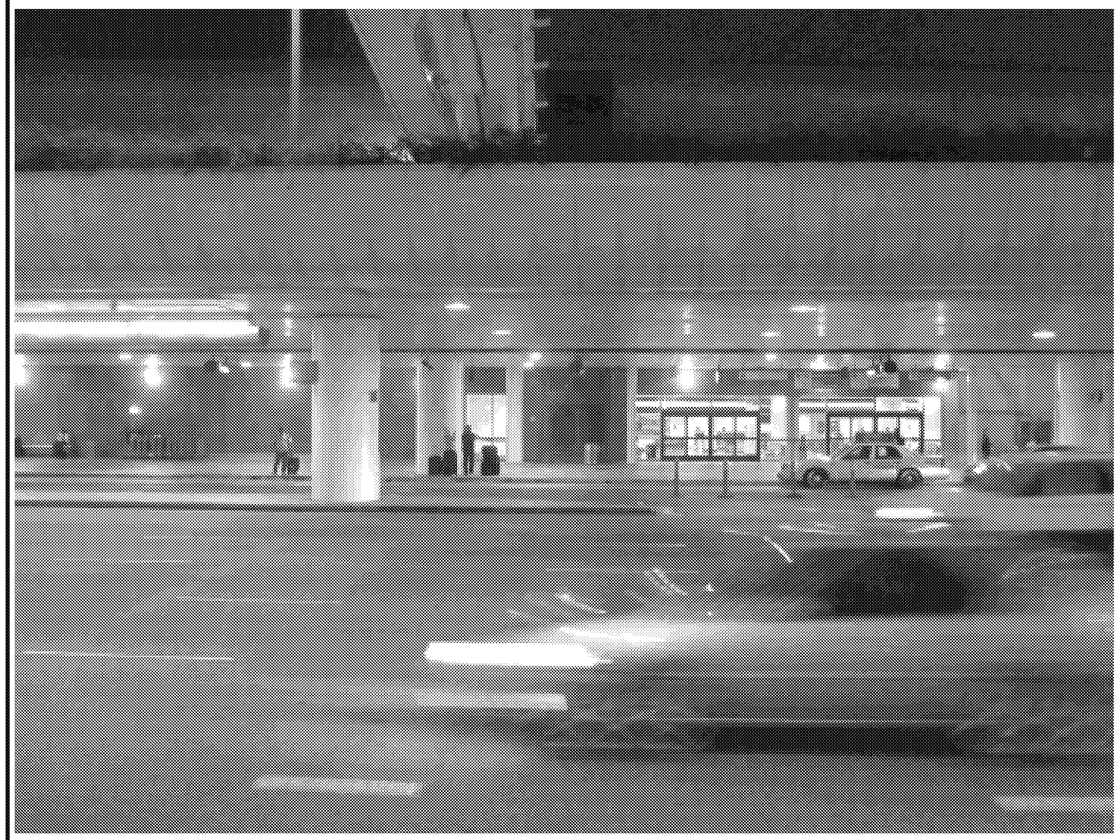
The possible addition of lighting associated with supergraphics on the terminal walls would contribute to the perception of higher light levels, safety, and vertical brightness, although measured footcandle levels may not increase substantially. With implementation of Project Design Features associated with supergraphics (i.e., accent lighting would use adjustable fixtures, as well as use of louvers, barn doors, and glare shields), artificial light associated with the proposed supergraphics would be limited in brightness, illumination, and to the area at and immediately adjacent to the signage. As with digital display signs, lighting associated with supergraphics would not spill off the Project site to affect any adjacent light-sensitive areas due to the location of the signage within the Project site, orientation parallel to the terminals, and Project Design Features (i.e., directional and adjustable lighting fixtures and shielding) and applicable LAX Master Plan Commitments LU-4 and DA-1 (i.e., no light

EXISTING


PROPOSED

Source: Gensler, 2012.

| LAX Sign District Project EIR | Terminal 1 — Surface Parking Lot East of P1 | Figure IV.C-3 |
|---|---|---|



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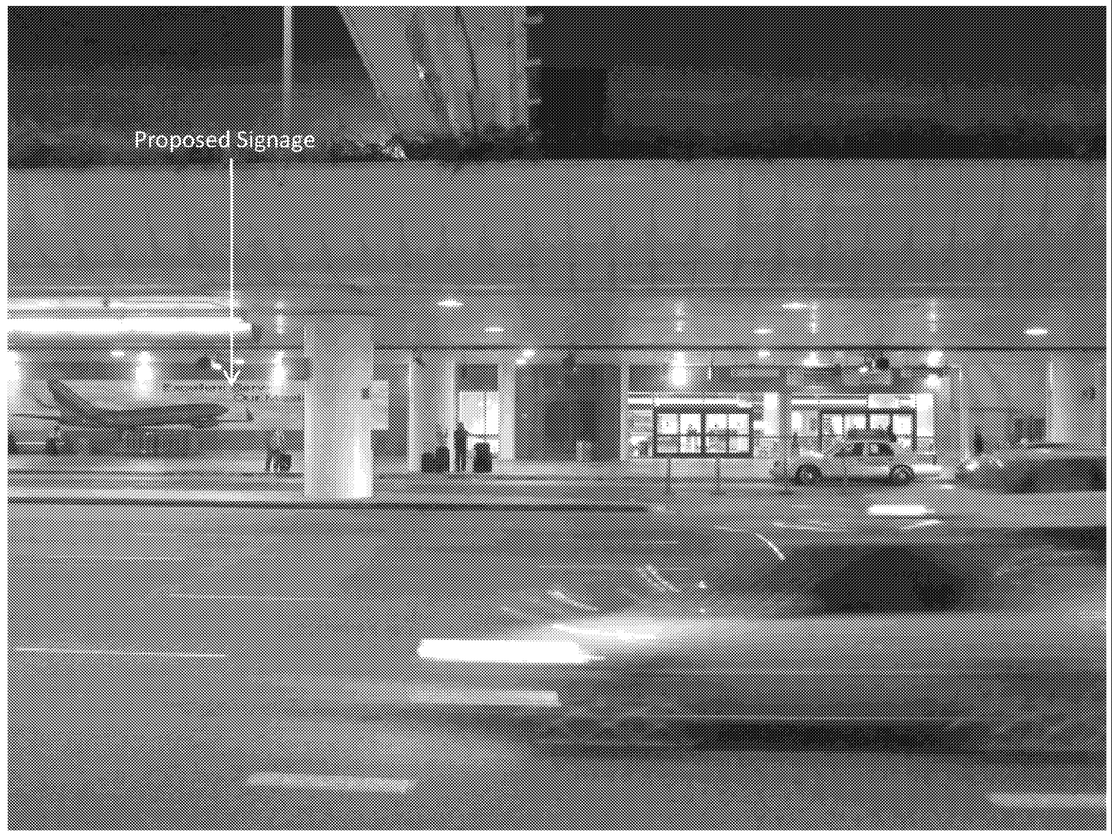



PROPOSED

Source: Gensler, 2012.

| LAX Sign District Project EIR | Terminal 1 — Lower Level | Figure IV.C-4 |
|---|---|---|

EXISTING


PROPOSED

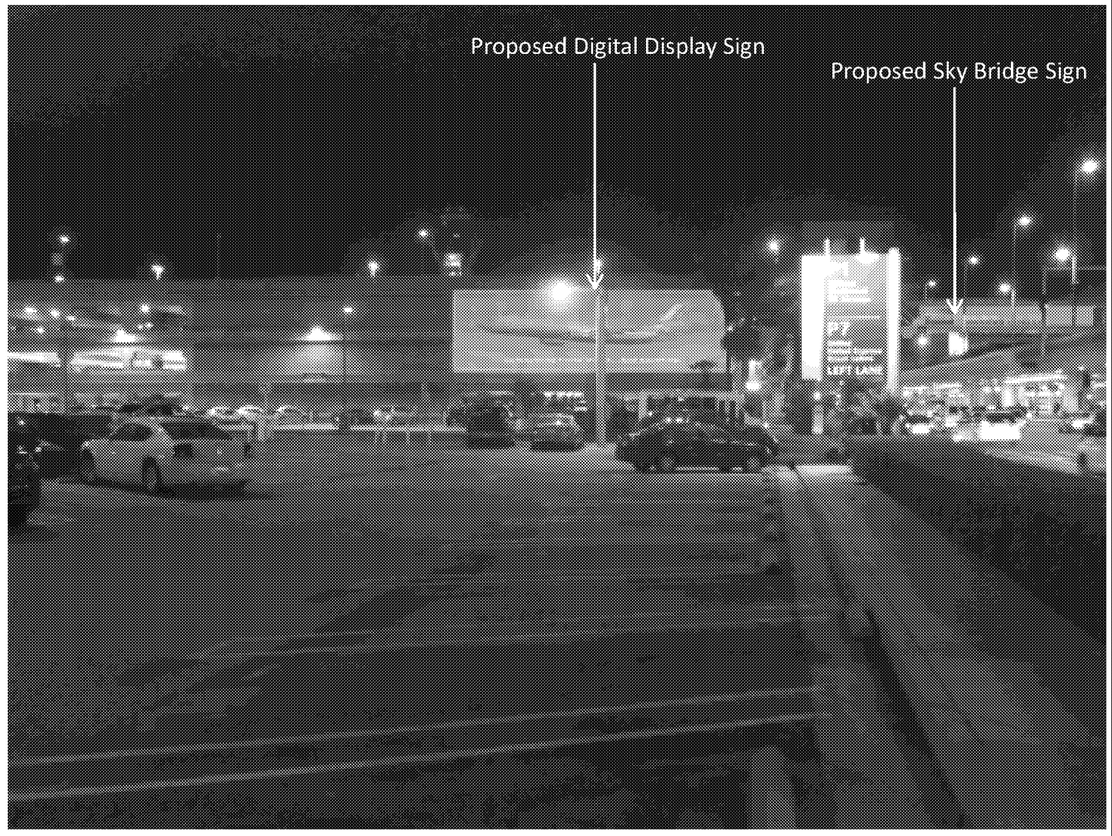
Source: Gensler, 2012.

**LAX Sign District Project EIR**

**Terminal 1 — Lower Level Crosswalk**

Figure
IV.C-5

EXISTING




PROPOSED

Source: Gensler, 2012.

spill-over and shielding of lighting). In addition, the closest residence (sensitive receptor) to the nearest proposed digital display (on eastern elevation of Terminal 1) is 0.4 mile northeast in the community of Westchester. In addition, based on the location of signage (within the CTA) and that any additional artificial light would be limited to, or immediately adjacent to, the sign, the proposed Project would not be in the direct view of ATC personnel or pilots and the make it difficult for pilots or ATC personnel to distinguish between existing lights and aeronautical lights or otherwise impair their ability to operate or guide aircraft. In addition, there would be no new lighting that would be in the direct view of the Airport Traffic Control Tower. The proposed Project would comply with LAX Master Plan Commitment LI-3, which would ensure that type and placement of lighting would not interfere with aeronautical lights or otherwise impair their ability to operate or guide aircraft. Therefore, impacts would be less than significant.

In summary, as described in the analysis above, lighting associated with the proposed Project would not generate light intensity of more than 0.3 fc above ambient lighting as measured at the property line of a residential property, or exceed 4,500 cd/m² during the daytime and 300 cd/m² during the nighttime. With implementation of Project Design Features, lighting associated with proposed Project would not be a substantial new source of new artificial light that could substantially increase or change the existing ambient light levels of the CTA, lighting would not spill off the Project site to affect any adjacent light-sensitive areas, and the proposed Project would not make it difficult for pilots or ATC personnel to distinguish between existing lights and aeronautical lights or otherwise impair their ability to operate or guide aircraft. In addition, there would be no new lighting that would be in the direct view of the Airport Traffic Control Tower. Therefore, impacts would be less than significant.

*Glare*

As shown in Figure IV.C-2, a Project Design Feature for digital displays would be implemented that would consist of having the diodes aimed horizontally towards the internal airport roadways and use a cubic louvering system to aim the light downward, thereby limiting any undesirable glare. Lighting or signage within the Landside Sub-Area would not extend above the heights of structures within the CTA (i.e., signs may be affixed to, but would not extend above, parking structures and terminal buildings), and would not be in the direct view of pilots or the Airport Traffic Control Tower. Therefore, the proposed signage would not result in glare in the eyes of pilots or ATC personnel that would impair their ability to operate or guide aircraft.

During the day, the proposed displays would not cause glare because the intensity of the sign will not contrast with the brightness of the sun. Typical daylight levels are between 6,000 fc to 8,000 fc, depending on cloud coverage. The additional 0.3 fc that the sign would generate would not be noticeable during the day. At night, however, light levels vary from 0.1 fc to 58.5 fc along the path of traffic. An additional 0.3 fc would be more important at nighttime light levels (as discussed under artificial light, above).

In addition, by design, signage does not include large areas of reflective elements, because they would detract from the visibility of the signage. The proposed Project includes as a Project Design Feature the compliance with applicable LAX-related plans and LAX Master Plan Commitment LI-2 regarding use of non-reflective building materials. Further, other Project Design Features, such as locating signage that include framework or structures that have the potential to produce glare (such as digital displays) to locations above the headlight levels of oncoming vehicles, would be implemented to reduce or avoid potential impacts related to glare. Therefore, neither daytime nor nighttime glare impacts would be significant because the proposed signage would not incorporate substantial amounts of reflective materials in close proximity to glare-sensitive uses, including vehicle traffic, on- or off-airport, nor would the proposed signage be illuminated by high brightness lighting or special effects.

*Airside Sub-Area*

*Artificial Light*

Within the Airside Sub-Area, the existing illumination sources include airport beacons, approach lighting, runway/taxiway guidance lighting, runway end identifier lights, apron/ramp floodlighting, and ground lighting/marking. Lighting associated with the airfield area is generally low to the ground and low in intensity. Illumination sources within the Airside Sub-Area also include interior lighting emitting from the terminals, as well as from the hangar facilities immediately west of the CTA. The proposed Project includes a Project Design Feature that prohibits electronic or light enhanced signage within the Airside Sub-Area. Therefore, the proposed Airside Sub-Area signage would not change existing artificial light conditions, and no impact is anticipated.

*Glare*

The proposed Project includes a Project Design Feature that prohibits electronic or light enhanced signage in the Airside Sub-Area. In addition, the signage proposed on the passenger boarding bridges would not involve highly reflective surfaces as signage, by design, does not include large areas of reflective elements, because they would detract from the visibility of the signage. Proposed signage would not incorporate reflective building materials that could be a source of glare and the Project would comply with applicable LAX-related plans and LAX Master Plan Commitment LI-2 regarding use of non-reflective building materials. In addition, the location of airside signage (i.e., on passenger boarding bridges) is such that the new off-site signs would not make it difficult for pilots to distinguish between existing lights and aeronautical lights, or result in glare in the eyes of pilots that would impair their ability to operate aircraft. Therefore, impacts would be less than significant.

(b) Off-Airport Views

*Northern Boundary*

As indicated above, the closest sensitive receptors to the northern Project boundary are residential uses located approximately 0.4 mile northeast to 0.6 mile north in the community of Westchester. An earthen berm and opaque perimeter fence are located between most of the LAX boundary and the community, thus blocking direct views of the Project site from Westchester Parkway. Farther east, the Westchester Golf Course and a 12-foot-high sound wall atop an 8-foot-high berm buffer views of the airport from residential uses north and immediately east of the golf course. The proposed signs at Terminals 1 through 3 and the TBIT Terminal of the Airside Sub-Area (i.e., off-site signs on passenger boarding bridges from those terminals) would be the closest proposed signage to the community along the LAX northern boundary. However, the proposed Project includes a Project Design Feature that would prohibit electronic or light enhanced signage within the Airside Sub-Area. Therefore, lighting associated with the proposed signs on the Landside Sub-Area would be the only signs that could potentially add to the ambient glow of the Project site and immediate surrounding area. However, a majority of the Project light sources within the Landside Sub-Area are interior to LAX and would not be visible from the residential uses located to the north and northeast due to distance (closest residences would be 0.4 mile northeast to 0.6 mile north of the Project site), as well as the presence of intervening airport-related structures. The only lighted signage within the Landside Sub-Area that is not interior to the CTA is the proposed digital display on Terminal 1. This proposed digital display is located on the eastern facade of the terminal and would not be visible from the residential communities to the north. Therefore, based on location of the signage, distance and intervening structures, no substantial change in lighting is anticipated. Given the distance, limited visibility, and use of non-reflective materials, the signs would not be a source of glare for the communities to the north. In addition, to limit potential impacts on surrounding off-airport views, the proposed Project includes a Project Design Feature that prohibits new off-site signage along the Project boundary.

*Artificial Light*

Given that the Project area is already characterized by high ambient light levels, as shown in Figure IV.C-1, a change in brightness and light trespass would not occur, and proposed Project contributions to increased ambient glow would not be perceptible from the residential uses located approximately 0.4 mile northeast and 0.6 mile north. Therefore, the proposed Project would not result in substantial changes to existing artificial light conditions, nor would the lighting interfere with the performance of an off-airport activity. Any increase in lighting would not generate light intensity of more than 0.3 fc above ambient lighting as measured at the property line of a residential property. In addition, the Project would comply with applicable LAX-related plans and LAX Master Plan Commitments LU-4, DA-1 and LI-3 described under Section 2(b) above, and implement Project Design Features regarding restrictions on light spill-over and limiting maximum brightness levels (i.e., brightness levels would not exceed 4,500 cd/m² during the daytime and 300 cd/m² during the nighttime). The proposed Project includes a Project Design Feature that would prohibit electronic or light enhanced signage within the Airside Sub-Area, and given the distance of the proposed signs on the Landside Sub-Area to the closest sensitive receptors and the presence of intervening structures, no light spill-over onto adjacent properties would occur. Therefore, impacts would be less than significant.

*Glare*

By design, signage does not include large areas of reflective elements, because they would detract from the visibility of the signage. Similar to artificial light, with implementation of Project Design Features that would limit the location of the signage and illumination, brightness or special effects associated with lighting, as well as distance and intervening structures, neither daytime nor nighttime glare impacts would be significant because the proposed signage would not incorporate substantial amounts of reflective materials in close proximity to glare-sensitive uses, including off-airport vehicle traffic and residential communities. In addition, the proposed Project includes a Project Design Feature that would prohibit electronic or light enhanced signage within the Airside Sub-Area. Therefore, the proposed Airside Sub-Area signage would not have lighting or highly reflective surfaces in compliance with applicable LAX-related plans and LAX Master Plan Commitment LI-2 regarding use of non-reflective building materials. Therefore, impacts would be less than significant.

*Southern Boundary*

As indicated previously, the nearest sensitive receptors to the southern Project boundary are residential uses located approximately 0.5 mile south in the City of El Segundo. The proposed signage at Terminals 4 through 8 and the TBIT Terminal associated with the Airside Sub-Area would be the closest proposed signs to the southern boundary. However, the proposed Project includes a Project Design Feature that would prohibit electronic or light enhanced signage within the Airside Sub-Area. Therefore, lighting associated with the proposed signs on the Landside Sub-Area would be the only signs that could add to the ambient glow of the Project site and the surrounding area. Although the proposed Project signage within the Landside Sub-Area would potentially be an additional light source, the signage within the Landside Sub-Area would not be above the building facades and would be directed inward toward the CTA area. No Landside Sub-Area signage would be visible from the residential uses located to the south. Given the distance, limited visibility, and use of non-reflective materials, the signs would not be a source of glare for the communities to the south, and no impact is anticipated. In addition, to limit potential impacts on surrounding off-airport views, the proposed Project includes a Project Design Feature that prohibits new off-site signage along the Project boundary.

*Artificial Light*

Given that the Project area is already characterized by high ambient light levels, as shown in Figure IV.C-1, a change in brightness and light trespass would not occur, and Project contributions to increased ambient glow

would not be perceptible from the residential uses located approximately 0.5 mile to the south. Therefore, the Project would not result in substantial changes to existing artificial light conditions; nor would the lighting interfere with the performance of an off-airport activity; and any increase in lighting would not generate light intensity of more than 0.3 fc above ambient lighting as measured at the property line of a residential property. In addition, the Project would comply with applicable LAX-related plans and LAX Master Plan Commitments LU-4, DA-1 and LI-3 described under Section 2(b) above, and implement Project Design Features regarding restrictions on light spill-over and limiting maximum brightness levels (i.e., brightness levels would not exceed 4,500 cd/m² during the daytime and 300 cd/m² during the nighttime). The proposed Project includes a Project Design Feature that would prohibit electronic or light enhanced signage within the Airside Sub-Area, and given the distance of the proposed signs on the Landside Sub-Area to the closest sensitive receptors, the presence of intervening structures, and the implementation of Project Design Features, no light spill-over onto adjacent properties would occur. Therefore, impacts would be less than significant.

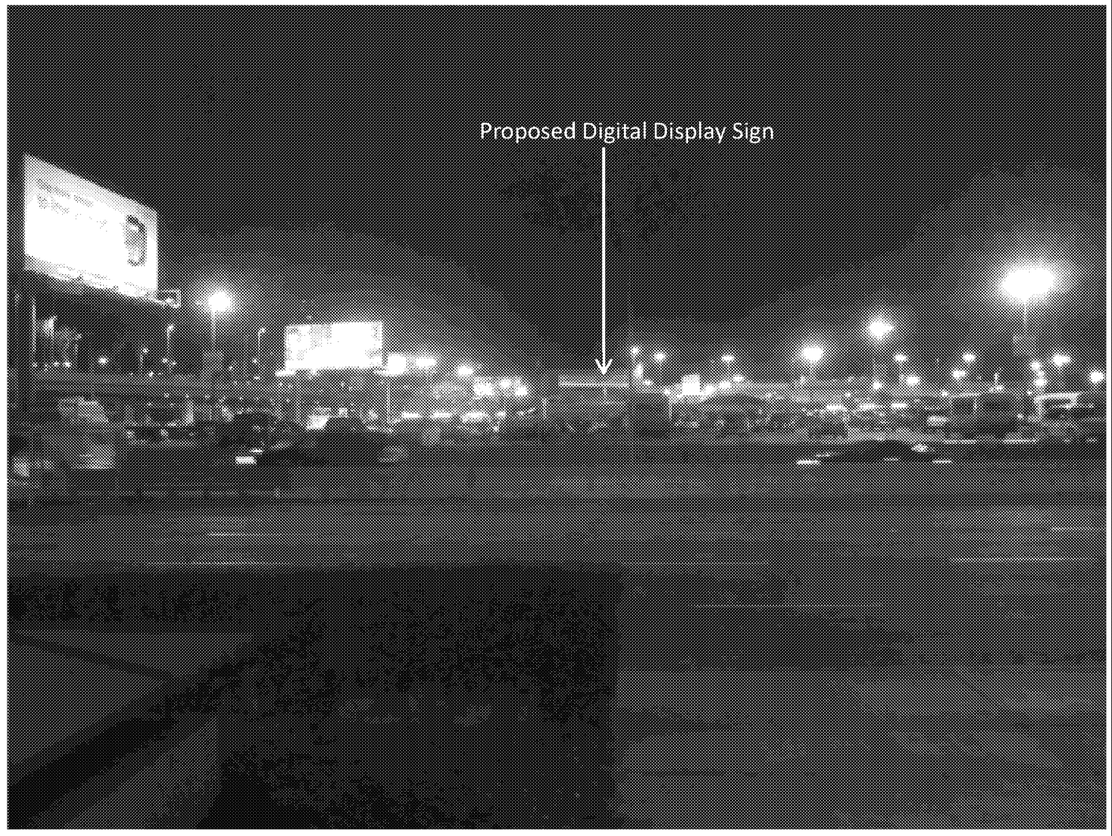
*Glare*

By design, signage does not include large areas of reflective elements, because they would detract from the visibility of the signage. Similar to artificial light, with implementation of Project Design Features that would limit the location of the signage and illumination, brightness or special effects associated with lighting, as well as distance and intervening structures, neither daytime nor nighttime glare impacts would be significant because the proposed signage would not incorporate substantial amounts of reflective materials in close proximity to glare-sensitive uses, including off-airport vehicle traffic and residential communities. In addition, the proposed Project includes a Project Design Feature that would prohibit electronic or light enhanced signage within the Airside Sub-Area. Therefore, the proposed Airside Sub-Area signage would not have lighting or highly reflective surfaces in compliance with applicable LAX-related plans and LAX Master Plan Commitment LI-2 regarding use of non-reflective building materials. Therefore, impacts would be less than significant.

*Eastern Boundary*

The eastern boundary of the Project site is located approximately 125 feet from the nearest sensitive receptor, hotel guests associated with the Radisson Hotel. Digital display signs that are proposed on the east elevations of Terminal 1, first CTA sky bridge, and Parking Structure 1 would be the closest proposed signs to the Radisson Hotel (approximately 0.2 mile). While the proposed signage on the sky bridge and east elevation on Terminal 1 would be potentially visible from the hotel, due to intervening structures (including a LAWA office building and the elevated airport roadway for departures) and vegetation, the proposed digital display on Parking Structure 1 is not expected to be visible. The Radisson Hotel has no hotel room windows facing west toward the Project site. Therefore, the Radisson Hotel does not have direct views of the Project site. The digital displays proposed on the sky bridge and Terminal 1 would be CR III, which has an image refresh rate of no more than once every 12 hours. Figure IV.C-7 shows a view of the Project site with and without the digital display sign proposed on Terminal 1 from the east side of Sepulveda Boulevard at Century Boulevard. Parking Structure 1 is approximately 0.2 mile and the first sky bridge is approximately 0.2 from Sepulveda Boulevard, and thus would only be seen from a distance. Figure IV.C-6 shows a view of Parking Structure 1 and the first sky bridge from the eastern end of the parking lot associated with the Clifton A. Moore Administration Building. Further, as indicated above, Project Design Features have been made part of the proposed Project to avoid or reduce potential impacts, and include: aiming the diodes associated with the digital display signs downward and to the side towards the internal airport roadways in order to minimize uplight; and, a cubic louvering system would also be used to aim the light downward and minimize the instance of glare. Given that the Project site is already characterized by high ambient light levels, as shown in Figure IV.C-7 and Figure IV.C-8, a change in brightness and light trespass would not occur. In addition, to limit potential impacts on surrounding off-airport views, the proposed Project includes a Project Design Feature that prohibits new off-site signage along the Project boundary.

EXISTING




PROPOSED

Source: Gensler, 2012.

| LAX Sign District Project EIR | Terminal 1 — Eastside of Sepulveda Boulevard | Figure IV.C-7 |
|---|---|---|

EXISTING


PROPOSED

Source: Gensler, 2012.

**LAX Sign District Project EIR**

**LAX Gateway Pylons — Westbound on Century Boulevard**

Figure
IV.C-8

*Artificial Light*

The Project area is already characterized by high ambient light levels, as shown in Figure IV.C-7 and Figure IV.C-8. In addition, the diodes associated with the digital displays would be pointed down and towards the airport roadways, and lighting associated with proposed signage would not add to the ambient glow of the area that would represent a substantial change in brightness levels as seen from adjacent sensitive uses and a change in brightness and light trespass would not occur. The proposed Project's contribution to increased ambient glow would not likely be perceptible from the nearest sensitive receptor (Radisson Hotel) located approximately 125 feet to the east of the Landside Sub-Area portion of the Project site. Therefore, the proposed Project would not result in substantial changes to existing artificial light conditions; nor would the lighting interfere with the performance of an off-airport activity; and any increase in lighting would not generate light intensity of more than 0.3 fc above ambient lighting as measured at the property line of a residential property. In addition, the Project would comply with applicable LAX-related plans and LAX Master Plan Commitments LU-4, DA-1 and LI-3 described under Section 2(b) above, and implement Project Design Features regarding restrictions on light spill-over and limiting maximum brightness levels (i.e., brightness levels would not exceed 4,500 cd/m² during the daytime and 300 cd/m² during the nighttime). The proposed Project includes a Project Design Feature that would prohibit electronic or light enhanced signage within the Airside Sub-Area, and given the distance of the proposed signs on the Landside Sub-Area to the closest sensitive receptors, and the implementation of Project Design Features, no light spill-over onto adjacent properties would occur. Therefore, impacts would be less than significant.

Depending on weather conditions, airplanes typically land at LAX from an easterly direction. As such, signage on the eastern elevations of the terminals, sky bridges, and parking structures could potentially be visible to approaching pilots. The runways are to the north and south of the Project site. In addition, the CTA is currently an area of high illumination. This lighting does not interfere with the nighttime visibility of ATC personnel and incoming pilots, or interfere with lighting used to guide aircraft such as approach lighting, runway/taxiway guidance lighting, runway end identifier lights, and ground lighting/marking. Additionally, implementation of the Project Design Features that include directing the diodes associated with the digital displays down and towards the airport roadways, and floodlights on the supergraphics would be aimed directly at the signage they are designed to illuminate, which would limit light trespass. Lighting associated with proposed signage would not represent a substantial change in brightness levels within the CTA. Therefore, the Project would not result in light impact on pilots that could impair aviation safety, and impacts would be less than significant.

*Glare*

By design, signage does not include large areas of reflective elements, because they would detract from the visibility of the signage. Similar to artificial light, with implementation of Project Design Features that would limit the location of the signage and illumination, brightness or special effects associated with lighting, as well as distance and intervening structures, neither daytime nor nighttime glare impacts would be significant because the proposed signage would not incorporate substantial amounts of reflective materials in close proximity to glare-sensitive uses, including off-airport vehicle traffic and residential communities. The eastern boundary of the Project site has very little area associated with the Airside Sub-Area (only the eastern elevation of Terminal 1 gates). In addition, the proposed Project includes a Project Design Feature that would prohibit electronic or light enhanced signage within the Airside Sub-Area. In addition, the Project would comply with applicable LAX-related plans and LAX Master Plan Commitment LI-2 described above regarding use of non-reflective building materials. Therefore, the Airside Sub-Area would not have lighting or highly reflective surfaces and impacts would be less than significant.

*Western Boundary*

As discussed previously, there are no sensitive receptors within approximately one mile west of the Project site. To the immediate west of the Project site are hangars and various structures associated with LAX airport operations. Proposed signage on the Airside Sub-Area would not include any lighting or be a substantial source of glare. Therefore, lighting associated with the proposed signs on the Landside Sub-Area would be the only signs that could add to the ambient glow of the Project site and the surrounding area. Although the proposed Project signage within the Landside Sub-Area would potentially be an additional light source, implementation of Project Design Features would prohibit signage within the Landside Sub-Area to extend above the building facades and the signs and lighting would be directed inward toward the CTA area (which is the intended audience of the signage) and therefore not visible from receptors to the west. In addition, to limit potential impacts on surrounding off-airport views, the proposed Project includes a Project Design Feature that prohibits new off-site signage along the Project boundary.

*Artificial Light*

Given that the Project area is already characterized by high ambient light levels, a change in brightness and light trespass would not occur, and Project contributions to increased ambient glow would not be perceptible from the nearest sensitive receptor (the Habitat Restoration Area within the Los Angeles/El Segundo Dunes) located approximately one mile to the west; there are no residential properties to the west of the Project site. Therefore, the Project would not result in substantial changes to existing artificial light conditions; nor would the lighting interfere with the performance of an off-airport activity; and any increase in lighting would not generate light intensity of more than 0.3 fc above ambient lighting as measured at the property line of a residential property. In addition, the Project would comply with applicable LAX-related plans and LAX Master Plan Commitments LU-4, DA-1 and LI-3 described under Section 2(b) above, and implement Project Design Features regarding restrictions on light spill-over and limiting maximum brightness levels (i.e., brightness levels would not exceed 4,500 cd/m$^2$ during the daytime and 300 cd/m$^2$ during the nighttime). The proposed Project includes a Project Design Feature that would prohibit electronic or light enhanced signage within the Airside Sub-Area, and given the distance of the proposed signs on the Landside Sub-Area to the closest sensitive receptors, and the implementation of Project Design Features, no light spill-over onto adjacent properties would occur. Given that no sensitive receptors exists to the west, along with distance and the presence of intervening structures, no light spill-over onto adjacent properties would occur. No impact is anticipated.

During certain weather conditions, airplanes land at LAX from a westerly direction. Signage located within the Airside Sub-Area would not be lit and therefore, would not result in a light impact on pilots. Therefore, no impact is anticipated.

*Glare*

By design, signage does not include large areas of reflective elements, because they would detract from the visibility of the signage. Similar to artificial light, with implementation of Project Design Features that would limit the location of the signage, illumination and brightness associated with lighting within the CTA, as well as distance and intervening structures, neither daytime nor nighttime glare impacts would be significant because the proposed signage would not incorporate substantial amounts of reflective materials in close proximity to glare-sensitive uses, including vehicle traffic on- or off-airport, and air traffic. In addition, the proposed Project includes a Project Design Feature that would prohibit electronic or light enhanced signage within the Airside Sub-Area. In addition, the Project would comply with applicable LAX-related plans and LAX Master Plan Commitment LI-2 described above regarding use of non-reflective building materials. Therefore, the proposed Airside Sub-Area signage would not have lighting or highly reflective surfaces and impacts would be less than significant.

## 3. CUMULATIVE IMPACTS

The existing level of ambient lighting in the Project area is typical of a highly urbanized area and due to the high density of development already present. As indicated above, no significant light or glare impacts would occur from construction or operation of the proposed Project. Several related projects are currently planned or are underway on the airport property, as discussed in Chapter III, Environmental Setting, and would result in an increase in ambient nighttime lighting levels and potentially generate glare in the Project area. Such projects include the Bradley West Project, the Midfield Satellite Concourse, the "New Face" of the CTA Improvements/Enhancements, the Central Utility Plant Replacement Project, the LAX Specific Plan Amendment Study, and the LAX Northside project. With the exception of LAX Northside, these projects are located within the CTA or within the Airside Sub-Area and developed portion of the airfield and would occur in the context of infill development within a lit and glare-generating urban environment. The conversion of the largely vacant LAX Northside would result in a noticeable increase in ambient light and glare as seen from existing adjacent light-sensitive uses in the Westchester area. However, the LAX Northside area is subject to height restrictions, setback requirements, and lighting and landscape guidelines and requirements contained in the LAX Northside Design Plan and Development Guidelines and the LAX Specific Plan, with the goal of avoiding land use conflicts, creating a visually open appearance, and promoting design sensitivity to the residential interface, enhancing privacy. Compliance with regulatory requirements and applicable Project Design Features, including LAMC Sec. 93.0117, which prohibits light spill-over and requires that light sources be shielded and directed downward, and LAX Master Plan Commitments LI-3 and DA-1, would ensure that cumulative projects would not result in a substantial change to existing artificial light conditions, artificial lighting that would interfere with the performance of an on- or off-airport activity, or an increase in lighting that would generate light intensity of more than 0.3 fc as measured at the property line of a residential property or make it difficult for pilots or ATC personnel to distinguish between existing lights and aeronautical lights or otherwise impair their ability to operate or guide aircraft. In addition, compliance with regulatory requirements and applicable Project Design Features, including LAX Master Plan Commitment LI-2, would ensure that cumulative projects would not result in substantial amounts of reflective materials in close proximity to glare-sensitive uses over existing conditions. Therefore, cumulative projects, in combination with the proposed Project, would not result in significant cumulative artificial light and glare impacts.

## 4. PROJECT DESIGN FEATURES AND MITIGATION MEASURES

As listed in Section 2(b) above, the following Project Design Features, including applicable LAX Master Plan Commitments, would reduce or avoid potential artificial light and glare impacts associated with the proposed Project:

*Project Design Features*

- The allowable locations and sizes of signs have been designed to limit visibility from off-airport locations (i.e., surrounding communities) and to not visually or otherwise negatively affect airport operations or affect or alter historical buildings within LAX.
- No new off-site signage would be placed along the Project boundary, and no electronic or light enhanced signage would be visible from the adjacent residential areas (i.e., community of Westchester to the north and City of El Segundo to the south).
- No electronic or light enhanced signage would be installed within or be visible from the Airside Sub-Area.
- Off-site signs would not be permitted on a number of buildings within the Project site, including the Theme Building, the Airport Traffic Control Tower, and the Clifton A. Moore Administration Building (including the former Airport Traffic Control Tower [1961]).

- Limit illuminance contribution of signage to 0.3 fc at 350 feet from face of sign.
- The proposed signage locations and their placement would be in a manner that would prevent automobile headlight-related glare. For example, signage would be placed at a higher level than the roadway or perpendicular to headlights (i.e., signage placed on sky bridges).
- The proposed Project would include a plan to remove a number of billboards in LAWA's control and comply with other applicable requirements from the Department of City Planning.
- Digital displays signs would display static images only (i.e., restriction for any type of sign that contains images, text, parts, or illumination which flash, change, move, blink, or otherwise refresh in whole or in part).
- The digital displays would have the LEDs aimed horizontally towards the street view using a cubic louvering system to help to limit light trespass, direct the visual impact of the display to the appropriate audience, and direct light away from flight paths and highly focused driving tasks. Refer to Figure IV.C-2 for a typical light emitting diode beam spread and plan view of the layout for the directionality of the LEDs associated with the digital display signs.
- The proposed location of the two types of digital display signs - CR I and CR III - have been chosen being mindful of driver, pedestrian, ATC personnel and pilot safety.
- Digital display signs shall be limited in their refresh events. CR I images would refresh (change) no more than one event every eight seconds (with the exception being Parking Structure 1 which would refresh every 14 seconds). CR III images would refresh no more than one event every 12 hours. In addition, the CR III images on the sky bridges would refresh simultaneously no more than one event every 12 hours.
- Digital signage would be subject to limits on brightness levels (i.e., 4,500 cd/m$^2$ during the daytime and 300 cd/m$^2$ during the nighttime) and equipped with sensors that modify the brightness of the sign in response to ambient lighting conditions.
- Dim lights of digital displays slowly at dusk over a 45 minute fade rate, controlled by an astronomical time clock. The transition from day to nighttime brightness would be required to occur gradually, to prevent a sudden change in perceptible brightness levels by pedestrians and motorists.
- Digital displays would not include large areas of reflective elements and have a contrast ratio of less than 30:1 to eliminate glare.
- Supergraphic signage over 20-feet tall at parking structure locations would be illuminated with LED or metal halide floodlights consisting of adjustable floodlight fixtures mounted at the top of the signage element with a locking knuckle precisely aimed at the signage to eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Supergraphic signage over 20-feet tall on terminal facades above canopy locations would be illuminated with LED or metal halide floodlights mounted to the adjacent canopy. Adjustable floodlight fixtures would be mounted above the canopy with a locking knuckle to precisely aim at the signage and eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors, and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Maximum vertical luminance of illuminated supergraphic signage would be 5 to 7 fc during nighttime.
- Supergraphics/wall signs/column wraps would have matte finishes, which would prevent glare from the light fixtures.

*Applicable LAX Master Plan Commitments*

***LU-4. Neighborhood Compatibility Program.*** Ongoing coordination and planning will be undertaken by LAWA to ensure that the airport is as compatible as possible with surrounding properties and neighborhoods. Measures to enforce this policy will include: 1) Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive uses with the goal of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities. 2) Locate airport uses and activities with the potential to adversely affect nearby residential land uses through noise, light spill-over, odor, vibration and other consequences of airport operations and development as far from adjacent residential neighborhoods as feasible. 3) Provide community outreach efforts to property owners and occupants when new development on airport property is in proximity to and could potentially affect nearby residential uses.

***DA-1. Provide and Maintain Airport Buffer Areas.*** Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive improvements with the goals of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities.

***LI-2. Use of Non-Glare Generating Building Materials.*** Prior to approval of final plans, LAWA will ensure that proposed LAX facilities will be constructed to maximize use of non-reflective materials and minimize use of undifferentiated expanses of glass.

***LI-3. Lighting Controls.*** Prior to final approval of plans for new lighting, LAWA will conduct reviews of lighting type and placement to ensure that lighting will not interfere with aeronautical lights or otherwise impair Airport Traffic Control Tower or pilot operations. Plan reviews will also ensure, where feasible, that lighting is shielded and focused to avoid glare or unnecessary light spill-over. In addition, LAWA or its designee will undertake consultation in selection of appropriate lighting type and placement, where feasible, to ensure that new lights or changes in lighting will not have an adverse effect on the natural behavior of sensitive flora and fauna within the Habitat Restoration Area.

With these Project Design Features and applicable LAX Master Plan Commitments, artificial light and glare impacts would be less than significant and no mitigation measures are required.

## 5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant unavoidable impacts related to artificial light and glare would occur as a result of construction or operation of the proposed Project; therefore, no additional mitigation is required and impacts would be less than significant.

# IV. ENVIRONMENTAL IMPACT ANALYSIS
# D. TRANSPORTATION SAFETY

This section describes the existing transportation setting of the proposed Project and evaluates the potential for transportation safety impacts to occur due to development of the proposed Project. The transportation safety analysis focuses on the potential for the proposed Project to result in driver distraction that compromises the safety of motorists and pedestrians within the Central Terminal Area (CTA), and the potential for Air Traffic Control (ATC) or pilot distraction to occur to a degree that compromises aviation safety.

## 1. ENVIRONMENTAL SETTING

### a. Existing Street System

The Los Angeles International Airport (LAX) is located in the western portion of Los Angeles County. This area of the county is mostly built out, and very little land remains undeveloped. As the largest airport in the Los Angeles region, LAX receives traffic from throughout the entire region. However, its location in the heart of an urban area and the lack of any direct freeway connection to the CTA requires that LAX be served by many local and arterial roads, with direct CTA access solely provided from Century Boulevard and Sepulveda Boulevard. These roads are in turn served by two freeways (Interstates 105 and 405 [I-105 and I-405]). LAX presently has one primary access system serving the CTA, which requires the use of local and arterial streets from the east for access. Refer to Figure IV.D-1, Project Site and Surrounding Roadways.

#### *i. On-Airport Roadways*

##### *(1) Landside Sub-Area*

The CTA accommodates all of the origin/destination passenger traffic using LAX. Passengers accessing the CTA use many modes of travel; however, the overwhelming majority of vehicles in the CTA are private vehicles. Other notable modes of travel include taxicabs, rental car shuttles, hotel/parking shuttles, shared ride vans, limousines, and FlyAway buses. All passenger vehicles to and from the south or east pass through the Century Boulevard/Sepulveda Boulevard interchange, while vehicles to and from the north are directed either through the Century Boulevard/Sepulveda Boulevard interchange, or through the 96$^{th}$ Street interchange with Sepulveda Boulevard.

The curbside and roadway system within the CTA is busy and highly controlled and consists of a two-level U-shaped roadway; the departures (upper) level is dedicated to departing passenger activities, and the arrivals (lower) level is primarily dedicated to arriving passenger activities. On-airport access from the departures level to the arrivals level is provided via a recirculation ramp located at the eastern end of the CTA and a ramp at the western end of Center Way, connecting to West Way. Access from the arrivals level to the departures level is provided via the ramp at the western end of Center Way, connecting to West Way (upper level). The departures level and arrivals level outer roadways both have a speed limit of 25 miles per hour (MPH) (Oldham, 2002). There are six signalized intersections and 18 signalized pedestrian crosswalks within the CTA. Existing wayfinding and parking/gate signage facilitate traffic movement and guide passenger vehicles to their desired terminal destination.

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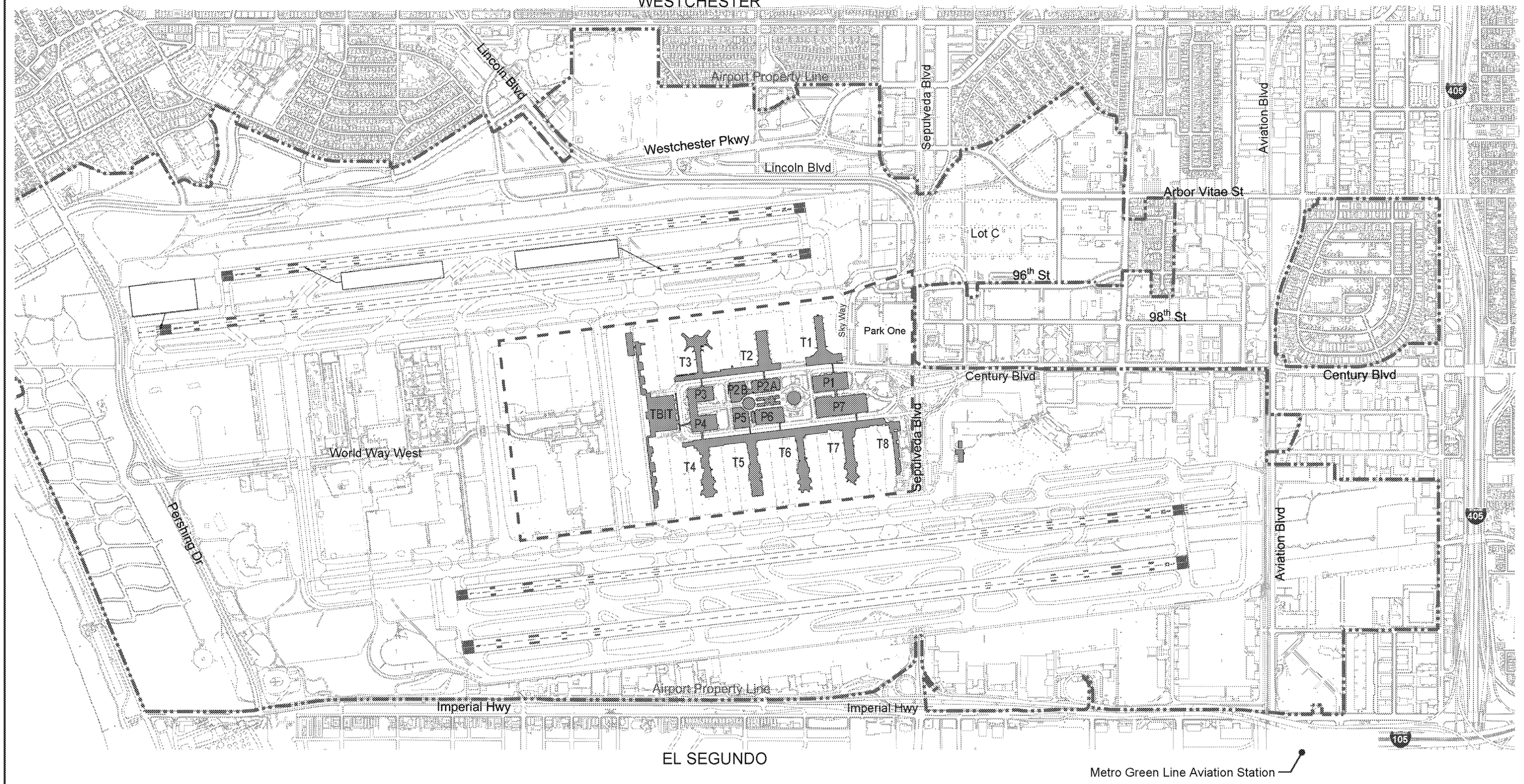


Source. Los Angeles World Airports 2012, CDM Smith, 2012.
Prepared by: CDM Smith, 2012.

| LAX Sign District Project EIR | Project Site and Surrounding Roadways | Figure IV.D-1 |
|---|---|---|

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Refer to Figures IV.D-2 and IV.D-3, CTA Roadway Links and Key Intersections, Departure and Arrival Levels, respectively.

East Way and West Way provide north-south circulation links between World Way North and World Way South on the upper and lower levels. These internal recirculation roads allow some vehicles to by-pass the westernmost terminals. Upper-level East Way provides a northbound lane and two southbound lanes; one southbound lane is used only to access Public Parking Structure 1(P1) and Public Parking Structure 7 (P7). Upper level West Way is a one-way roadway providing two southbound lanes (including a lane-drop to access Public Parking Structure 2 [P2] and Public Parking Structure 5 [P5]). On the lower level, East Way provides two northbound and two southbound lanes, and West Way provides two southbound lanes and one northbound lane.

Center Way, an eastbound only roadway parallel to and located midway between World Way North and World Way South, serves as the main outbound roadway for all parking facilities in the CTA. Exit lanes from Public Parking Structure 3 (P3) and Public Parking Structure 4 (P4) join the three-lane Center Way to the west of West Way. Center Way bypasses the Theme Building by dividing into separate two-lane roads, Center Way North and Center Way South, which are joined by existing lanes from adjacent parking structures, P2, P5, and Parking Structure 6 (P6). At the intersection with East Way, the north and south links of Center Way combine to become a four-lane roadway.

From January 2010 to April 2012, the LAX Airport Police Division investigated 214 traffic collisions within the CTA. Of those 214 accidents, 10 (approximately 5 percent) were due to inattentiveness. The other 204 traffic collisions involved actions such as unsafe lane change, failure to take caution when merging into a lane, unsafe speed, insufficient clearance, lane straddling, unsafe backing, etc.

(a) Departures Level Curbsides and Roadways

The departures level roadway curbside consists of a striped 22-foot-wide stopping lane for vehicles dropping off passengers, three 10- to 12-foot-wide travel lanes for bypass vehicles, and one left-turn only lane to access East Way. In 2006, over three-fourths of all passengers who arrived at LAX in a private vehicle were dropped off curbside (76 percent) (Los Angeles World Airports [LAWA], 2007). The Tom Bradley International Terminal (TBIT) is the only terminal at LAX where pedestrians are allowed to walk between the terminal building and the public parking facilities on the upper level. At all other airport terminals, overhead walkways provide a grade-separated travel path between the terminals and the respective parking structures.

Direct access to the departures level of the CTA roadway network from the off-airport roadway network is provided by northbound Sepulveda Boulevard, southbound Sepulveda Boulevard (via Sky Way/96$^{th}$ Street), and Century Boulevard. Direct access from the departures level roadway to southbound Sepulveda Boulevard and eastbound Century Boulevard is available, but northbound Sepulveda Boulevard traffic must use the ramp to Center Way and exit the airport with arrivals level traffic to access the northbound Sepulveda Boulevard ramp.

(b) Arrivals Level Curbsides and Roadways

The arrivals level is served by two curbside and roadway systems (i.e., inner and outer roadway), separated by a 10-foot-wide concrete pedestrian median. The inner curbside and roadway are reserved for private vehicle and taxicab pick-up, and the outer curbside and roadway are reserved for commercial vehicle passenger pick up and for use by other vehicles bypassing a terminal.

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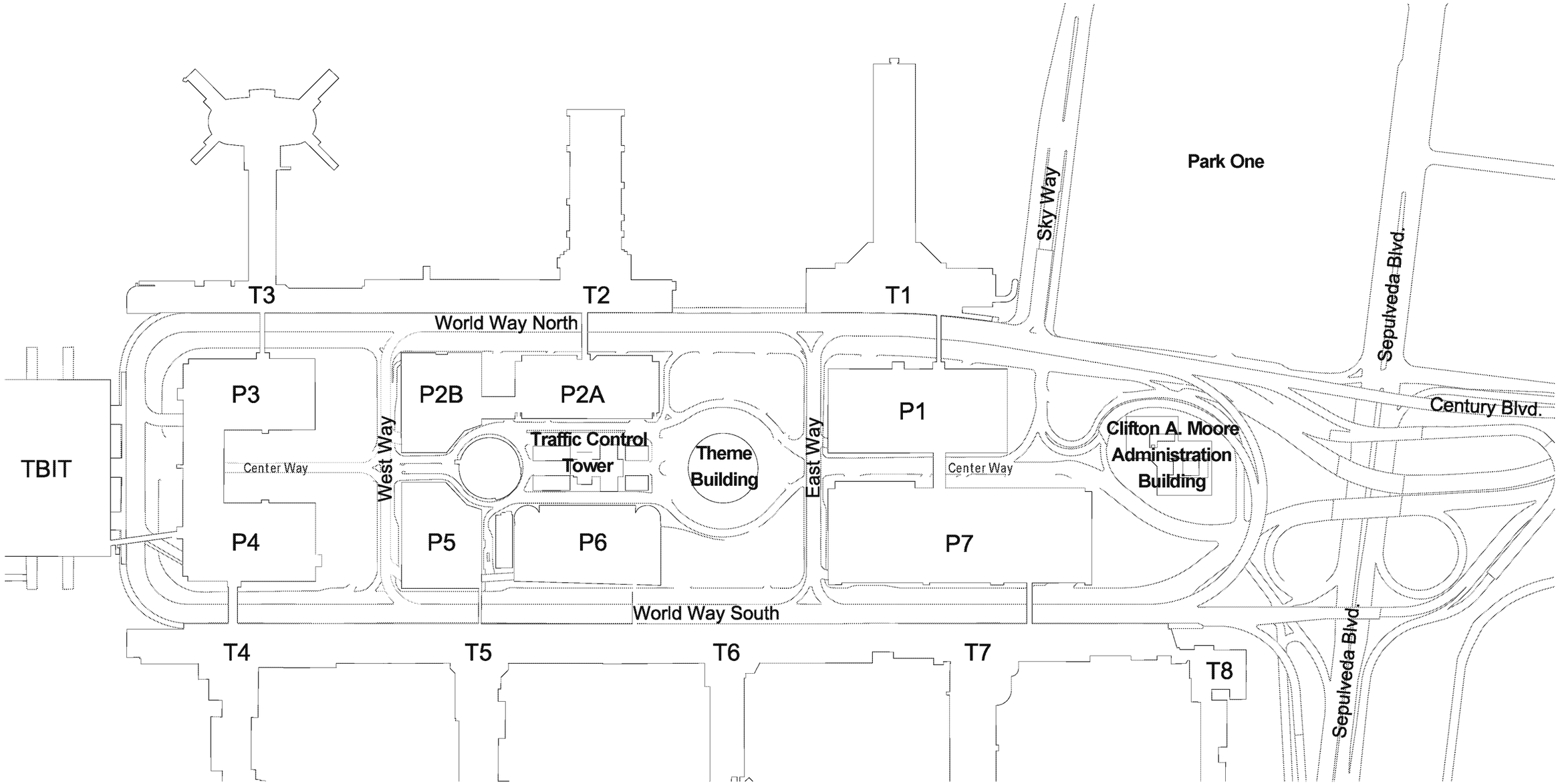


Source: LAWA, 2010; Ricondo & Associates, Inc., January 2012.
Prepared by: Ricondo & Associates, Inc., January 2012.

| | | |
|---|---|---|
| LAX Sign District Project EIR | CTA Roadway Links and Key Intersections Departures Level | Figure IV.D-2 |

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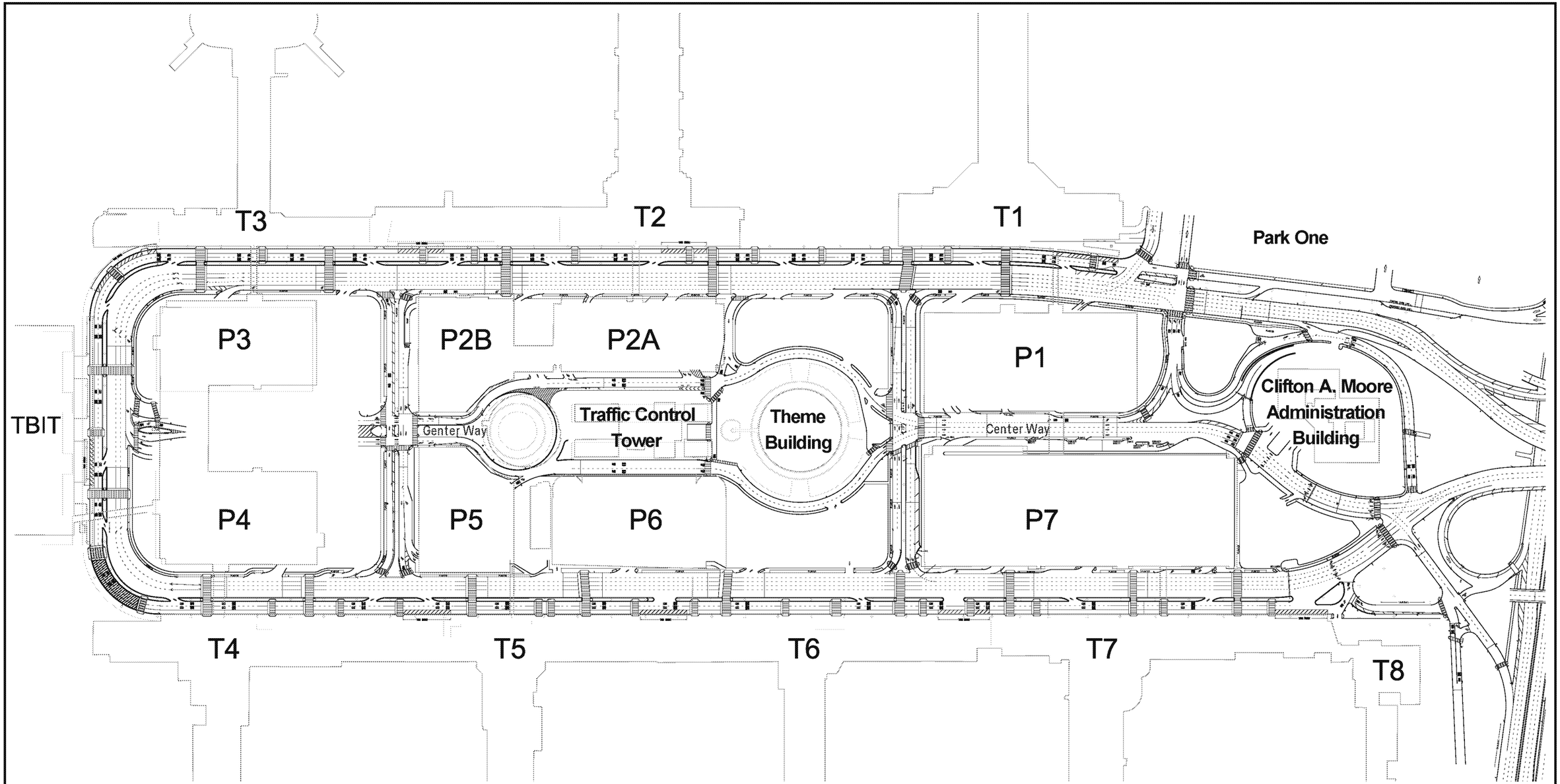


Source: LAWA, 2010; Ricondo & Associates, Inc., January 2012.
Prepared by: Ricondo & Associates, Inc., January 2012.

| | | |
|---|---|---|
| LAX Sign District Project EIR | CTA Roadway Links and Key Intersections Arrivals Level | Figure IV.D-3 |

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Direct access to the arrivals level of the CTA roadway network from the off-airport roadway network is provided by northbound and southbound Sepulveda Boulevard, and westbound Century Boulevard. Direct access from the arrivals level roadway to northbound and southbound Sepulveda Boulevard, as well as eastbound Century Boulevard, is also provided.

*(2) Airside Sub-Area*

Airside areas include all areas accessible to aircraft, including gates/concourses, runways, taxiways, ramps, and aircraft parking aprons. Circulation along marked-service roads enables aircrew to accomplish airside aircraft operations, such as, securing tie downs, towing or taxiing aircraft into terminal gates or to runway/taxiway, accessing hangar areas, escorting tug to remove aircraft, and transferring passengers to remote terminals using shuttles, and transporting equipment and passenger baggage. Paved areas are also used to access airfield areas, cargo areas, runways, taxilanes and taxiways.

There are two sets of east-west parallel runways at LAX for a total of four runways; two runways are in the south airfield (i.e., south of the CTA) and two are in the north airfield (i.e., north of the CTA). ATC closely monitors the takeoff, landing, ground movement of aircraft, and support activities to reduce delays and maintain a safe and expeditious traffic flow on the airside roadway system of the airside sub-area. The controllers also give aircrews instructions to operate on the airport movement area, air traffic clearances, and advice based on their own observations and information received from the automated weather system, radar systems, pilots, and other sources. Vehicular access from landside areas to airside areas is tightly controlled at LAX.

***ii. Off-Airport Roadways***

*(1) Freeway System*

The I-105 (Century Freeway) is an east-west freeway that extends from LAX east to the City of Norwalk. The median of the I-105 Freeway services the Metro Green Line. I-105 is approximately 0.5 mile south of the Project site

The I-405 (San Diego Freeway) is a major north-south freeway that connects the San Fernando Valley to West Los Angeles, the South Bay area, and Orange County. It provides regional access to LAX and the surrounding area. The I-405 Freeway is approximately 1.5 miles to the east of the Project site.

*(2) Arterial Streets*

Sepulveda Boulevard is a major north-south six-lane arterial roadway that provides direct access to LAX via the I-405 Freeway and Westchester Parkway on the north and via the I-105 Freeway to the south. Sepulveda Boulevard between the I-105 Freeway and Century Boulevard is located in a tunnel section beneath the south airfield runways. Sepulveda Boulevard is designated as State Route 1 south of its intersection with Lincoln Boulevard.

Century Boulevard also serves as a primary entry to LAX. It runs east-west and has three to four lanes in each direction plus left-turn channelization at major intersections. Parking is not allowed along Century Boulevard, and the posted speed limit is 35 MPH.

The CTA is accessed primarily from the east and requires the use of these arterial streets for access. To a lesser degree, access to the CTA is also provided from the north via Sky Way, which connects to Sepulveda Boulevard and to West 96$^{th}$ Street.

### b. Existing Traffic Volumes and Operating Conditions

LAX is the world's sixth busiest airport. In 2011, LAX served a total of 61.9 million passengers, which represented a 4.7 percent increase compared to the previous year (Crowe, 2012). Passenger traffic by terminal coincides with the vehicular traffic activity associated with each terminal. Terminal 1, Terminal 4, and TBIT are the busiest terminals in terms of passenger traffic in 2011 (LAWA, 2011).

The total number of trips into and out of the CTA on each of the Fridays in August[1] 2011, along with their averages, is summarized in Table IV.D-1. Table IV.D-2 lists the total traffic volumes at the CTA for each peak hour period.

**Table IV.D-1**

**CTA Traffic Volumes by Direction**

| | Inbound (Departures Level) | | | Outbound (Arrivals Level) | | |
|---|---|---|---|---|---|---|
| **Date** | **8-9 AM** | **11AM-Noon** | **5-6 PM** | **8-9 AM** | **11AM-Noon** | **5-6 PM** |
| 8/05/2011 | 3,217 | 4,175 | 3,024 | 3,140 | 4,811 | 4,210 |
| | | | | | | |
| 8/12/2011 | 3,181 | 4,120 | 3,144 | 3,049 | 4,905 | 4,561 |
| | | | | | | |
| 8/19/2011 | 3,114 | 4,127 | 3,031 | 3,147 | 5,415 | 4,166 |
| | | | | | | |
| 8/26/2011 | 3,123 | 3,873 | 3,117 | 3,208 | 4,574 | 4,658 |
| | | | | | | |
| Average | 3,159 | 4,074 | 3,079 | 3,136 | 4,926 | 4,399 |
| **Source:** Traffic Generation Report, Los Angeles International Airport/August 2011. Prepared by Facilities Planning Division of Facilities management Group. December 2011. | | | | | | |

**Table IV.D-2**

**CTA Total Traffic Volumes**

| **Date** | **8-9 AM** | **11AM-Noon** | **5-6 PM** |
|---|---|---|---|
| 8/05/2011 | 6,357 | 8,986 | 7,234 |
| | | | |
| 8/12/2011 | 6,230 | 9,025 | 7,705 |
| | | | |
| 8/19/2011 | 6,261 | 9,542 | 7,197 |
| | | | |
| 8/26/2011 | 6,331 | 8,447 | 7,775 |
| | | | |
| Average | 6,295 | 9,000 | 7,478 |
| **Source:** Traffic Generation Report, Los Angeles International Airport/August 2011. Prepared by Facilities Planning Division of Facilities management Group. December 2011. | | | |

[1] *The month of August is the warmest of the year and constitutes for peak season travel at LAX, as described in the LAX Specific Plan.*

The CTA consists of a very busy and highly controlled roadway system. There are six traffic signals and 18 signalized pedestrian crosswalks within the CTA, which is higher a concentration than a typical public roadway.[2] While these signals are necessary to assist safe traffic and pedestrian circulation, they introduce significant delay and backup of circulating traffic. As such, it is difficult for drivers to travel at significant speeds on the CTA roadway system due to the traffic control systems and enforcement of the speed limit.

Passengers may arrive via one of several modes: private automobile, public transit, taxi, limousine, FlyAway buses, hotel/motel shuttles, door-to-door vans, etc. The private vehicle continues to be the most common form of ground transportation used by air passengers, accounting for more than half of all trips to LAX (55 percent) (LAWA, 2007). A typical path may consist of a vehicle entering the CTA roadway system, followed by a stop at one of the terminal curbsides to drop off a passenger, and then proceeding to that terminal's parking garage. A total of 53 percent of passengers traveled alone to LAX in 2006 via various modes of transportation. Conversely, the proportion of passengers traveling in parties of two or more has increased compared to 2001. The percentages of mode of access choice to LAX in 2006 are provided in Table IV.D-3. The estimated mode percentages developed as part of the 2006 Air Passenger Survey are similar to the preliminary results of the 2011 Air Passenger Survey currently under draft review.

**Table IV.D-3**

**Mode of Transportation**

| Mode | Annual |
|---|---|
| Private transportation: | |
| Private vehicle | 55% |
| Rental vehicle | 11% |
| Taxi | 9% |
| Shuttle/ van (private) | 10% |
| Limousine/ town car | 2% |
| Shared/ scheduled: | |
| Share shuttle | |
| Hotel courtesy van | 5% |
| Scheduled airport/ bus/ van/ Flyaway | 3% |
| Chartered bus or van | 3% |
| Public transportation: | |
| Public bus or train | 1% |
| **Source:** 2006 Air Passenger Survey Final Report – Los Angeles International Airport, Submitted to Los Angeles World Airports by Applied Management & Planning Group, December 2007. | |

### c. Public Transit System

Public transit services providing access to and from the LAX area include the Los Angeles County Metropolitan Transportation Authority (Metro), City of Los Angeles Department of Transportation (LADOT), Torrance Transit, Santa Monica's Big Blue Bus, Culver City Bus, and a variety of privately contracted and entrepreneurial shuttle transit services. These five public transit providers serve the LAX Transit Center located on 96th Street, between Sepulveda Boulevard and Airport Boulevard. The Metro Green Line Aviation Station is located at the

[2] *For example, the roadway length of World Way West from Sky Way to the end of Terminal 3 is approximately 0.5 mile and has five signalized pedestrian crosswalks spaced an average of 400 feet. In comparison, the approximately 1.5 mile segment of Century Boulevard from Sepulveda Boulevard to the I-405 Freeway has seven traffic signals spaced an average of approximately 0.2 mile (1,130 feet) .*

southeast corner of Aviation Boulevard and Imperial Highway. The Aviation Station serves as a destination for airport bound passengers with free shuttle service to and from the airport. In addition, LAWA's FlyAway Bus offers non-stop, round-trip shuttle bus service to LAX from four locations (Union Station, Van Nuys, Westwood, and Irvine). Taxis and shuttles stop outside the terminals on both the lower/arrivals level and the upper/departures level.

### d. Pedestrian Facilities

Pedestrian facilities include sidewalks, walkways, pedestrian bridges or sky bridges, crosswalks, signals, and benches. These pedestrian facilities enhance the safety of passengers and airport support staff within the CTA. As mentioned earlier, the lower/arrivals level is served by two curbsides and roadways, separated by a 10-foot wide concrete pedestrian median. There are six traffic signals and 18 pedestrian crossing signals on the outer roadway connecting the check-in terminal buildings with the parking facilities. Traffic signals are provided at pedestrian crosswalks and sidewalks are wide to accommodate high volumes of pedestrian traffic. Landscaping fronting the parking structures create a buffer between the passengers on the sidewalk and vehicles on the road. In addition, the upper/departures level does not provide pedestrian crosswalks. However, pedestrians can access the terminals from the parking structures via the sky bridges. Sky bridges are pedestrian crosswalks over roadway traffic. The following sky bridges are provided within the CTA: P1 to Terminal 1, P2 to Terminal 2, P3 to Terminal 3, P4 to TBIT, P4 to Terminal 4, P5 to Terminal 5, P6 to Terminal 5, and P7 to Terminal 7.

### e. Parking

LAX provides both close-in and remote parking facilities for short-term and long-term parking customers. Parking structures serve each curbfront directly adjacent and clearly visible, with convenient parking entrances for vehicles directly from the curb lanes. Approximately 8,577 parking stalls are provided interior to the CTA, with eight close-in parking structures. Both upper and lower level left lane curbs provide inbound access to CTA parking structures and egress from these structures is provided via Center Way. The parking structures do not all connect with another. Traffic exiting the parking lots is exclusively directed to the lower level roadway. Outside the CTA, Lot C and Park One provide approximately 10,028 parking spaces. Thus, LAX currently provides a total of 18,605 public parking spaces (LAWA, 2011). The LAX parking system simultaneously operates with excess capacity, primarily in Lot C and Park One; however, several of the close-in parking garages within the CTA regularly fill to capacity during peak periods. There are also numerous private parking facilities outside the CTA within the LAX area that provide thousands of additional parking spaces.

### f. Regulatory Framework

#### *Federal Highway Beautification Act*

The Federal Highway Beautification Act of 1965 (23 United States Code 131), enforced by the Federal Highway Administration (FHWA), provides for control of outdoor advertising, including restriction and removal of certain types of signs, along the interstate highway system. Outdoor advertising controls apply to the National Highway System (NHS) including the Interstate and designated intermodal NHS connectors and those roads that were on the Federal-aid Primary System as it existed on June 1, 1991, but are not part of the designated NHS.

On September 25, 2007, the FHWA issued a memorandum on off-premises changeable electronic variable message signs (CEVMS), which stated that proposed laws, regulations and procedures that allowed CEVMS subject to acceptable criteria. The memorandum identified "ranges of acceptability" relating to such signage, as well as other standards that have been found helpful to ensure driver safety, such as requirements that a display contain static messages without movement such as animation, flashing, scrolling, intermittent or full-motion video.

The nearest interstate to the Project site is I-105, which is approximately 0.5 mile south of the Project site. The proposed Project would not place digital signage along the interstate highway system; therefore, the Federal Highway Beautification Act is not applicable.

***California Vehicle Code***

The California Vehicle Code Section 21466.5 includes specific criteria for limiting the potential of impairing drivers' vision due to bright artificial light sources upon the highway within a driver's field of view. A highway is defined in Section 360 of the California Vehicle Code as a way or place of whatever nature, publicly maintained and open to the use of the public for purposes of vehicular travel. In other words, highways include street roadways. Section 21467 provides that each prohibited sign, signal, device or light is a public nuisance and may be removed without notice. The restrictions may be enforced by Caltrans, the California Highway Patrol or local authorities. The proposed Project would place lighted signage in view of Sepulveda Boulevard, which is a State Highway (State Route 1); therefore, the California Vehicle Code Section 21466.5 is applicable.

The eastern boundary of the proposed Project is adjacent to Sepulveda Boulevard. The nearest signage within the Project site to Sepulveda Boulevard is three existing off-site billboards within the Park One Property. Although within the boundary of the proposed Project, no new signs are proposed at the Park One Property, or along Sepulveda Boulevard. The nearest proposed sign location is approximately 1,000 feet west of Sepulveda Boulevard. As part of the proposed Project (i.e., Project Design Features), digital signage would be equipped with sensors that modify the brightness of the sign in response to ambient lighting conditions to ensure that such brilliance would not impair the vision of drivers upon the highway (see discussion under Section IV.C, Artificial Light and Glare). Thus, the California Vehicle Code Section 21466.5 is not discussed further.

***California Outdoor Advertising Act***

The Outdoor Advertising Act (California Business and Professions Code, Sections 5200 et seq.) and the California Code of Regulations, Title 4, Division 6 (Sections 2240 et seq.) regulate the placement of off-premise advertising displays as visible from California Highways by outlining specific qualitative criteria that aim to eliminate the potential for distractions. Provisions relevant to content and placement of displays include the following:

- Advertising displays may not be placed that are so illuminated that they interfere with the effectiveness of, or obscure any official traffic sign, device, or signal; nor shall any advertising display include or be illuminated by flashing, intermittent, or moving lights (except that part necessary to give public service information such as time, date, temperature, weather, or similar information); nor shall any advertising display cause beams or rays of light to be directed at the traveled ways if the light is of an intensity or brilliance as to cause glare or to impair the vision of any driver, or to interfere with any driver's operation of a motor vehicle.
- Advertising displays may not be placed to obstruct, or otherwise physically interfere with, an official traffic sign, signal, or device or to obstruct, or physically interfere with, the vision of drivers in approaching, merging, or intersecting traffic.
- No advertising display shall be placed within 500 feet from another advertising display on the same side of any portion of an interstate highway or a primary highway that is a freeway. No advertising display shall be placed within 500 feet of an interchange, or an intersection at grade, or a safety roadside rest area on any portion of an interstate highway or a primary highway that is a freeway and if the interstate or primary highway is located outside the limits of an incorporated city and outside the limits of an urban area. No advertising display shall be placed within 300 feet from another advertising display on the same side of any portion of a primary highway that is not a freeway if that portion of the primary highway is

located outside the limits of an incorporated city and outside the limits of an urban area. No advertising display shall be placed within 100 feet from another advertising display on the same side of any portion of a primary highway that is not a freeway if that portion of the primary highway is located inside the limits of an incorporated city or inside the limits of an urban area.

The eastern boundary of the proposed Project site is parallel to Sepulveda Boulevard, which is designated as a State Highway (State Route 1). As it relates to the proposed Project, the three existing off-site billboards within the Park One Property, along Sepulveda Boulevard, are subject to the California Outdoor Advertising Act. However, no new off-site signage would be placed along Sepulveda Boulevard. The nearest proposed sign is located approximately 1,000 feet west of Sepulveda Boulevard. Thus, the California Outdoor Advertising Act is not discussed further.

***City of Los Angeles Sign Ordinance***

The City of Los Angeles regulates signs to promote public safety and welfare. The City of Los Angeles does this by controlling the size, height, and spacing of signs to protect the visual environment and regulating the design, construction, and maintenance of outdoor advertising signs to ensure that signs do not create visual blight or interfere with transportation safety or otherwise endanger public safety. Signs deemed by the Department of Building and Safety to have a potential for hazard are sent to the LADOT for review. If LADOT determines that the sign or sign support structure will constitute a hazard, the Department of Building and Safety will deny the permit application.

The City of Los Angeles permits the following signs subject to area, height, location, projection, and other requirements: monument signs, information signs, projecting signs, wall signs, pole signs, illuminated architectural canopy signs, roof signs, window signs, marquee signs, temporary signs, and mural signs. Signs containing obscene content and flashing, mechanical, and strobe lights are prohibited, as are supergraphic and off-site signs, unless such signs are specifically permitted pursuant to an adopted Specific Plan, Sign District, or Development Agreement.

***Los Angeles Municipal Code (LAMC)***

The LAMC, Section 12.50, Airport Approach Zoning Regulations, establishes special airport zoning regulations for land uses within the approach zones of LAX (specifically within the areas mapped in the Airport Hazards Area Maps referenced in the Code) in order to prevent the creation or establishment of airports hazards. These zoning regulations are primarily directed toward height limits but also address light emissions to avoid potential hazards to aircraft resulting from illuminated signs and structures within airport hazard areas. These regulations are applicable to uses immediately east and west of the LAX north and south runways. Use restrictions within the airport hazard area include no illuminated or flashing advertising or business signs, or billboards that would make it difficult for pilots to distinguish between those lights and the aeronautical lights of the airport, or which would result in glare in the eyes of pilots and impairment of visibility that could endanger the landing, taking off or maneuvering of aircraft). Although the proposed Project does not include placement of new off-site signage within the Airport Hazards Area, the intent of the Project is to be mindful of placement of the proposed signage related to hazards (obstruction and light emissions) in the airport.

***City of Los Angeles General Plan***

Section D(4)(a) and (b) of Chapter VI of the City of Los Angeles General Plan Transportation Element expressly prohibits advertising on and along Scenic Highways and rights-of-way. Specifically, (1) "Only traffic, information, and identification signs shall be permitted within the public right-of-way of a Scenic Highway;" and (2) "Off-site outdoor advertising is prohibited in the public right-of-way of, and on public-owned land within five

hundred feet of the center line of, a Scenic Highway." The proposed Project is not located within five hundred feet of a Scenic Highway; therefore, Sections D(4)(a) and (b) of the City of Los Angeles General Plan are not applicable.

*LAX Specific Plan*

As detailed under Section IV.A, Land Use and Planning, Section 14 of the LAX Specific Plan addresses sign regulations. The LAX Specific Plan specifically contemplates the establishment of a sign district under Section 14(D). The following policies and programs are established under the LAX Specific Plan:

- Section 6, Safety of Airport Operations. Notwithstanding any other provision of this Specific Plan, no use, development or activity within the Specific Plan Area may compromise the safety of airport flight operations in any way. Final authority for determining whether airport flight operation safety is compromised rests solely with the U.S. Department of Transportation and Federal Aviation Administration (FAA).
- Section 14, Sign Regulations. The Department of Building and Safety shall issue sign permits for any signs otherwise requiring a permit under the LAMC that are regulated by this Specific Plan. All signs and sign support structures that are erected and maintained on property owned or controlled, in whole or in part, by LAWA shall be reviewed by the Department of Building and Safety pursuant to the LAMC.

**g. Methodology**

The proposed Project involves construction and operation of new off-site signage within designated Landside and Airside areas of LAX. Within the Landside Sub-Area, the proposed signage would be visible from the roadway network and pedestrian pathways of the CTA, and within the Airside Sub-Area, the proposed signage would be visible by LAWA airfield employees near the gates and to pilots and passengers when approaching or departing the passenger gates. As discussed further in Section IV.C, Artificial Light and Glare, no digital signage or other signage illumination would be used in the Airside Sub-Area.

Placement of signage would be required to undergo a review to ensure that no transportation safety impacts would result as related to sign placement and size (i.e., no obstruction of views or obstruction of wayfinding signs) as required under the LAMC and LAX Specific Plan. Therefore, the following analysis is focused on the potential of new off-site signage to result in a visual distraction that could result in unsafe conditions relative to motor vehicle use and aviation. The potential visual distraction is focused on the use of digital or other lighted signage.

A driver must focus attention to the task of driving, and sufficient distraction from the task could be associated with a higher risk of a crash. A driver's eye glances should be concentrated on the roadway, and frequent or long eye glances away from the roadway toward other objects external or internal to the vehicle could result in a safety impact. Driver distraction can be attributed to many factors including inattention (i.e., fatigue, daydreaming, or worrying about personal problems), internal distraction (vehicle systems, electronic devices, other occupants in the vehicle, eating or drinking) and external distraction (glancing away from the roadway at activities or objects outside of the vehicle such as looking at scenery, buildings, previous crash site, signage, or searching for building address). In regard to external distractions from signage, the following four major factors may affect the perception of a sign (LDA, 2012):

- Size – size and shape of a signage visible to approaching automobile traffic;
- Location – location of a sign in the field of view of drivers;

- Motion – stationary objects versus the direction of movement of the object relative to the driver's direction of travel; and,
- Contrast – the contrast of the object and its background.

Measuring driver distraction is difficult and imprecise and studies may derive different results and conclusions due to differences in methodology and definitions of distraction.

A review of literature and studies related to the issue of traffic safety and driver distraction over the past decade as related to the use of digital signage (i.e., CEVMS) was conducted. This review indicated that studies have mixed, and often inconclusive results as discussed further below. Depending on which study is consulted, evidence can be found that a) CEVMS have virtually no impact on safety, or b) distraction and aesthetic degradation occurs with CEVMS that suggest that use be restricted or even eliminated. Many of the studies have focused on digital and conventional billboards. While the proposed Sign District would not allow billboards, studies that include billboards are discussed below as indications of potential distractions due to the presence of signage.

***Industry Sponsored Studies***

Several studies have determined that billboards, and specifically digital billboards, are not a source of distraction that increases the risk of highway accidents. A study prepared by Tantala Associates, published July 2007, assessed the statistical relationship between digital billboards and traffic safety in Cuyahoga County, Ohio. The study concluded that there is no statistical relationship between digital billboards and occurrence of accidents. This supports the conclusion of another study released in March 2007 by the Center for Automotive Safety Research at Virginia Tech's Transportation Institute (VTTI). The VTTI study determined while digital billboards do seem to attract more attention than conventional billboards, in the form of longer, as opposed to more frequent glances, the mean glance length for digital billboards recorded in the study was less than one second. Changes in driver performance occurring in the presence of digital billboards, such as eye glance patterns, speed maintenance, and lane-keeping, are comparable with driver performance associated with items encountered in everyday driving such as on-premises signs, logo placards, landmark buildings, and murals. The VTTI study concluded that digital billboards were safety-neutral.

Both efforts were conducted in association with a foundation affiliated with the Outdoor Advertising Association of America (OAAA). The primary conclusion of both efforts was that there is conclusive evidence that traffic accidents are not more likely to occur with the presence of such signs. In addition, industry studies indicate that CEVMS can offer a positive benefit to society by broadcasting critical safety and public information, such as Amber Alerts, severe weather warnings, and incident/emergency condition information.

***Government and Other Studies and Surveys***

In 1980, the FHWA published "Safety and Environmental Design Considerations in the Use of Commercial Electronic Variable Message Signage," which stated that no credible statistical evidence existed to support the conclusion that CEVMS negatively impacted road safety. However, incident studies reported both positive and negative relationships between accidents, high driving task demand, and the presence of roadside advertisements. The evidence was statistically insufficient to support the relationship between electronic billboards and traffic incidents. The study was based on a critical review of reported research, operational experience, and legislative history relating to electronic billboards and outdoor advertising. The study was intended to provide background information for the development of standards for electronic billboards used for public information and business advertisements adjacent to roadways. The study pointed out various factors to be considered in any development of standards for the design of electronic billboards and suggested more studies be done in this field.

In 2001, the FHWA published "Research Review of Potential Safety Effects of Electronic Billboards on Driver Attention and Distraction," which reviewed the literature published after the 1980 study. Although the results of studies after 1980 were mixed and inconclusive, the report noted that studies identified that an increase in distraction, a decrease in brightness, or a decrease in legibility may cause an increase in crash rate (Farbry, 2001:8).

In September 2007, FHWA released a memorandum which discussed that CEVMS do not violate a prohibition against "intermittent" or "flashing" or "moving" lights, and that FHWA Divisions should work with states in reviewing Federal/State Agreements (FSAs) regarding CEVMS. The memo called for consideration of requirements associated with duration of message, transition time, brightness, spacing, and location that "…evidence reasonable and safe standards to regulate such signs are in place for the protection of the motoring public."

In February 2009, the FHWA published "The Effects of Commercial Electronic Variable Message Signs (CEVMS) on Driver Attention and Distraction: An Update," which addressed the basic research question of whether operation of a CEVMS along a roadway is associated with a reduction of driving safety for the public. The report identified three fundamental methods for answering this question: (1) whether there is an increase in crash rates in the vicinity of CEVMS, (2) whether there is an increase in near-crashes, sudden braking, sharp swerving and other such behaviors in the vicinity of CEVMS, and (3) whether there are excessive eye glances away from the roadway in the vicinity of CEVMS.

Based on the literature review, FHWA also proposed a long-term program of research, which includes determination of distraction and basis for possible regulation of electronic billboards. They called for an on-road instrumented vehicle study, which would identify changes in driving behavior at and around billboard sites with on-board measurement devices in the vehicles of volunteer drivers.

The FHWA has performed studies to identify a relationship between electronic signs and their risk to drivers and to determine as objectively as possible what safety issues relate to CEVMS, with an aim towards promulgating nationwide standards or at least guidelines that other levels of government across the country could use. Its review of previous literature has found that the results to gauge driver distraction have been mixed and inconclusive. This complex issue has not been drawn into clearer focus by recent FHWA-funded research because it requires subtle and sophisticated techniques that may not be easily completed. The report does recommend a long-term program that consists of three stages: determination of distraction, basis for possible regulation, and relationship of distraction to crashes.

***Other Communities/Agencies***

In 2001, the University of North Carolina Highway Safety Research Center prepared "The Role of Driver Distraction in Traffic Crashes" and assessed the major sources of distraction to drivers and potential for the distractions to cause crashes. Research conducted for the study suggested that billboards are not a significant distraction that contributes to crashes.

***Summary***

Elements have been identified in various reports that affect the potential for driver distraction to occur from CEVMS. These relate to brightness, message duration and message change interval,[3] and signage location with regard to official traffic control devices, roadway geometry, and vehicle maneuver requirements at interchanges.

[3] *A frequently changing CEVMS can be a greater source of distraction as drivers continue to glance at the CEVMS from a distance, even before it can be read, to observe the changing content.*

Regulations of operations could include, for example, the time any single message may be displayed, the time of message transition, brightness of the sign and controls that adjust brightness based on the ambient light environment, and design and placement that ensure that the sign does not confuse drivers (i.e., CEVMS should not resemble traffic signs in pattern or color) or create dangerous glare.

## 2. ENVIRONMENTAL IMPACTS

### a. Thresholds of Significance

There are no established California Environmental Quality Act (CEQA) thresholds for transportation safety as it relates to signage, nor are there established regulatory thresholds appropriate to the proposed Project that pertains specifically to digital signage as a potential transportation safety hazard. As described in Section IV.D.2 above, the federal and state regulatory programs addressing digital signage are specific to signage along or visible from federal and state highways respectively. As the proposed Project would not establish signage in view of federal or state highways, these regulations are not applicable to the proposed Project and, therefore, are not an appropriate threshold of significance.

The City of Los Angeles has established a requirement in Section 14.4.5(A) of the LAMC Sign Ordinance that prohibits the use of signage that would be a traffic hazard, as follows:

Section 14.4.5(A), Hazard to Traffic, prohibits erecting, constructing, painting, or maintaining any sign and issuing any sign permit "if the sign or sign support structure, because of its location, size, nature or type, constitutes a hazard to the safe and efficient operation of vehicles upon a street or a freeway, or which creates a condition that endangers the safety of persons or property."

Appendix G to the State CEQA Guidelines includes the following checklist question related to transportation safety:

- Would a project increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Under the *L.A. CEQA Thresholds Guide*, the Appendix G checklist question on transportation safety listed above is referenced in Section L.5, Project Access. The determination of significance under *L.A. CEQA Thresholds Guide* Section L.5 is focused on intersection capacity at the nearest intersection to the project and vehicle/vehicle, vehicle/bicycle, and vehicle/pedestrian safety impacts related to physical conditions of the site such as access points, internal circulation, parking access (for example turning radii, driveway queuing, and, and line-of-sight for turns into and out of project driveways) and the potential for vehicular/pedestrian and vehicular/bicycle conflicts.

The proposed Project would not affect local intersection capacity or change site design features such as access points and internal circulation. Therefore, a threshold that addresses the uniqueness of the proposed Project is being used to determine if the proposed Project would have a significant impact relative to transportation safety. The following threshold is based on Section 14.4.5(A) of the LAMC Sign Ordinance which prohibits signage that would result in a transportation safety impact.

The proposed Project would potentially result in a significant impact if:

- The project would constitute a hazard to the safe and efficient operation of vehicles upon a street or a freeway or the safe and efficient operation of aircraft during takeoff and landing or ground maneuvers, or which creates a condition that endangers the safety of persons or property.

### b. Project Design Features

Following is a list of all the Project Design Features and applicable LAX Master Plan (LAWA adopted) commitments that would be included with implementation of the proposed Project:

*Project Design Features*

- The allowable locations and sizes of signs have been designed to limit visibility from off-airport locations (i.e., surrounding communities) and to not visually or otherwise negatively affect airport operations or affect or alter historical buildings within LAX.
- No new off-site signage would be placed along the Project boundary, and no electronic or light enhanced signage would be visible from the adjacent residential areas (i.e., community of Westchester to the north and City of El Segundo to the south).
- No electronic or light enhanced signage would be installed within or be visible from the Airside Sub-Area.
- Off-site signs would not be permitted on a number of buildings within the Project site, including the Theme Building, the Airport Traffic Control Tower, and the Clifton A. Moore Administration Building (including the former Airport Traffic Control Tower [1961]).
- Limit illuminance contribution of signage to 0.3 footcandle (fc) at 350 feet from face of sign.
- The proposed signage locations and their placement would be in a manner that would prevent automobile headlight-related glare. For example, signage would be placed at a higher level than the roadway or perpendicular to headlights (i.e., signage placed on sky bridges).
- The proposed Project would include a plan to remove a number of billboards in LAWA's control and comply with other applicable requirements from the Department of City Planning.
- Digital displays signs would display static images only (i.e., restriction for any type of sign that contains images, text, parts, or illumination which flash, change, move, blink, or otherwise refresh in whole or in part).
- The digital displays would have the light emitting diodes (LEDs) aimed horizontally towards the street view using a cubic louvering system to help to limit light trespass, direct the visual impact of the display to the appropriate audience, and direct light away from flight paths and highly focused driving tasks. Refer to Figure IV.C-2 (in Section IV.C, Artificial Light and Glare) for a typical light emitting diode beam spread and plan view of the layout for the directionality of the LEDs associated with the digital display signs.
- The proposed location of the two types of digital display signs - Controlled Refresh (CR) I and CR III - have been chosen being mindful of driver, pedestrian, ATC personnel and pilot safety.
- Digital display signs shall be limited in their refresh events. CR I images would refresh (change) no more than one event every eight seconds (with the exception being Parking Structure 1 which would refresh every 14 seconds). CR III images would refresh no more than one event every 12 hours. In addition, the CR III images on the sky bridges would refresh simultaneously no more than one event every 12 hours.
- Digital signage would be subject to limits on brightness levels (i.e., 4,500 candelas per meters squared [cd/m$^2$] during the daytime and 300 cd/m$^2$ during the nighttime) and equipped with sensors that modify the brightness of the sign in response to ambient lighting conditions.

- Dim lights of digital displays slowly at dusk over a 45 minute fade rate, controlled by an astronomical time clock. The transition from day to nighttime brightness would be required to occur gradually, to prevent a sudden change in perceptible brightness levels by pedestrians and motorists.
- Digital displays would not include large areas of reflective elements and have a contrast ratio of less than 30:1 to eliminate glare.
- Supergraphic signage over 20-feet tall at parking structure locations would be illuminated with LED or metal halide floodlights consisting of adjustable floodlight fixtures mounted at the top of the signage element with a locking knuckle precisely aimed at the signage to eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Supergraphic signage over 20-feet tall on terminal facades above canopy locations would be illuminated with LED or metal halide floodlights mounted to the adjacent canopy. Adjustable floodlight fixtures would be mounted above the canopy with a locking knuckle to precisely aim at the signage and eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors, and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Maximum vertical luminance of illuminated supergraphic signage would be 5 to 7 fc during nighttime.
- Supergraphics/wall signs/column wraps would have matte finishes, which would prevent glare from the light fixtures.

*Applicable LAX Master Plan Commitments*

***LU-4. Neighborhood Compatibility Program.*** Ongoing coordination and planning will be undertaken by LAWA to ensure that the airport is as compatible as possible with surrounding properties and neighborhoods. Measures to enforce this policy will include: 1) Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive uses with the goal of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities. 2) Locate airport uses and activities with the potential to adversely affect nearby residential land uses through noise, light spill-over, odor, vibration and other consequences of airport operations and development as far from adjacent residential neighborhoods as feasible. 3) Provide community outreach efforts to property owners and occupants when new development on airport property is in proximity to and could potentially affect nearby residential uses.

***DA-1. Provide and Maintain Airport Buffer Areas.*** Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive improvements with the goals of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities.

***LI-2. Use of Non-Glare Generating Building Materials.*** Prior to approval of final plans, LAWA will ensure that proposed LAX facilities will be constructed to maximize use of non-reflective materials and minimize use of undifferentiated expanses of glass.

***LI-3. Lighting Controls.*** Prior to final approval of plans for new lighting, LAWA will conduct reviews of lighting type and placement to ensure that lighting will not interfere with aeronautical lights or otherwise impair

Airport Traffic Control Tower or pilot operations. Plan reviews will also ensure, where feasible, that lighting is shielded and focused to avoid glare or unnecessary light spill-over. In addition, LAWA or its designee will undertake consultation in selection of appropriate lighting type and placement, where feasible, to ensure that new lights or changes in lighting will not have an adverse effect on the natural behavior of sensitive flora and fauna within the Habitat Restoration Area.

### c. Project Impacts

#### *i. Project Activities*

The proposed Project entails the development and implementation of a Supplemental Use District for signage (i.e., Sign District) to permit new commercial off-site signage within the Landside Sub-Area and Airside Sub-Area of LAX subject to certain restrictions. The signage would be subject to a new LAX-specific sign ordinance that would differ from and supersede LAMC signage regulations. The signage allowed under the proposed LAX Sign District would include a range of new off-site signage, including supergraphics, wall signs, digital display signs, signs on passenger boarding bridges, signs on columns, and hanging signs. As part of the proposed Project, the LAX Sign District would allow flexibility to provide either a digital display or supergraphic at the locations where a digital display has been proposed. Table II-1 in Chapter II, Project Description, presents the types of signs and their proposed location throughout LAX.

The proposed Project has been designed to limit visibility from off-airport locations. The new off-site signage would be located internally within LAX and no new off-site signage would be placed along the Project boundary. Electronic or light enhanced signage would be placed within the Landside Sub-Area, and would not be placed in or be visible from the Airside Sub-Area. In addition, digital display signs would be available as use for emergency communication, as necessary.

Construction-related activities associated with the proposed Project would be relatively minor and involve securing framework for digital displays, welding of signage supports (i.e., hooks and/or railing systems), and sign installation.

With the exception of digital display signs (which are remotely changed), operational activities to replace the advertising material would occur periodically, which could require temporary lane closures while sign/removal installation is occurring.

In addition, the proposed Project would include a plan to remove a number of billboards in LAWA's control and compliance with other applicable requirements from the Department of City Planning.

#### *ii. Potential Impacts*

##### *(1) Construction*

Depending on the type of sign, the duration of construction for signage installation would range from six hours for column and hanging signs to approximately one week for a supergraphic sign and would require two to six workers. Digital display signs would take approximately two days to construct and require four workers. Depending on the type of sign installed, construction equipment could include one to two cranes, lifts, utility truck, flatbed truck, and hand-held drilling equipment. Installation of most signage (i.e., signage on terminal walls, columns and parking structures) would generally occur within sidewalks and setbacks, and thereby not affect the roadways. Temporary sidewalk detours may be required; however, this would only occur in the immediate location where signage construction and/or replacement is occurring, and would be a short duration (i.e., six hours to one week for initial installation). During temporary sidewalk closures, detour signs and routes

would be posted to ensure safe movement of pedestrians. Some temporary lane closures may be required for sign installation, primarily installation of signs on sky bridges. Lane closures would be of short duration and occur only at limited points at any one time, without closing the entire roadway. Other areas of the CTA would be kept clear and unobstructed at all times during sign installation in accordance with FAA, State Fire Marshal, and Los Angeles Fire Code regulations. Given the short duration of construction for each sign and the limited amount of time that lane closures could be required, impacts to the transportation safety of the site during construction would be less than significant.

*(2) Operation*

(a) On-Airport Transportation

*Landside Sub-Area*

The proposed Project includes a maximum of approximately 81,522 square feet (sq ft) of proposed new off-site signage within the CTA in the Landside Sub-Area. As detailed in Table II-1 in Chapter II, Project Description, the proposed signage within the Landside Sub-Area includes a range of new off-site signage, including supergraphics, wall signs, digital display signs, signs on columns, and hanging signs. The proposed signs would, and are intended to, be visible to motorists and pedestrians within the CTA, and not to the surrounding communities.

As described in Section IV.D.3, studies addressing the relationship between digital signage and the potential for driver distraction that leads to traffic accidents are inconclusive. However, there are various restrictions identified that reduce safety concerns. The proposed Project includes Project Design Features to minimize the potential for traffic hazards and would comply with regulations that are consistent with factors identified as reducing safety concerns. Such Project Design Features include regulating placement of the signs to minimize visibility from off-airport roadways, restricting allowable placement of signs, shielding of lights, and limiting illumination levels and the control refresh rates of digital signs to lessen the potential for driver distraction to occur. In areas within the Landside Sub-Area (i.e., CTA) where traffic is moving, CR III digital display signs are proposed because they would change or refresh simultaneously every 12 hours. In areas within the CTA not directly in the line-of-sight of moving traffic (such as on the surfaces of parking structures parallel to the roadway) CR I digital display signs are proposed, which have a controlled refresh of no more than one refresh event every eight seconds. The exception is the proposed location of the CR I digital display sign on the east elevation of parking structure P1 (refer to Figures II-5 to II-12 and II-14 in Chapter II, Project Description). This location is at the southwestern area of a traffic signal (a three-way stop associated with westbound traffic on World Way and northbound and southbound traffic on Sky Way/96$^{th}$ Street at the entrance to the CTA). Because the Parking Structure P1 digital is at an intersection that has a notable amount of oncoming traffic, the CR I at this location would be timed such that the controlled refresh event would occur every 14 seconds.

Due to the amount of traffic signals, pedestrian crossings, and vehicular activity, the speed of traffic on the CTA roadways is generally lower than the posted speed limit and much lower than on typical public streets. Additionally, Project Design Features associated with the proposed Project includes a requirement that digital signage would be equipped with sensors that modify the brightness of the sign in response to ambient lighting conditions, thus ensuring that brightness of the displays at various times of day and night would not present a traffic hazard.

Additionally, regulatory requirements would ensure that the proposed Project would not present a safety hazard. The Citywide Sign Ordinance establishes controls on the size, height, and spacing of signs to protect the visual environment and regulates the design, construction, and maintenance of outdoor advertising signs to ensure that signs do not interfere with transportation safety or otherwise endanger public safety. Any signs that are

determined by the Department of Building and Safety to have the potential of creating a safety risk are sent to LADOT for review. If LADOT determines that the signs would be a safety hazard, a permit will not be issued. Further, the LAX Specific Plan requires that prior to approving any sign the Executive Director must consult with LADOT to determine that the sign is not a hazard to traffic.

As discussed further in Section IV.C, Artificial Light and Glare, lighting at LAX is not allowed to interfere with the nighttime visibility of ATC operators and incoming pilots, or interfere with lighting used to guide aircraft such as approach lighting, runway/taxiway guidance lighting, runway end identifier lights, and ground lighting/marking. Existing laws and regulations, as well as Project Design Features, which regulate sign location and brightness, would ensure the digital displays and lighted signs would not be located in such a manner to create a hazard to ATC operators, pilots or motorists. One such Project Design Feature involves the layout of the digital displays to have the LEDs aimed horizontally towards the internal airport roadways and use a cubic louvering system to aim the light downward, which would limit any undesirable glare from other vantage points (refer to Figure IV.C-2 in Section IV.C, Artificial Light and Glare, for a typical LED beam spread and plan view of the layout for the directionality of the LEDs associated with the digital display signs).

Further, the LAX Sign District sign ordinance would include requirements such as restricting where signs could be located and limiting total square footage that would prevent visual clutter and help to ensure that roadway visibility would not be obstructed and that wayfinding signs would be visible to help motorists and pedestrians navigate within the CTA. Additionally, signage would not be allowed to resemble wayfinding or traffic signs in color/style or placement.

The proposed Project would not constitute a hazard to the safe and efficient operation of vehicles upon a street or a freeway, or the safe and efficient operation of aircraft during takeoff and landing or ground maneuvers, or create a condition that endangers the safety of persons or property; therefore, impacts would be less than significant.

*Airside Sub-Area*

The proposed Project includes a maximum of approximately 289,600 sq ft of proposed new off-site signage within the Airside Sub-Area. The LAX Airside Sub-Area (approximately 102 acres) includes terminal concourses, gates, passenger boarding bridges, runways, airport access ways, and equipment which allow for the safe and efficient operation of airport airfield activities. The Airside Sub-Area is primarily visible to passengers and employees who handle airfield operations, including drivers of vehicles and equipment, and pilots of aircraft entering and departing from the gates and ATC operations. As a Project Design Feature, signs within the Airside Sub-Area would be installed on existing facilities and would not be lit. The placement of the signs on existing facilities in compliance with regulations such the LAX sign ordinance that would limit signage type, size, placement, and prohibit lighted signs with the Airside Sub-Area, would ensure that visual clutter would not occur and that no distractions to pilots or ATC personnel within the Airside Sub-Area would occur.

The proposed Project would not constitute a hazard to the safe and efficient operation of vehicles upon a street or a freeway, or the safe and efficient operation of aircraft during takeoff and landing or ground maneuvers, or create a condition that endangers the safety of persons or property; therefore, impacts would be less than significant.

(b) Off-Airport Transportation

*Northern Boundary*

Westchester Parkway and other local area roadways are located to the north of LAX, approximately 1,900 feet at the nearest location from the Project site. An earthen berm and perimeter fence intervene between most of the LAX boundary and the roadways, thus blocking or obscuring direct views of the Project site from motorists.

Proposed signage within the Landside Sub-Area (i.e., CTA) would not be visible from the northern area. The only signage that would be on the Landside Sub-Area that is not interior to the CTA is the proposed digital display sign on Terminal 1. As a Project Design Feature, the location of the proposed digital display is on the eastern facade of the terminal; therefore, based on location of the signage, distance and intervening structures, the existing signage would not be readily visible to motorists on Westchester Parkway, and thereby not pose a distraction to drivers.

Within the Airside Sub-Area, Terminals 1 through 3 and the northern portion of the TBIT/future Bradley West Terminal would be the closest portions of the Project site to the community along the LAX northern boundary. Limited long-distance views are available of the Airside Sub-Area portion of the Project site. However, Airside Sub-Area signage (limited to the passenger boarding bridges) and other facilities within the Project site are indistinguishable and thus signage would blend into this distant background and not be a distraction to motorists. As a Project Design Feature, no lighted signage would be located within the Airside Sub-Area. The proposed Project would not constitute a hazard to the safe and efficient operation of vehicles upon a street or a freeway, or the safe and efficient operation of aircraft during takeoff and landing or ground maneuvers, or create a condition that endangers the safety of persons or property; therefore, impacts would be less than significant along the northern boundary of LAX.

*Southern Boundary*

Imperial Highway and I-105 are located to the south of LAX, approximately 2,500 feet at the nearest location to the Project site. Proposed signage within the Landside Sub-Area would not be visible from the southern area. Within the Airside Sub-Area, Terminals 4 through 8 and the southern portion of the TBIT/future Bradley West Terminal would be the closest portions of the Project site to the roadways. From the southern Project boundary, only limited long-distance views are available of the Airside Sub-Area portion of the Project site. Airside Sub-Area signage (limited to the passenger boarding bridges) and other facilities within the Project site are indistinguishable. Signage would blend into this distant background and not be a distraction to motorists on Imperial Highway and I-105. The proposed Project would not constitute a hazard to the safe and efficient operation of vehicles upon a street or a freeway, or the safe and efficient operation of aircraft during takeoff and landing or ground maneuvers, or create a condition that endangers the safety of persons or property; therefore, impacts would be less than significant along the southern boundary of LAX.

*Eastern Boundary*

The eastern boundary of the Project site is a highly developed area occupied by urban uses including multi-story buildings, heavily-traveled roadways (including raised roadways), surface parking lots, and existing signage, including billboards and wall signs. Sepulveda Boulevard is located along the eastern boundary of the eastern portion of the Project site. Digital display signs that are proposed on the east elevations of Terminal 1, the first CTA sky bridge, and P1 would be the closest proposed signs to Sepulveda Boulevard (approximately 730 feet from the closest proposed signage). The proposed Terminal 1 signage, and to a limited extent the proposed signage on the first sky bridge, would be visible to pedestrians and motorists from Sepulveda Boulevard north of Century Boulevard. Given the distance between the roadway and signage, as well as intervening development (including a LAWA office building and the elevated airport roadways for departures) and landscaping, the proposed signage visible to motorists from the eastern boundary would not be a prominent feature that is likely to attract a driver's attention from the CTA roadway and visual features located in closer proximity to the CTA roadway. In addition, the proposed digital display on P1 is not expected to be visible from Sepulveda Boulevard and none of the other proposed Landside Sub-Area signage is expected to be visible from Sepulveda Boulevard.

Depending on weather conditions, airplanes typically land at LAX from an easterly direction. As such, signage on the eastern elevations of the terminals, sky bridges, and parking structures could potentially be visible to

approaching pilots. The CTA is currently an area of high illumination. This lighting does not interfere with the nighttime visibility of ATC personnel and incoming pilots, or interfere with lighting used to guide aircraft such as approach lighting, runway/taxiway guidance lighting, runway end identifier lights, and ground lighting/marking. As discussed further in Section IV.C, Artificial Light and Glare, the proposed signage would not increase the brightness levels of the CTA. Additionally, as a Project Design Feature the LEDs associated with the digital displays would be pointed down and towards the airport roadways, and lighting associated with proposed signage would not add to the ambient glow of the CTA that would represent a substantial change in brightness levels. Therefore, the Project would not result in a distraction to pilots that could impair aviation safety.

The proposed Project would not constitute a hazard to the safe and efficient operation of vehicles upon a street or a freeway, or the safe and efficient operation of aircraft during takeoff and landing or ground maneuvers, or create a condition that endangers the safety of persons or property; therefore, impacts would be less than significant along the eastern boundary of LAX.

*Western Boundary*

Pershing Drive is located along the western boundary of LAX, approximately 6,700 feet at the nearest location to the Project site. Proposed signage within the Landside Sub-Area and Airside Sub-Area would not be visible from the western area given the distance (greater than one mile) and the presence of intervening structures. During certain weather conditions, airplanes land at LAX from a westerly direction. No lighted signage would be located within the Airside Sub-Area and therefore, no potential for pilot distraction would occur.

The proposed Project would not constitute a hazard to the safe and efficient operation of vehicles upon a street or a freeway, or the safe and efficient operation of aircraft during takeoff and landing or ground maneuvers, or create a condition that endangers the safety of persons or property; therefore, impacts would be less than significant along the western boundary of LAX.

## 3. CUMULATIVE IMPACTS

The Project site is characterized by a highly-urbanized environment with a highly developed transportation network. There is roadway and airfield vehicle and passenger movement activity within and adjacent to the Project site throughout the day and much of the night. The proposed LAX Sign District would codify specific regulations and standards regarding the location, type, and size of allowable signs associated with non-airport related advertising, and their placement within the CTA and on terminals and passenger boarding bridges visible from apron areas. As discussed above, the proposed signage would not be a source of driver/pilot/ATC distraction that could create unsafe conditions posing a hazard to roadway travel or aviation.

Construction and operation of cumulative projects within the CTA, including the Bradley West Project, the Midfield Satellite Concourse (MSC), the "New Face" of the CTA Improvements/Enhancements, the Central Utility Plant Replacement Project, and the LAX Specific Plan Amendment Study, have the potential to affect transportation safety. However, these projects would be required to comply with applicable federal, state, and local design guidelines and regulations, as well as with applicable LAX Master Plan commitments and LAX Master Plan and project-specific mitigation measures, to ensure transportation safety is not compromised during both construction and operation. Further, cumulative projects such as the Specific Plan Amendment Study, and the taxiway improvements associated with Bradley West, MSC, and Taxiway R are intended and designed to improve the safety and efficiency of large aircraft (i.e., Aircraft Design Group (ADG) V and VI) operations.

As such, compliance with regulatory requirements and applicable federal, state, and local design guidelines and regulations, and applicable LAX Master Plan commitments and LAX Master Plan and project-specific mitigation measures would ensure that cumulative projects would not constitute a hazard to the safe and efficient operation

of vehicles upon a street or a freeway, or the safe and efficient operation of aircraft during takeoff and landing or ground maneuvers, or create a condition that endangers the safety of persons or property. Therefore, cumulative projects, in combination with the proposed Project, would not be expected to result in significant cumulative transportation safety impacts.

## 4. PROJECT DESIGN FEATURES AND MITIGATION MEASURES

As listed in Section 4(b) above, the following Project Design Features, including applicable LAX Master Plan Commitments, would reduce or avoid potential transportation safety impacts associated with the proposed Project:

*Project Design Features*

- The allowable locations and sizes of signs have been designed to limit visibility from off-airport locations (i.e., surrounding communities) and to not visually or otherwise negatively affect airport operations or affect or alter historical buildings within LAX.
- No new off-site signage would be placed along the Project boundary, and no electronic or light enhanced signage would be visible from the adjacent residential areas (i.e., community of Westchester to the north and City of El Segundo to the south).
- No electronic or light enhanced signage would be installed within or be visible from the Airside Sub-Area.
- Off-site signs would not be permitted on a number of buildings within the Project site, including the Theme Building, the Airport Traffic Control Tower, and the Clifton A. Moore Administration Building (including the former Airport Traffic Control Tower [1961]).
- Limit illuminance contribution of signage to 0.3 fc at 350 feet from face of sign.
- The proposed signage locations and their placement would be in a manner that would prevent automobile headlight-related glare. For example, signage would be placed at a higher level than the roadway or perpendicular to headlights (i.e., signage placed on sky bridges).
- The proposed Project would include a plan to remove a number of billboards in LAWA's control and comply with other applicable requirements from the Department of City Planning.
- Digital displays signs would display static images only (i.e., restriction for any type of sign that contains images, text, parts, or illumination which flash, change, move, blink, or otherwise refresh in whole or in part).
- The digital displays would have the LEDs aimed horizontally towards the street view using a cubic louvering system to help to limit light trespass, direct the visual impact of the display to the appropriate audience, and direct light away from flight paths and highly focused driving tasks. Refer to Figure IV.C-2 for a typical light emitting diode beam spread and plan view of the layout for the directionality of the LEDs associated with the digital display signs.
- The proposed location of the two types of digital display signs - CR I and CR III - have been chosen being mindful of driver, pedestrian, ATC personnel and pilot safety.
- Digital display signs shall be limited in their refresh events. CR I images would refresh (change) no more than one event every eight seconds (with the exception being Parking Structure 1 which would refresh every 14 seconds). CR III images would refresh no more than one event every 12 hours. In addition, the CR III images on the sky bridges would refresh simultaneously no more than one event every 12 hours.

- Digital signage would be subject to limits on brightness levels (i.e., 4,500 cd/m² during the daytime and 300 cd/m² during the nighttime) and equipped with sensors that modify the brightness of the sign in response to ambient lighting conditions.
- Dim lights of digital displays slowly at dusk over a 45 minute fade rate, controlled by an astronomical time clock. The transition from day to nighttime brightness would be required to occur gradually, to prevent a sudden change in perceptible brightness levels by pedestrians and motorists.
- Digital displays would not include large areas of reflective elements and have a contrast ratio of less than 30:1 to eliminate glare.
- Supergraphic signage over 20-feet tall at parking structure locations would be illuminated with LED or metal halide floodlights consisting of adjustable floodlight fixtures mounted at the top of the signage element with a locking knuckle precisely aimed at the signage to eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Supergraphic signage over 20-feet tall on terminal facades above canopy locations would be illuminated with LED or metal halide floodlights mounted to the adjacent canopy. Adjustable floodlight fixtures would be mounted above the canopy with a locking knuckle to precisely aim at the signage and eliminate any chance of throwing light into the flight path. Cantilever arms, louvers, barn doors, and/or glare shields would be used to allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.
- Maximum vertical luminance of illuminated supergraphic signage would be 5 to 7 fc during nighttime.
- Supergraphics/wall signs/column wraps would have matte finishes, which would prevent glare from the light fixtures.

*Applicable LAX Master Plan Commitments*

***LU-4. Neighborhood Compatibility Program.*** Ongoing coordination and planning will be undertaken by LAWA to ensure that the airport is as compatible as possible with surrounding properties and neighborhoods. Measures to enforce this policy will include: 1) Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive uses with the goal of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities. 2) Locate airport uses and activities with the potential to adversely affect nearby residential land uses through noise, light spill-over, odor, vibration and other consequences of airport operations and development as far from adjacent residential neighborhoods as feasible. 3) Provide community outreach efforts to property owners and occupants when new development on airport property is in proximity to and could potentially affect nearby residential uses.

***DA-1. Provide and Maintain Airport Buffer Areas.*** Along the northerly and southerly boundary areas of the airport, LAWA will provide and maintain landscaped buffer areas that will include setbacks, landscaping, screening or other appropriate view-sensitive improvements with the goals of avoiding land use conflicts, shielding lighting, enhancing privacy and better screening views of airport facilities from adjacent residential uses. Use of existing facilities in buffer areas may continue as required until LAWA can develop alternative facilities.

***LI-2. Use of Non-Glare Generating Building Materials.*** Prior to approval of final plans, LAWA will ensure that proposed LAX facilities will be constructed to maximize use of non-reflective materials and minimize use of undifferentiated expanses of glass.

***LI-3. Lighting Controls.*** Prior to final approval of plans for new lighting, LAWA will conduct reviews of lighting type and placement to ensure that lighting will not interfere with aeronautical lights or otherwise impair Airport Traffic Control Tower or pilot operations. Plan reviews will also ensure, where feasible, that lighting is shielded and focused to avoid glare or unnecessary light spill-over. In addition, LAWA or its designee will undertake consultation in selection of appropriate lighting type and placement, where feasible, to ensure that new lights or changes in lighting will not have an adverse effect on the natural behavior of sensitive flora and fauna within the Habitat Restoration Area.

With these Project Design Features and applicable LAX Master Plan Commitments, transportation safety impacts would be less than significant and no mitigation measures are required.

## 5. LEVEL OF SIGNIFICANCE AFTER MITIGATION

No significant impacts related to transportation safety would occur as a result of the proposed Project; therefore, no mitigation measures are required.

# V. ALTERNATIVES TO THE PROJECT

## 1. INTRODUCTION/METHODOLOGY

This chapter evaluates the alternatives and compares the impacts of the alternatives to those of the proposed Project. The *State CEQA Guidelines*, Section 15126.6, require that an EIR present a range of reasonable alternatives to the proposed Project, or to the location of the project, that could feasibly attain most of the basic project objectives, but would avoid or substantially lessen any significant effects of the project. The range of alternatives required in an EIR is governed by a "rule of reason" that requires an EIR to set forth only those alternatives necessary to permit a reasoned choice. An EIR need not consider every conceivable alternative to a project. Rather, the alternatives must be limited to ones that meet the project objectives, are ostensibly feasible, and would avoid or substantially lessen at least one of the significant environmental effects of the proposed project (*State CEQA Guidelines*, Section 15126.6[f]). The EIR must also identify the environmentally superior alternative other than the No Project Alternative. Alternatives may be eliminated from detailed consideration in the EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially lessen any significant environmental effects (*State CEQA Guidelines*, Section 15126.6[c]).

The *State CEQA Guidelines* do not require the same level of detail in the alternative analysis as in the analysis of the proposed project. *State CEQA Guidelines* Section 15126.6(d) reads as follows:

> *The EIR shall include sufficient information about each alternative to allow meaningful evaluation, analysis, and comparison with the proposed project. A matrix displaying the major characteristics and significant environmental effects of each alternative may be used to summarize the comparison. If an alternative would cause one or more significant effects in addition to those that would be caused by the project as proposed, the significant effects of the alternative shall be discussed, but in less detail than the significant effects of the project as proposed.*

### (a) Assumptions and Methodology

The alternatives analysis is presented as a comparative analysis to the proposed Project. Pursuant to the *State CEQA Guidelines*, alternatives are to be selected for the purpose of avoiding or substantially lessening the significant environmental effects of the proposed Project. As documented in Chapter IV, Environmental Impact Analysis, implementation of the proposed Project would not result in any impacts that are significant or could not be mitigated to a level that is less than significant. Given the absence of unavoidable significant impacts associated with the proposed Project, the need to identify and evaluate alternatives that could avoid or substantially reduce significant impacts is diminished. Notwithstanding, alternatives are considered in this chapter to provide a general comparison of how impacts related to key issue areas such as land use and planning, visual resources, artificial light and glare, and transportation safety, would differ from those of the proposed Project under different options to the LAX Sign District Project.

Impacts associated with the alternatives are compared to Project-related impacts and are classified as greater, less, or essentially similar to (or comparable to) the level of impacts associated with the Project.

### (b) Project Objectives

As discussed under Section 5 (Project Objectives) in Chapter II (Project Description) of this Draft EIR, the objectives for the Project are as follows:

1) Promote and enhance LAX as an international gateway to the Pacific Rim, an important public amenity, and maintain an image as one of the nation's premier airports by encouraging creative, well-designed signs that contribute in a positive way to LAX's visual environment.

2) Recognize the uniqueness of LAX as a regional economic engine.

3) Ensure that new off-site signs are responsive to and integrated with the aesthetic character of the structures on which they are located, and are positioned in a manner that is compatible both architecturally and relative to the other signage at the airport, thereby minimizing potential safety issues.

4) Protect adjacent communities from potential adverse impacts of new off-site signs by avoiding visual clutter, including visual impacts of excessive number of signs, excessive sign size, sign illumination, and sign motion/animation.

5) Support and enhance limited new off-site signage to the interior of LAX and the urban design, land use, economic development, and modernization objectives of the LAX Master Plan and LAX Specific Plan.

## 2. ALTERNATIVES CONSIDERED BUT REJECTED AS INFEASIBLE

*State CEQA Guidelines* Section 15126.6(c) requires EIRs to identify any alternatives that were considered by the lead agency but were rejected as infeasible during the scoping process, and briefly explain the reasons underlying the lead agency's determination. In addition to the alternatives listed later in this chapter, other alternatives were considered and rejected by the Lead Agency.

*Alternative Sites*

Alternative sites were not analyzed because the proposed Project is designed specifically with respect to the unique characteristics of the Project site, namely the opportunity to promote local businesses and attractions to millions of visitors and travelers at a regional, national, and international gateway to Los Angeles and improve the visual environment of LAX by encouraging creative, well-designed signs throughout the airport. There is no other property within the City of Los Angeles that presents the same level of opportunity while at the same time minimizing visibility of signage from surrounding roadways and communities. For this reason, alternative sites for the proposed Project were not considered as feasible alternatives.

## 3. ALTERNATIVES TO THE PROJECT

Two alternatives, which meet all or most of the Project objectives, and the No Project Alternative required by CEQA have been carried forward for detailed analysis in this Draft EIR. The alternatives analyzed in this Draft EIR are as follows:

Alternative 1: No Project
Alternative 2: Reduced Signage
Alternative 3: No Digital Signage

The alternatives analysis compares the potential environmental impacts of the three alternatives with those of the proposed Project for each of the environmental topics analyzed in detail in Chapter IV (Environmental Impact Analysis) of this Draft EIR, although to a lesser level of detail than in Chapter IV (pursuant to State CEQA Guidelines Section 15126.6[d]).

Impacts associated with each alternative are compared to Project-related impacts and are classified as greater, less, or essentially similar (or comparable to) the level of impacts associated with the Project. An impact summary for the proposed Project and alternatives is shown in Table V-1.

**Table V-1**

**Comparison of Impacts of the Alternatives to Impacts of the Proposed Project**

| Impact Category | Proposed Project | Alternative 1 No Project | Alternative 2 Reduced Signage | Alternative 3 No Digital Signage |
|---|---|---|---|---|
| Land Use and Planning | LTS | LTS (0) | LTS (0) | LTS (0) |
| Visual Resources | LTS | LTS (-) | LTS (-) | LTS (0) |
| Artificial Light and Glare | LTS | LTS (-) | LTS (0) | LTS (-) |
| Transportation Safety | LTS | LTS (-) | LTS (0) | LTS (0) |

Notes:
LTS = Less Than Significant

LTS (-): Impact considered to be somewhat less when compared with the proposed Project.
LTS (0): Impact considered to be similar or equal to the proposed Project.
LTS (+): Impact considered to be somewhat greater when compared with the proposed Project.

## 4. ALTERNATIVES ANALYSIS

### a. Alternative 1 - No Project

***Description***

CEQA requires the alternatives analysis to include a No Project Alternative. The purpose of analyzing a No Project Alternative is to allow decision-makers to compare the impacts of approving the proposed Project with the impacts of not approving the proposed Project (*State CEQA Guidelines* Section 15126.6[e][1]). Pursuant to *State CEQA Guidelines* Section 15126.6(e)(2):

> *The "no project" analysis shall discuss the existing conditions at the time the notice of preparation is published, or if no notice of preparation is published, at the time the environmental analysis is commenced, as well as what would reasonably be expected to occur in the foreseeable future if the proposed project were not approved, based on current plans, and consistent with available infrastructure and community services.*

Alternative 1, the No Project Alternative, would evaluate what would be expected to occur in the foreseeable future if the proposed Project were not approved. As is currently the case, under Alternative 1, no new off-site signage would be placed in the Project site. On-site, wayfinding, and tenant signage would continue, as well as the existing off-site signage at the Park One Property (subject to their current leases), and no billboard take downs or compliance with other applicable requirements from the Department of City Planning associated with the

proposed Project would occur. In summary, Alternative 1 would not preclude future improvements or signage already permitted within the Project site.

Alternative 1 would meet the objective of the proposed Project of protecting adjacent communities from visual clutter. Maintaining the signage currently allowed at LAX would partially meet the objectives of providing well-designed signs that support economic development; however, there would be substantially less flexibility to provide modern creative signage to enhance the visual environmental and less opportunity to support economic development and the uniqueness of LAX. The No Project Alternative would not provide a revenue stream that would be used to support infrastructure projects at LAX.

***Land Use and Planning***

Under Alternative 1, although no sign district would be established and no new off-site signage would be placed in the Project site (with the exception of existing off-site signage at the Park One Property, subject to their current leases), on-site signage would continue to be installed at the airport consistent with existing requirements and policies governing signage, such as the citywide Sign Ordinance (a part of the Los Angeles Municipal Code [LAMC]), LAX Specific Plan, and the LAX Airport Tenant Signage Standards. Under existing requirements, no supergraphics or digital signage are permitted. The proposed Project would conform to the applicable goals and policies and programs identified in the LAX Plan. An LAX sign ordinance would be established that regulates aspects of signage such as sign type, size, overall amount, illumination standards, and sign placement. As with Alternative 1, if the LAX sign ordinance is approved for the proposed Project, the signage would be consistent with the LAMC. No significant changes to the land use or zoning would occur under Alternative 1 or the proposed Project that would make the site or the site uses incompatible with surrounding uses. Therefore, the land use and planning impacts would be less than significant. However, without a sign district allowing promotion of business and activities outside LAX and encouraging creative well-designed signs that enhance the gateway aspect of LAX, goals and policies related to the modernization of the airport and enhancement of the local/regional economy and businesses would not be supported under Alternative 1 as compared to the proposed Project.

***Visual Resources***

Under Alternative 1, no sign district would be established at LAX. Signage at LAX would continue to be installed in compliance with the LAMC citywide Sign Ordinance and other requirements such as the LAX Specific Plan and LAX Airport Tenant Signage Standards, which generally prohibits off-site signage, supergraphics, and digital signage. Thus, new signage would continue to be placed at the airport as currently occurs but off-site signage, supergraphics or digital signage would be installed. Both on-site and off-site signage are similar in appearance. The difference is the content of the signage; on-site signage is airport-related signage, while off-site signage is non-airport related signage. Under Alternative 1 no digital signage would be installed; therefore, as a result, it is anticipated that this alternative would result in less change to the visual character and aesthetics than under the proposed Project. As a result, the visual impacts under this alternative would be similar, although reduced, as compared to the proposed Project and, therefore, less than significant.

***Artificial Light and Glare***

Under Alternative 1, no sign district would be established at LAX. Signage at LAX would continue to be installed in compliance with the LAMC citywide Sign Ordinance and other requirements such as the LAX Specific Plan LAX Airport Tenant Signage Standards, which generally prohibits off-site signage, supergraphics, and digital signage. No externally lit supergraphics or digital signage would be installed at LAX. Therefore, no sign types that could potentially serve as new sources of artificial light and glare would be installed. There would

be no artificial light and glare impacts associated with Alternative 1. As a result, the artificial light and glare impacts under this alternative would be less as compared to the proposed Project.

***Transportation Safety***

Under Alternative 1, no sign district would be established at LAX. Signage at LAX would continue to be installed in compliance with the LAMC citywide Sign Ordinance and other requirements such as the LAX Specific Plan and LAX Airport Tenant Signage Standards, which generally prohibits off-site signage, supergraphics, and digital signage. Under Alternative 1, while on-site, tenant, and wayfinding signage, as well as off-site signage at the Park One Property (subject to their current leases) would still be allowed, no off-site signage types prohibited under the LAMC Sign Ordinance, such as supergraphics and digital displays, would be permitted. Therefore, under Alternative 1, there would be less potential for traffic distractions than would occur under the proposed Project. Although no new off-site signage would be installed under Alternative 1, existing on-site signage would continue to occur, and so would short-term lane closures, although fewer compared to the proposed Project. Therefore, transportation safety impacts would be less than significant.

### b. Alternative 2 – Reduced Signage

***Description***

Alternative 2 would establish a new sign district that would allow 20 percent less signage throughout the Project site than under the proposed Project. Alternative 2 includes a maximum of approximately 65,218 square feet (sq ft) of proposed new off-site signage within the Landside Sub-Area and a maximum of approximately 231,680 sq ft of proposed new off-site signage within the Airside Sub-Area. Alternative 2 would also create a sign ordinance that would govern the type and size of allowable off-site signs and their placement throughout the Project site. The proposed signage types and allowable locations under this alternative would be the same as under the proposed Project and would include supergraphics, wall signs, digital display signs, and other signs such as signs on passenger boarding bridges, hanging signs, and column wraps. As with the proposed Project, Alternative 2 is designed to limit visibility from off-airport locations (i.e., surrounding communities) and to not visually or negatively affect airport operations or affect or alter historical buildings within LAX. No digital displays or externally lit signs would be allowed in the Airside Sub-Area. As with the proposed Project, the estimated implementation date for the construction and operation of the new off-site signage under Alternative 2 is 2013.

As with the proposed Project, Alternative 2 would also include a plan to remove a number of billboards in LAWA's control and compliance with other applicable requirements from the Department of City Planning.

Alternative 2 would support the objectives of the proposed Project, however to a lesser degree, as the decreased amount of signage would provide less flexibility to enhance the visual environment through modern creative signs, and would provide a decreased opportunity to support LAX as a regional engine. In addition, compared to the proposed Project, the decreased amount of signage under Alternative 2 would provide a decreased revenue stream that would be used to support infrastructure projects at LAX.

***Land Use and Planning***

Under Alternative 2, a sign district would be established that includes provisions superseding the citywide Sign Ordinance, including the installation of off-site signage, supergraphics, and digital signage. An LAX sign ordinance would be established that regulates aspects of signage such as sign type, size, overall amount, illumination standards, and sign placement. As with the proposed Project, with approval of the sign district, Alternative 2 would be consistent with the LAMC and would also support regional and local plans and policies. Therefore, no inconsistencies with local land use plans and policies would occur, and thus Alternative 2 would not

result in significant land use and planning impacts, comparable to the proposed Project. However, the reduced amount of allowable signage proposed under Alternative 2 would decrease the flexibility of the sign district, thus limiting creativity and providing less space for promoting local/regional businesses and activities.

***Visual Resources***

Under Alternative 2, a sign district would be established that allows installation of new off-site signage, such as supergraphics, wall signs, column wraps, signage on passenger boarding bridges, hanging signs, and digital signage at a reduced amount as compared to the proposed Project. As with the proposed Project, the amount, size, and placement of the signs would be subject to a sign ordinance that would serve to ensure that visual clutter would not occur. Under Alternative 2, as with the proposed Project, no signage would be allowed on buildings with notable architecture. As with the proposed Project, the sign district would allow for creative well-designed signage that would not substantially change the visual character of the site. Potential locations for signs would not change, and thus visibility from off-airport locations would be similar to that as described for the proposed Project. As with the proposed Project, the first sky bridge and the digital sign at Terminal 1 would have some limited visibility to motorists and pedestrians along the eastern boundary. Although visibility and visual character would be similar to the proposed Project, there would be fewer signs throughout the Project site. As with the proposed Project, potential impacts to visual resources under Alternative 2 would be less than significant.

***Artificial Light and Glare***

Under Alternative 2, a sign district would be established that allows installation of new off-site signage, including supergraphics, wall signs, column wraps, signage on passenger boarding bridges, hanging signs, and digital signage at a reduced amount as compared to the proposed Project. Signage would continue to be subject to limitations on sign illumination, sign motion/animation and control refresh rates as specified for the proposed Project. As with the proposed Project, digital and lighted signs would be allowed in the Landside Sub-Area only and would not be visible to surrounding communities. Along the eastern boundary, limited views of digital signs would be available. The Project area is characterized by high ambient light levels and the diodes associated with the digital displays would be pointed downward. As with the proposed Project, lighting associated with proposed signage under Alternative 2 would not add to the ambient glow of the area that would represent a substantial change in brightness levels as seen from adjacent sensitive uses and a change in brightness and light trespass would not occur; thus, impacts would be less than significant. Although Alternative 2 includes less signage overall, the signage proposed under this alternative would include digital signage throughout the Landside Sub-Area similar to the proposed Project, which would constitute a majority of the artificial light and glare associated with this alternative, and therefore, the artificial light and glare impacts would be similar as under the proposed Project.

***Transportation Safety***

Under Alternative 2, a sign district would be established that allows installation of new off-site signage, including supergraphics, wall signs, column wraps, signage on passenger boarding bridges, hanging signs, and digital signage at a reduced amount as compared to the proposed Project. As with the proposed Project, the amount, size, and placement of the signs would be subject to a sign ordinance that would serve to ensure that visual clutter and transportation safety impacts (i.e., driver distraction that leads to crashes) would not occur. As with the proposed Project, digital signage could be located within the CTA and this would be subject to the same regulations and Project Design Features as the proposed Project including limits on the control refresh feature (CR-I and CR-III), limits on brightness, provision of dimming technology for digital displays, and restrictions on sign placement, size, and type. Implementation of the Project Design Features and compliance with regulations would reduce the potential for driver distraction to occur. As with the proposed Project, no lighted signage/digital displays would be allowed within the Airside Sub-Area and lighted signage/digital displays within the Landside Sub-Area would

not be a distraction to pilots that could pose a safety risk. As such, similar to the proposed Project, impacts related to transportation safety under Alternative 2 would be less than significant. Although Alternative 2 includes less signage overall, the signage proposed under this alternative would include digital signage throughout the Landside Sub-Area similar to the proposed Project. Therefore, transportation safety impacts under Alternative 2 would be similar to the proposed Project.

### c. Alternative 3 – No Digital Signage

#### *Description*

Under this alternative, no digital off-site signage would be allowed within the Project site. As with the proposed Project, Alternative 3 would establish a new sign district that would allow a maximum of approximately 81,522 sq ft of proposed off-site signage within the Landside Sub-Area and a maximum of approximately 289,600 sq ft of proposed off-site signage within the Airside Sub-Area. The proposed location of digital displays within the Landside Sub-Area would be replaced with supergraphics.

Proposed new off-site signage within the Airside Sub-Area would remain the same as under the proposed Project. Alternative 3 would also create a sign ordinance which would govern the type and size of allowable off-site signs and their placement throughout the Project site. The proposed signage under this alternative would include supergraphics, wall signs, and other signs such as signs on passenger boarding bridges, hanging signs, and column wraps. Alternative 3 is also designed to limit visibility from off-airport locations (i.e., surrounding communities) and to not visually or negatively affect airport operations or affect or alter historical buildings within LAX. No lighted signs would be allowed in the Airside Sub-Area.

Under Alternative 3, there would be no digital display signs available as use for emergency communication as necessary. As with the proposed Project, Alternative 3 would include a plan to remove a number of billboards in LAWA's control and compliance with other applicable requirements from the Department of City Planning.

As with the proposed Project, the estimated implementation date for the construction and operation of the new off-site signage under Alternative 3 is 2013.

Alternative 3 would support the objectives of the proposed Project; however, to a lesser degree, as without digital displays, the Sign District would have less flexibility to enhance the visual environment through modern creative signs. In addition, compared to the proposed Project, the likely decreased amount of advertising that could be sold with the elimination of digital displays under Alternative 3 would provide a decreased revenue stream that would be used to support infrastructure projects at LAX.

#### *Land Use and Planning*

Under Alternative 3, a sign district would be established that includes provisions superseding the citywide Sign Ordinance, including allowing the installation of off-site signage and use of supergraphics. Digital signage would not be permitted. Areas identified as allowing digital signage under the proposed Project would be locations for supergraphics. The amount of signage allowed in both the Landside and Airside Sub-Areas would be the same as the proposed Project.

An LAX sign ordinance would be established that regulates aspects of signage such as sign type, size, overall amount, lamination standards, and sign placement. As with the proposed Project, with approval of the sign district, Alternative 3 would be consistent with the LAMC and would also support regional and local plans and policies as described for the proposed Project. As such, similar to the proposed Project, no inconsistencies with

local land use plans and policies would occur under Alternative 3; therefore, land use and planning impacts would be less than significant impact.

***Visual Resources***

Under Alternative 3, a sign district would be established that allows installation of new off-site signage, including supergraphics, wall signs, column wraps, hanging signs, and signage on passenger boarding bridges. No digital signage would be permitted. Areas identified as allowing digital signage under the proposed Project would be locations for supergraphics. The amount of signage allowed in both the Landside and Airside Sub-Areas would be the same as the proposed Project.

Under Alternative 3, construction activities to replace the signage would occur more frequently than under the proposed Project as all the signage allowed under Alternative 3 would require manual installation and replacement, as opposed to digital signs, which could be updated electronically from off-airport locations. Construction would occur infrequently, be short in duration, and require a small construction crew and equipment. It would not result in a substantial change in the visual character. Therefore, as with the proposed Project, the impact on visual resources associated with construction would be less than significant under Alternative 3.

As with the proposed Project, the amount, size, and placement of the signs would be subject to a sign ordinance that would serve to ensure that visual clutter would not occur. Additionally, no signage would be allowed on buildings with notable architecture. As with the proposed Project, the sign district under Alternative 3 would allow for creative well-designed signage that would not substantially change the visual character of the site. Potential locations for signs would not change, and thus visibility from off-airport locations would be similar to that as described for the proposed Project. As with the proposed Project, supergraphics on the first sky bridge and Terminal 1 would have some limited visibility to motorists and pedestrians along the eastern boundary. Therefore, the visibility and visual character under Alternative 3 would be similar to the proposed Project. As with the proposed Project, potential impacts to visual resources under Alternative 3 would be less than significant.

***Artificial Light and Glare***

Under Alternative 3, a sign district would be established that allows installation of new off-site signage, including supergraphics, wall signs, column wraps, signage on passenger boarding bridges, and hanging signs. The amount of signage allowed would be the same as the proposed Project; however, digital signage would not be allowed. Externally lit supergraphics would be allowed at the locations identified for digital signage under the proposed Project.

Under Alternative 3, construction activities to replace the signage would occur more frequently than under the proposed Project as all the signage allowed Alternative 3 would require manual installation and replacement, as opposed to digital signs, which could be updated electronically from off-site. Construction would continue to occur infrequently, be short in duration, and require a small construction crew and equipment. If nighttime construction occurs, additional lighting such as floodlights could be required. If floodlights are required for nighttime construction, the lights would be directed on the work area to limit spill-over. Additionally, the Project site is in an area with a high ambient lighting level associated with lighted airport facilities, street lighting, traffic, and the surrounding urban development. The use of floodlights would be similar to existing lighting and would not create a substantial increase in the intensity of light that could affect light-sensitive uses.

Signage would continue to be subject to limitations such as placement, size, and type. As with the proposed Project, lighted signs would be allowed in the Landside Sub-Area only and would not be visible to surrounding communities. Along the eastern boundary, limited views of the proposed lighted supergraphics would be available. The Project area is characterized by high ambient light levels and sign lighting would be pointed

downward towards the roadway. As with the proposed Project, lighting associated with proposed signage under Alternative 3 would not add to the ambient glow of the area that would represent a substantial change in brightness levels as seen from adjacent sensitive uses and a change in brightness and light trespass would not occur. Therefore, impacts under Alternative 3 would be less than significant. Because Alternative 3 would not include digital signage, artificial light and glare impacts (i.e., LED-based illumination) associated with Alternative 3 would be less than under the proposed Project.

***Transportation Safety***

Under Alternative 3, a new sign district would be established that allows installation of new off-site signage, including supergraphics, column wraps, signage on passenger boarding bridges, and hanging signs. No digital signage would be permitted. Areas identified as allowing digital signage under the proposed Project would be locations for supergraphics. The amount of signage allowed in both the Landside and Airside Sub-Areas, would be the same as the proposed Project.

Under Alternative 3, operational activities to replace the signage would occur more frequently as all the signage allowed would require manual installation and replacement, as opposed to digital signs under the proposed Project, which would be updated electronically from an off-airport location. Updates of signage along the sky bridges would require temporary lane closures while sign/removal installation is occurring. As with the proposed Project, lane closures would be of short duration and occur only at limited points at any one time, without closing the entire roadway. Other areas of the CTA would be kept clear and unobstructed at all times during sign installation in accordance with Federal Aviation Administration (FAA), State Fire Marshal, and Los Angeles Fire Code regulations. Given the short duration of construction for each sign and the limited amount of time that lane closures could be required, impacts to the transportation safety of the site during construction would be less than significant under Alternative 3, although slightly greater than the proposed Project given the increased frequency.

As with the proposed Project, the amount, size, and placement of the signs would be subject to a sign ordinance that would serve to ensure that visual clutter and transportation safety impacts (i.e., driver distraction that leads to crashes) would not occur. Transportation safety impacts would be less than significant under the proposed Project, and this potential would be similar under Alternative 3 as signage would still be installed at locations proposed under the Project; however, no digital signage would be installed. As with the proposed Project, no lighted signage/digital displays would be allowed within the Airside Sub-Area and lighted signage/digital displays within the Landside Sub-Area would not be a distraction to pilots or Air Traffic Control personnel that could pose a safety risk. Therefore, no transportation safety impacts would occur under Alternative 3. Under Alternative 3, there would be no digital display signs available to use for emergency communication as necessary. Therefore, the potential safety benefits associated with digital displays would not occur.

## 5. ENVIRONMENTALLY SUPERIOR ALTERNATIVE

Section 15126.6(e) of the State CEQA Guidelines requires the identification of an environmentally superior alternative to the proposed Project. If the No Project Alternative is the environmentally superior alternative, then the EIR must identify an environmentally superior alternative among the remaining alternatives. As indicated at the beginning of this chapter, implementation of the proposed Project would not result in any impacts that are significant or could not be mitigated to a level that is less than significant; hence, the need to identify and evaluate alternatives that can avoid or substantially lessen any significant impacts of the proposed Project is diminished. Similarly, the need for, and utility of, identifying the environmentally superior alternative is, at this point, largely for general information than for decision-making purposes. Notwithstanding, the following describes how the alternatives would rank overall relative to having the least environmental effects.

Alternative 1 (the No Project Alternative) would be the environmentally superior alternative primarily because no new off-site signage, including supergraphics or digital signage, would be placed in the Project site. Under this alternative, on-site, wayfinding and tenant signage would still be allowed within the Project site. This alternative would be similar to the proposed Project in that it would be consistent with land use and planning requirements. Alternative 1 would introduce fewer new sources of artificial light and glare, fewer elements that have the potential to create traffic distractions associated with new off-site signage than the proposed Project. Alternative 1 would meet the objective of the proposed Project of protecting adjacent communities from visual clutter. Maintaining the signage currently allowed at LAX would partially meet the objectives of providing well-designed signs that support economic development; however, there would be substantially less flexibility to provide modern creative signage to enhance the visual environmental and less opportunity to support economic development and the uniqueness of LAX. The No Project Alternative would not provide a revenue stream that would be used to support infrastructure projects at LAX.

Table V-1 provides a matrix that compares the impacts of each alternative relative to the level of impact anticipated with the proposed Project, understanding that there are no unavoidable significant impacts associated with the proposed Project. Based on the above analysis, among the remaining alternatives, Alternative 2 – Reduced Signage, and Alternative 3 – No Digital Signage, would tie as the environmentally superior alternative because either alternative would result in fewer environmental impacts compared to the proposed Project. Both Alternatives 2 and 3 would, to a limited extent: 1) promote and enhance LAX as an international gateway, 2) recognize the uniqueness of LAX as a regional economic engine, 3) ensure that new off-site signs are responsive to and integrated with the aesthetic character of the Project site and are positioned in a manner that is compatible both architecturally and relative to the other signage at the airport, thereby minimizing potential safety issues, 4) place in a manner that protects adjacent communities from potential adverse impacts of new off-site signs by avoiding visual clutter, including visual impacts of excessive number of signs, excessive sign size, sign illumination, and sign motion/animation, and 5) support and enhance limited new off-site signage to the interior of LAX and the urban design, land use, economic development, and modernization objectives of the LAX Master Plan and LAX Specific Plan.

As described in Chapter VI, Summary of Significant Unavoidable Impacts, based on the analysis contained in Chapter IV (Environmental Impact Analysis) of this Draft EIR, implementation of the proposed Project would not result in any significant unavoidable impacts for land use and planning, visual resources, artificial light and glare, or transportation safety. The proposed Project would provide a revenue stream that would be used to support infrastructure projects at LAX, allow digital displays signs to be used for emergency communication as necessary, and implement signage in a manner consistent and considered in the LAX Specific Plan, which establishes procedures for approval of a Sign District. The proposed Project would implement the project objectives and result in the least environmental impacts with regard to land use and planning, visual resources, artificial light and glare, and transportation safety; therefore, this Draft EIR also identifies the proposed Project as the environmentally superior alternative.

# VI. SUMMARY OF SIGNIFICANT UNAVOIDABLE IMPACTS

*State CEQA Guidelines* Section 15126.2(b) requires that an EIR describe any significant impacts which cannot be avoided. Specifically, Section 15126.2(b) states:

> *Describe any significant impacts, including those which can be mitigated but not reduced to a level of insignificance. Where there are impacts that cannot be alleviated without imposing an alternative design, their implications and the reasons why the project is being proposed, notwithstanding their effect, should be described.*

The EIR prepared for the proposed Project is a focused EIR requiring assessment of four environmental impact areas: land use and planning, visual resources, artificial light and glare, and transportation safety. Based on the analysis contained in Chapter IV (Environmental Impact Analysis) of this Draft EIR, implementation of the proposed Project would not result in any significant unavoidable impacts for land use and planning, visual resources, artificial light and glare, or transportation safety.

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# VII. GROWTH INDUCING IMPACTS

Pursuant to Section 15126.2(d) of the *State CEQA Guidelines*, an EIR must address growth-inducing impacts of a project. This includes ways in which a project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Section 15126.2(d) states:

> *Discuss the ways in which the proposed project could foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Included in this are projects which would remove obstacles to population growth (a major expansion of a waste water treatment plant might, for example, allow for more construction in service areas). Increases in the population may tax existing community service facilities, requiring construction of new facilities that could cause significant environmental effects. Also discuss the characteristic of some projects which may encourage and facilitate other activities that could significantly affect the environment, either individually or cumulatively. It must not be assumed that growth in any area is necessarily beneficial, detrimental, or of little significance to the environment.*

Implementation of the proposed Project involves placement of signs on structures and equipment and removal of billboards (those in LAWA's control) and does not include residential development. The proposed Project would not directly foster significant population growth or the construction of new housing in the Project's region of influence (Los Angeles County, Orange County, Riverside County, San Bernardino County, and Ventura County), remove obstacles to population growth, or necessitate the construction of new community facilities that would lead to additional growth in the surrounding area.

The direct effects of the proposed Project on regional growth stems from economic growth resulting from labor needs and expenditures. The proposed Project would not result in the generation of a significant amount of jobs at the Project site, as the Project would not result in a change in use on the site. In addition, the proposed signage would not increase passenger capacity at LAX. With no increase in long-term employment or passenger capacity, and no new homes proposed, the proposed Project would not induce substantial population growth.

An objective of the proposed Project is to support and enhance limited new off-site signage to the interior of LAX and the urban design, land use, economic development, and modernization objectives of the LAX Master Plan and LAX Specific Plan. Development of the proposed Project could generate demand for goods, services, or facilities not directly associated with the proposed Project. Although the proposed Project has the potential to indirectly increase jobs through advertising associated with the proposed Project that could indirectly foster economic development and growth through the potential increase in patronage of businesses and services in the Los Angeles area and as a source of funding for LAX improvements, the growth would not be significant as the Project would serve an existing population. In addition, the proposed Project is smaller in scale as compared to other development projects within the Los Angeles area. Any potential indirect Project-related increase in patronage of businesses and services is expected to have little impact on the regional economy as a whole. Therefore, it is not anticipated that the proposed Project would encourage or facilitate other activities that could significantly affect the environment, either individually or cumulatively.

Furthermore, the Project site is located within a developed airport, and no new roads or extensions of existing roads or other growth-accommodating infrastructure are proposed. Therefore, the proposed Project would not directly or indirectly induce substantial population growth through extension of roads or other infrastructure, and no impacts would occur.

# VIII. SIGNIFICANT AND IRREVERSIBLE ENVIRONMENTAL CHANGES

Pursuant to Section 15126.2(c) of the *State CEQA Guidelines*, an EIR must consider any significant irreversible environmental changes that would be caused by the proposed Project should it be implemented. Section 15126.2(c) states:

> *Uses of nonrenewable resources during the initial and continued phases of the project may be irreversible since a large commitment of such resources makes removal or nonuse thereafter unlikely. Primary impacts and, particularly, secondary impacts (such as a highway improvement which provides access to a previously inaccessible area) generally commit future generations to similar uses. Also, irreversible damage can result from environmental accidents associated with the project. Irretrievable commitments of resources should be evaluated to assure that such current consumption is justified.*

Resources that are committed irreversibly and irretrievably are those that would be used by a project on a long-term or permanent basis. The proposed Project entails the development and implementation of a Sign District at LAX to permit new off-site signs (non-airport-related signage), which would include signage such as supergraphics, wall signs, digital display signs, signs on passenger boarding bridges, signs on columns, and hanging signs.

The type of development associated with the proposed Project would consume limited slowly renewable and non-renewable resources. These resources would include: 1) building materials; and 2) fossil fuel, electrical energy, and operational materials/resources. Use of these energy resources would be irretrievable and irreversible.

Construction of the proposed Project would require consumption of various construction materials (mostly metals) associated with the signage framework, hooks or rail system devices, and appurtenant equipment such as lights and electrical boxes. Fossil fuels, such as gasoline and oil, would also be consumed in the use of construction vehicles and equipment.

Operation of the proposed Project would involve ongoing consumption of resources that are not replenishable or resources that may renew so slowly as to be considered non-renewable. These resources include petrochemical synthetics (i.e., plastics and adhesives) associated with supergraphics, wall signs, column wraps, hanging signs, and passenger boarding bridge signs, and electricity and lighting equipment (such as LED light bulbs) associated specifically with digital display signage, as well as lighting for supergraphics and wall signs. In addition, the resources that are needed to produce the signage or lighting consume directly or indirectly electricity, fossil fuels, and natural gas. In addition, fossil fuels, such as gasoline and oil, would also be consumed in the use of vehicles and equipment used to install and maintain the signage. To the extent that fossil fuels remain a principal source of energy within the nation, the proposed Project represents a long-term commitment of these resources.

The commitment of resources associated with the construction and operation or the proposed Project would limit the availability of these resources for future generations. However, consumption of these resources would be consistent with anticipated change and growth and relatively small in scale when compared to the resource consumption for the City of Los Angeles, the County of Los Angeles, and the southern California region. As such, although the materials and energy associated with the proposed Project would be unavailable for other uses,

the use of such resources would be justified by the economic growth that could be indirectly increased as a result of the proposed Project.

In summary, non-recoverable materials and energy would be used during construction and operation activities, but the amounts needed would be accommodated by existing supplies. Although the increase in the amount of materials and energy used would be limited, they would nevertheless be unavailable for other uses. The minimal irreversible changes are expected to be justified by the economic growth in business, services, and jobs indirectly associated with the proposed Project.

# IX. PREPARERS OF THE EIR AND PERSONS CONSULTED

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Lisa Trifiletti, Project Manager
Evelyn Quintanilla, City Planner
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Meighan Langlois

# X. ACRONYMS AND ABBREVIATIONS

| | |
|---|---|
| ADA | Americans with Disabilities Act |
| ADG | Aircraft Design Group |
| AMSL | above mean sea level |
| ALUC | Airport Land Use Commission |
| ALUCP | Airport Land Use Compatibility Plan |
| ALUP | Airport Land Use Plan |
| AOA | Airfield Operating Area |
| APM | Automated People Mover |
| AQMP | Air Quality Management Plan |
| ARCC | Airport Response Coordination Center |
| ATC | Air Traffic Control |
| BOAC | Board of Airport Commissioners |
| CAA | Clean Air Act |
| Caltrans | California Department of Transportation |
| $cd/m^2$ | candelas per meters squared |
| CEQA | California Environmental Quality Act |
| CEVMS | changeable electronic variable message sign |
| CNEL | community noise equivalent level |
| cp | candlepower |
| CR | Controlled Refresh |
| CTA | Central Terminal Area |
| CUP | Central Utility Plant |

| | |
|---|---|
| EIR | Environmental Impact Report |
| FAA | Federal Aviation Administration |
| FAR | Federal Aviation Regulations |
| fc | footcandle |
| FHWA | Federal Highway Administration |
| FSA | Federal/State Agreements |
| GSE | ground support equipment |
| GTC | Ground Transportation Center |
| I-105 | Interstate 105 |
| I-405 | Interstate 405 |
| LADOT | Los Angeles Department of Transportation |
| LAMC | Los Angeles Municipal Code |
| LAWA | Los Angeles World Airports |
| LAX | Los Angeles International Airport |
| LED | light emitting diodes |
| MAP | million annual passengers |
| Metro | Los Angeles County Metropolitan Transportation Authority |
| MMRP | Mitigation Monitoring and Reporting Program |
| MPH | miles per hour |
| MSC | Midfield Satellite Concourse |
| NAAQS | National Ambient Air Quality Standards |
| NCP | Neighborhood Compatibility Program |
| NHS | National Highway System |
| NOP | Notice of Preparation |
| O3 | 8-hour ozone |
| OAAA | Outdoor Advertising Association of America |

| | |
|---|---|
| P# | Parking Structure # |
| PM | particulate matter |
| PUC | Public Utilities Code |
| RCP | Regional Comprehensive Plan |
| RPZs | runway protection zones |
| RTP | Regional Transportation Plan |
| SCAG | Southern California Association of Governments |
| SCAQMD | South Coast Air Quality Management District |
| SCS | Sustainable Communities Strategy |
| SIP | State Implementation Plan |
| SN | Sign District |
| SPAS | LAX Specific Plan Amendment Study |
| sq ft | square feet |
| SR 90 | State Route 90 |
| SUD | Supplemental Use District |
| TBIT | Tom Bradley International Terminal |
| US | United States |
| U.S.C. | United States Code |
| VTTI | Virginia Tech's Transportation Institute |

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# APPENDIX A

# NOTICE OF PREPARATION AND INITIAL STUDY

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www.planning.lacity.org

**March 16, 2012**

## NOTICE OF PREPARATION AND NOTICE OF PUBLIC SCOPING MEETING FOR AN ENVIRONMENTAL IMPACT REPORT

**CASE NO.:** ENV-2011-1965-EIR
**PROJECT NAME:** Los Angeles International Airport (LAX) Sign District
**PROJECT LOCATION/ADDRESS:** LAX, One World Way, Los Angeles, CA 90045 (cross-streets are generally Sepulveda Boulevard and Century Boulevard)
**COMMUNITY PLANNING AREA:** LAX
**COUNCIL DISTRICT:** 11-Rosendahl
**DUE DATE FOR PUBLIC COMMENTS: April 16, 2012**

The City of Los Angeles, Department of City Planning will be the Lead Agency and will require the preparation of an environmental impact report (EIR) for the project identified above (proposed Project). The Department of City Planning requests your comments as to the scope and content of the EIR. The purpose of the Scoping Meeting is to receive input from the public as to what areas the EIR should study. No decisions about the proposed Project are made at the scoping meeting.

The Project description, location, and the potential environmental effects are set forth below. Also included below are the date, time, and location of the Scoping Meeting that will be held in order to solicit input regarding the content of the Draft EIR. The Scoping Meeting is in an open house format. A copy of the Initial Study prepared for the proposed Project is available for review at the Department of City Planning, 200 North Spring Street, Room 621, Los Angeles, CA 90012. Information is also available online at cityplanning.lacity.org under the tab "environmental" by selecting "notice of preparation and public scoping meetings" and www.ourlax.org under the tab "Projects-Publications" by selecting "LAX Sign District Project", and Westchester – Loyola Village Branch Library at 7114 W. Manchester Avenue.

**PROJECT DESCRIPTION:** The proposed Project entails the development and implementation of a Sign District at LAX. The proposed Project includes a maximum of approximately 81,522 square feet (sq ft) of proposed new signage within the Landside Sub-Area and a maximum of approximately 289,600 sq ft of proposed new signage within the Airside Sub-Area. The proposed Project would include a range of off-site signage, including supergraphics, digital display signs, and other signs such as signs on passenger boarding bridges and signs on columns. Off-site signs advertise a business, use, facility, service or product not found at LAX (non-

airport-related signage). The estimated implementation date for the construction and operation of the new signage within the Project site is 2013.

The proposed Project would include a sign ordinance which would contain provisions that establish regulations such as sign types, placement, number, dimensions, illumination, motion/animation, content, etc. The regulations of the proposed Sign District would supercede the regulations set forth in the Los Angeles Municipal Code. The proposed Project would also include a program to remove a number of billboards in the Los Angeles World Airport's control and compliance with other applicable requirements from the Department of City Planning.

**REQUESTED PERMITS/APPROVALS:** The City of Los Angeles, as the Lead Agency for the proposed Project, has discretionary authority of the land use approvals for the Project. Approvals to be requested from the City include a Supplemental Use District (SUD) for signage (i.e., Sign District), and other approvals (as needed), ministerial or otherwise, which may be necessary in order to implement and execute the Project. Such approvals may include, but are not limited to, the following: issuance of sign (including support structures) and electrical permits by the City of Los Angeles, and review by the Federal Aviation Administration, as applicable.

**ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:** Aesthetics, Hazards (to be addressed under Aesthetics and Transportation/Traffic), Land Use/Planning, Transportation/Traffic, and Mandatory Findings of Significance. All other environmental impacts have been found to be less than significant and will be addressed in the Impacts Found To Be Less Than Significant Section of the EIR.

**PUBLIC SCOPING MEETING DATE AND LOCATION:** A public scoping meeting in **an open house format** will be held to receive public comment regarding the scope and content of the environmental information to be included in the Draft EIR. The Department of City Planning encourages all interested individuals and organizations to attend this meeting. The location, date, and time of the public scoping meeting for this project are as follows:

**Date:** **March 31, 2012**

**Time:** **9:00 a.m. to Noon**
Arrive any time to speak one-on-one with City staff and project consultants

**Location:** **The Proud Bird Restaurant**
**11022 Aviation Boulevard**
**Los Angeles, CA 90045**

The enclosed materials reflect the scope of the project, which is located in an area of interest to you and/or the organization you represent. The Initial Study is available for public review by contacting the Department of City Planning at the address and/or phone number provided below. The Department of City Planning welcomes all comments regarding potential environmental impacts of the project and the issues to be addressed in the EIR. All comments will be considered in the preparation of the EIR. **Written comments** must be submitted to this office by **April 16, 2012.** Written comments will also be accepted at the public scoping meeting described above.

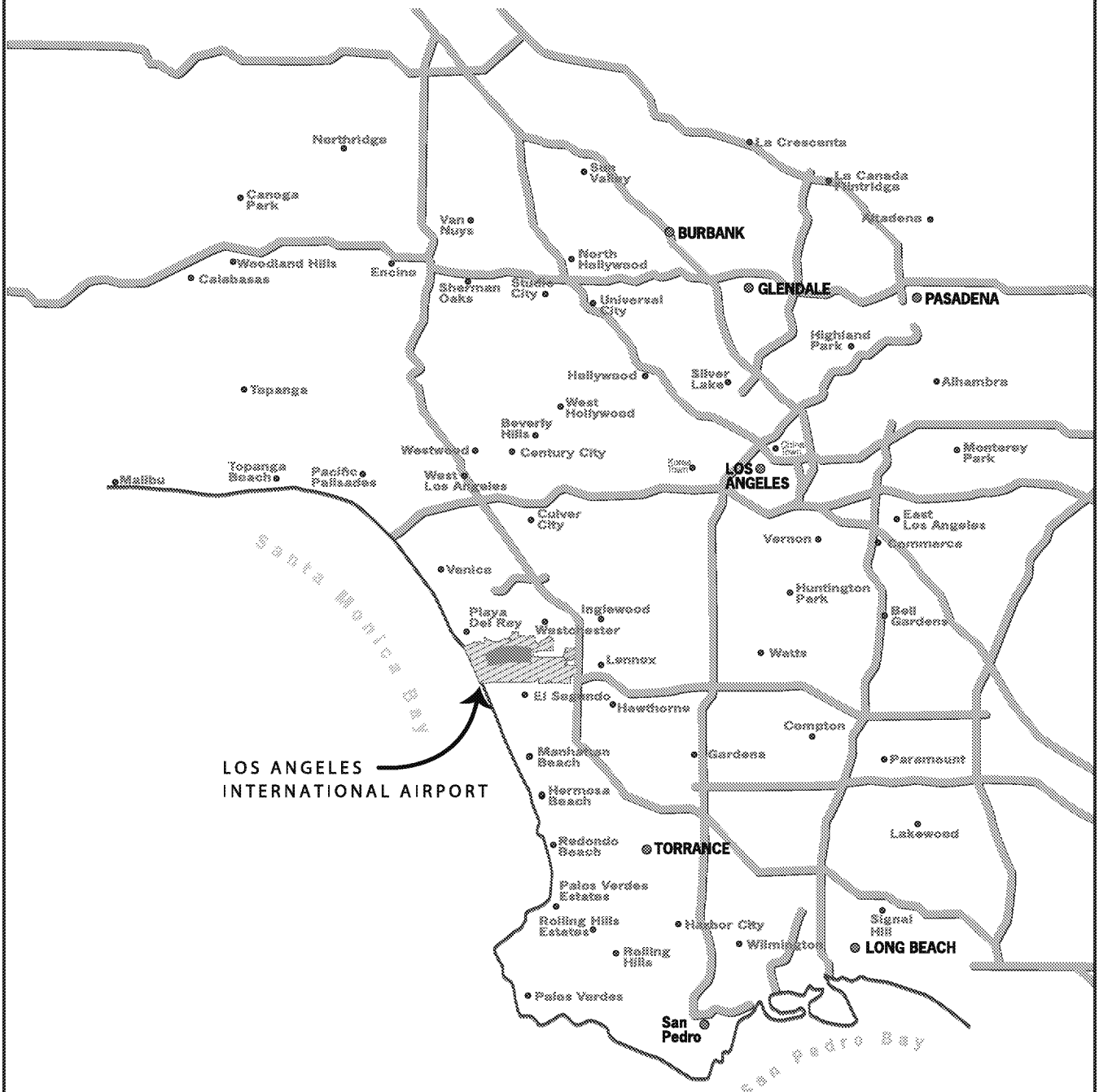
Please direct your comments to:

Mr. Gregory J. Shoop, Project Coordinator
City of Los Angeles, Department of City Planning
200 N. Spring Street, Room 621
Los Angeles, CA 90012
Fax: (213) 978-1226
Email: greg.shoop@lacity.org

MICHAEL J. LOGRANDE
Director of City Planning

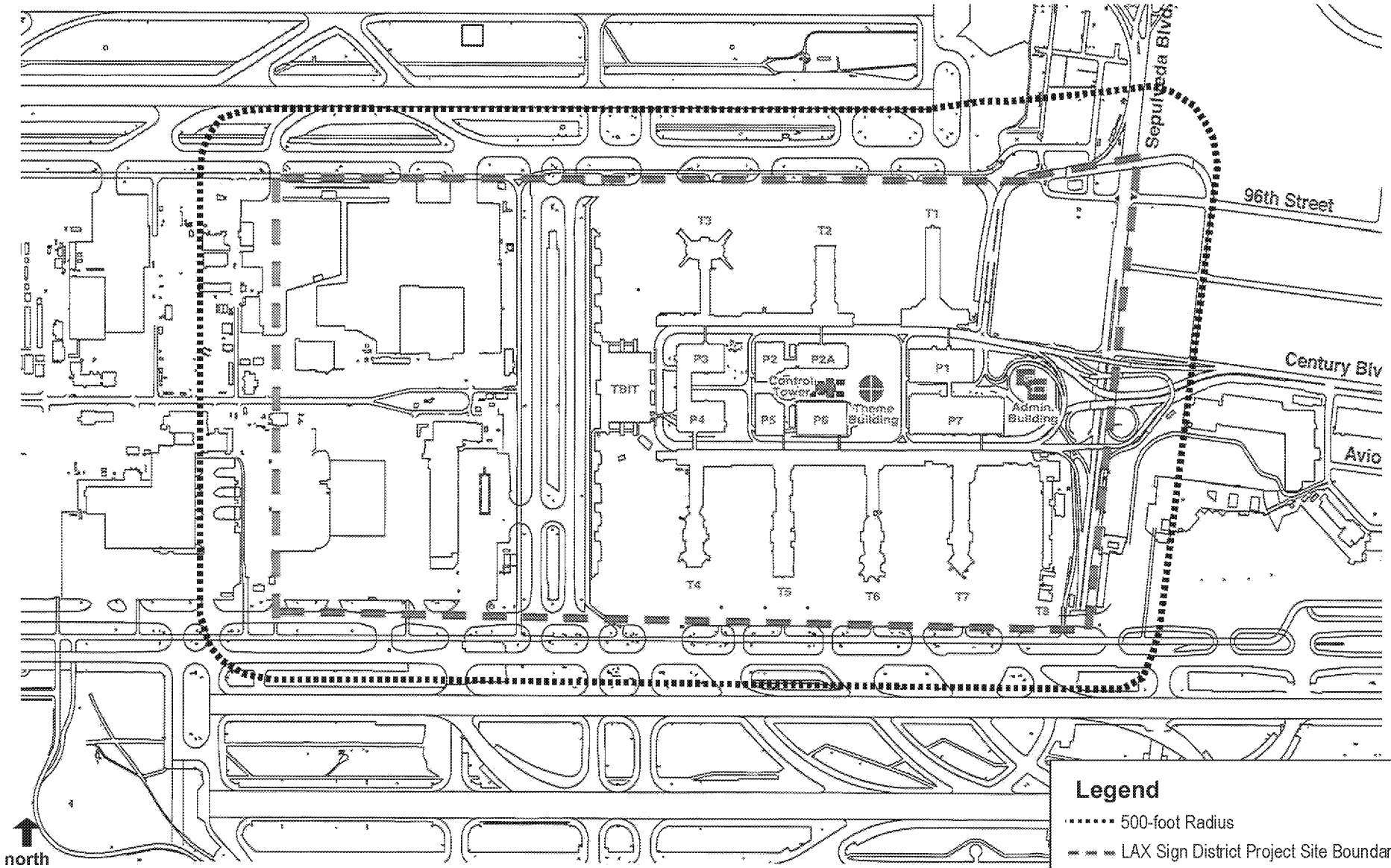
Gregory J. Shoop
City Planner, Project Coordinator

Enclosures: Vicinity Map
500 foot Radius Map
Map of Scoping Meeting Site




Prepared by: CDM Smith, 2012

| LAX Sign District Project | Project Vicinity Map |
|---|---|



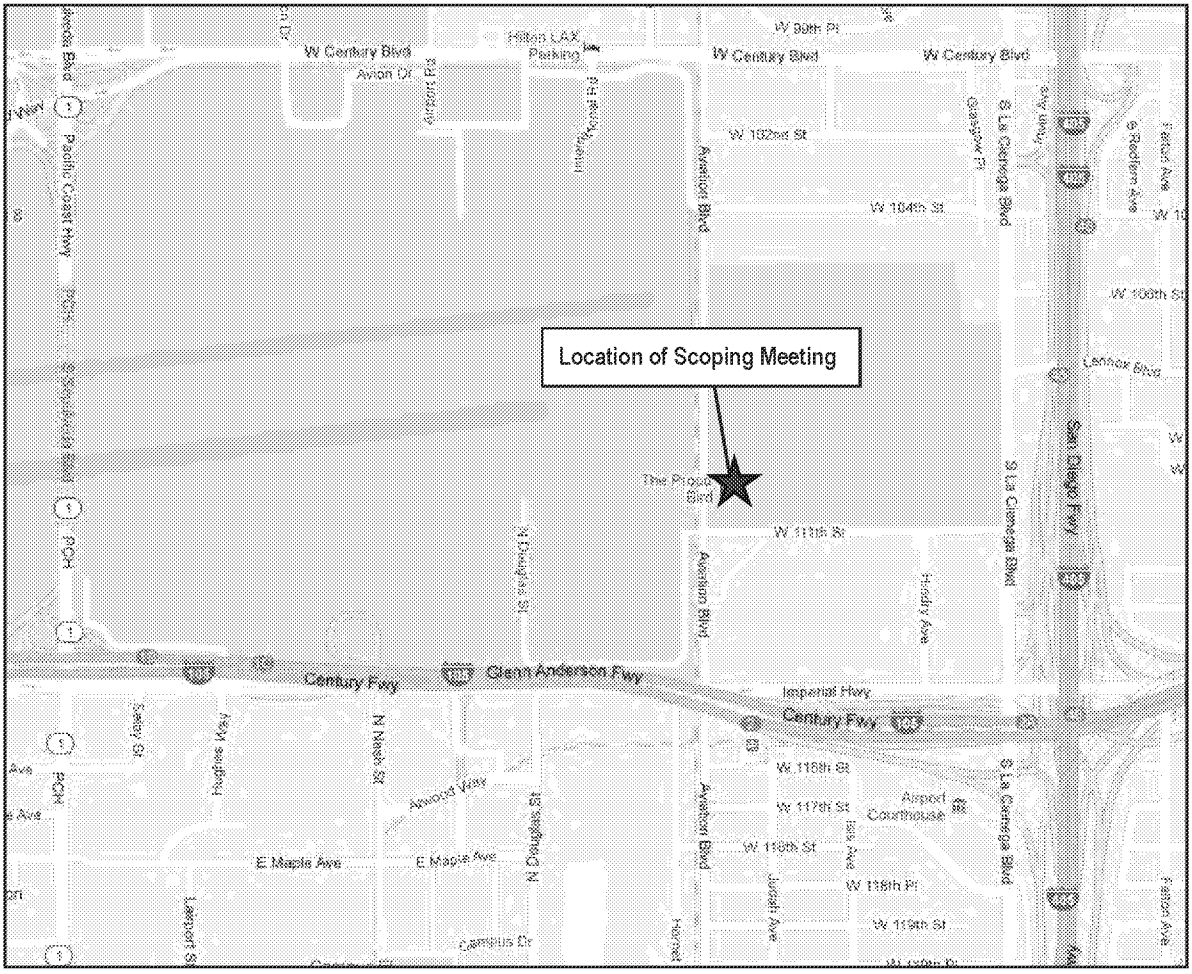

| | |
|---|---|
| **LAX Sign District Project** | **500-foot Radius Map** |

# LAX Sign District Project
# SCOPING MEETING LOCATION MAP

**Date:** March 31, 2012

**Time:** 9:00 A.M. to Noon

**Location:** The Proud Bird Restaurant
11022 Aviation Boulevard
Los Angeles, CA 90045




Source. Google Maps, 2011.

**Department of City Planning**

City Hall • 200 Spring Street, Room 621 • Los Angeles, CA 90012

# *INITIAL STUDY*
# *LAX COMMUNITY PLAN AREA*

## *Los Angeles International Airport (LAX) Sign District*

*Case No. ENV-2011-1965-EIR and Case No. CPC-2011-1964-SN*

*Council District No. 11*

**THIS DOCUMENT COMPRISES THE INITIAL STUDY ANALYSIS AS REQUIRED UNDER THE CALIFORNIA ENVIRONMENTAL QUALITY ACT**

**Project Address:** LAX, One World Way, Los Angeles, CA 90045

**Project Description:** The proposed Project entails the development and implementation of a Sign District at LAX, in which commercial signage would be permitted subject to certain restrictions. The proposed Project includes a maximum of approximately 81,522 square feet (sq ft) of proposed new signage within the Landside Sub-Area and a maximum of approximately 289,600 sq ft of proposed new signage within the Airside Sub-Area. The proposed Project would include a range of off-site signage, including supergraphics, digital display signs, and other signs such as signs on passenger boarding bridges and signs on columns. Off-site signs advertise a business, use, facility, service or product not found at LAX (non-airport-related signage). The estimated implementation date for the construction and operation of the new signage within the Project site is 2013.

The proposed Project would include a sign ordinance which would contain provisions that establish regulations such as sign types, placement, number, dimensions, illumination, motion/animation, content, etc. The regulations of the proposed Sign District would supersede the regulations set forth in the Los Angeles Municipal Code. The proposed Project would also include a program to remove a number of billboards in the Los Angeles World Airport's control and compliance with other applicable requirements from the Department of City Planning.

**APPLICANT:**
City of Los Angeles
Los Angeles World Airports)
One World Way, Room 218
Los Angeles, CA 90045

**PREPARED BY:**
CDM Smith

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# I. INTRODUCTION

## INTRODUCTION

The subject of this Initial Study (IS) is the proposed Los Angeles International Airport (LAX) Sign District (the "proposed Project"). The proposed Project is located within LAX. LAX is the sixth busiest airport in the world and the third busiest in the United States. The Project site includes the LAX Landside Sub-Area (also known as the Central Terminal Area [CTA]), a portion of the Airside Sub-Area, the area along Sepulveda Boulevard known as the Park One Property, and an area extending west of Taxiway R. The Project site is within the LAX Community Plan (LAX Plan) area, as well as the LAX Specific Plan area. The Project site is located entirely within the City of Los Angeles.

The proposed Project entails the development and implementation of a Sign District at LAX, in which commercial signage would be permitted subject to certain restrictions. The proposed Project includes a maximum of approximately 81,522 square feet (sq ft) of proposed new signage within the Landside Sub-Area and a maximum of approximately 289,600 sq ft of proposed new signage within the Airside Sub-Area. The proposed Project would include a range of off-site signage, including supergraphics, digital display signs, and other signs such as signs on passenger boarding bridges and signs on columns. Off-site signs advertise a business, use, facility, service or product not found at LAX (non-airport-related signage). The estimated implementation date for the construction and operation of the new signage within the Project site is 2013.

The proposed Project would include a sign ordinance which would contain provisions that establish regulations such as sign types, placement, number, dimensions, illumination, motion/animation, content, etc. The regulations of the proposed Sign District would supersede the regulations set forth in the Los Angeles Municipal Code. The proposed Project would also include a program to remove a number of billboards in the Los Angeles World Airport's control and compliance with other applicable requirements from the Department of City Planning.

### Project Information

Project Title: Los Angeles International Airport (LAX) Sign District

Project Location: LAX, One World Way, Los Angeles, California 90045

Project Applicant: City of Los Angeles
Los Angeles World Airports (LAWA)
One World Way, Room 218
Los Angeles, California 90045

Lead Agency: City of Los Angeles
Department of City Planning
200 North Spring Street, Room 601
Los Angeles, California 90012

## Organization of the Initial Study

This Initial Study is organized into six sections as follows:

*I.* ***Introduction:*** This section provides introductory information such as the Project title, the Project applicant, an overview of the proposed Project itself, and the Lead Agency for the proposed Project.

*II.* ***Project Description:*** This section provides a detailed description of the environmental setting and the proposed Project, including proposed Project characteristics and requested discretionary actions.

*III.* ***Initial Study Checklist:*** This section contains the completed Initial Study (IS) Checklist.

*IV.* ***Environmental Impact Analysis:*** This section provides an assessment and discussion of the environmental impacts for each environmental issue identified in the IS Checklist. For those analyses that conclude that the proposed Project may result in a potentially significant effect, further analysis in an EIR is required.

*V.* ***References:*** This section presents references of the documents used in the preparation of the IS Checklist.

*VI.* ***List of Preparers and Persons Consulted:*** This section provides a list of City personnel, other governmental agencies, and consultant team members that participated in the preparation of the IS.

# II. PROJECT DESCRIPTION

## ENVIRONMENTAL SETTING

### Project Location

The Los Angeles International Airport (LAX) Sign District Project (the "proposed Project") is located within LAX, which is located within the LAX Plan area in the City of Los Angeles. LAX encompasses approximately 3,900 acres and is situated at the western edge of the City of Los Angeles, as shown in Figure 1, Regional Location Map. To the north of LAX is the community of Westchester, to the south is the City of El Segundo, to the east is the City of Inglewood, and to the west is the Pacific Ocean.

As shown in Figure 2, Project Location Map, the Project site (i.e., Sign District) encompasses a 502-acre area within LAX, that includes the CTA, the area along Sepulveda Boulevard known as the Park One Property, and an area that extends to the west of Taxiway R. New signage would be limited to approximately 203 acres of the Project site comprised of two distinct sub-areas – Landside and Airside. The Landside Sub-Area (approximately 101-acres) includes the access areas associated with the CTA (i.e., lower and upper roadways associated with arrivals and departures, respectively), portions of the terminals facing the interior CTA roadway, parking structures, columns, Park One Property, and area along Sepulveda Boulevard immediately adjacent to the CTA. This sub-area is visible primarily by visitors, passengers, and airport employees. The Airside Sub-Area (approximately 102-acres) includes existing (as well as future) terminal concourses, gates, passenger boarding bridges, runways, airport access ways, and equipment to allow for the safe and efficient operation of airport airfield activities. This sub-area is primarily visible to passengers and employees within aircraft and employees associated with airfield operations. There is some limited visibility to passengers and employees from the gates. No new signs are proposed at the Park One Property, or along Sepulveda Boulevard. In total, the proposed signage would affect approximately 40 percent of the Proposed Project site (or approximately 203 acres of the 502-acre Project site).

## LAND USE AND ZONING DESIGNATION

The Project site is located entirely within the LAX Plan area, as well as the LAX Specific Plan area. The Project site is in an area designated in the LAX Plan as "Airport Landside (Central Terminal Area)" and "Airport Airside." Existing zoning is LAX – L Zone (Airport Landside Sub-Area) and LAX – A Zone (Airport Airside Sub-Area). Section 14 of the LAX Specific Plan delineates the sign regulations associated with the placement of signage within the Airport Landside and Airside Sub-Areas, and provides for the establishment of a Sign District to permit off-site signs. Off-site signs are signs that advertise a business, use, facility, service or product not found at LAX (non-airport-related signage). The proposed Project would not affect existing land use or zoning and is in compliance with the LAX Plan and LAX Specific Plan.

## DESCRIPTION OF THE SURROUNDING AREA

The Project site encompasses a portion of LAX. The land uses surrounding the Project site include airport operations and facilities (industrial uses including airfield operations including taxiways and runways) to the north, west, and south, and commercial and industrial uses to the east (along Sepulveda Boulevard and its intersection with Century Boulevard). The predominant land uses surrounding LAX to the north and south are residential and commercial, and to the east are primarily commercial and industrial. To the west of LAX are the El Segundo Sand Dunes and Pacific Ocean. Residential areas closest to the Project site are approximately 0.5 mile northeast to 0.75 mile north (community of Westchester) and 0.6 mile south (City of El Segundo). The environmental setting of the Project site is characterized by a highly-built environment with roadway and airfield vehicle and passenger movement activity within and adjacent to the Project site throughout the day and much of the night.

## PROJECT CHARACTERISTICS

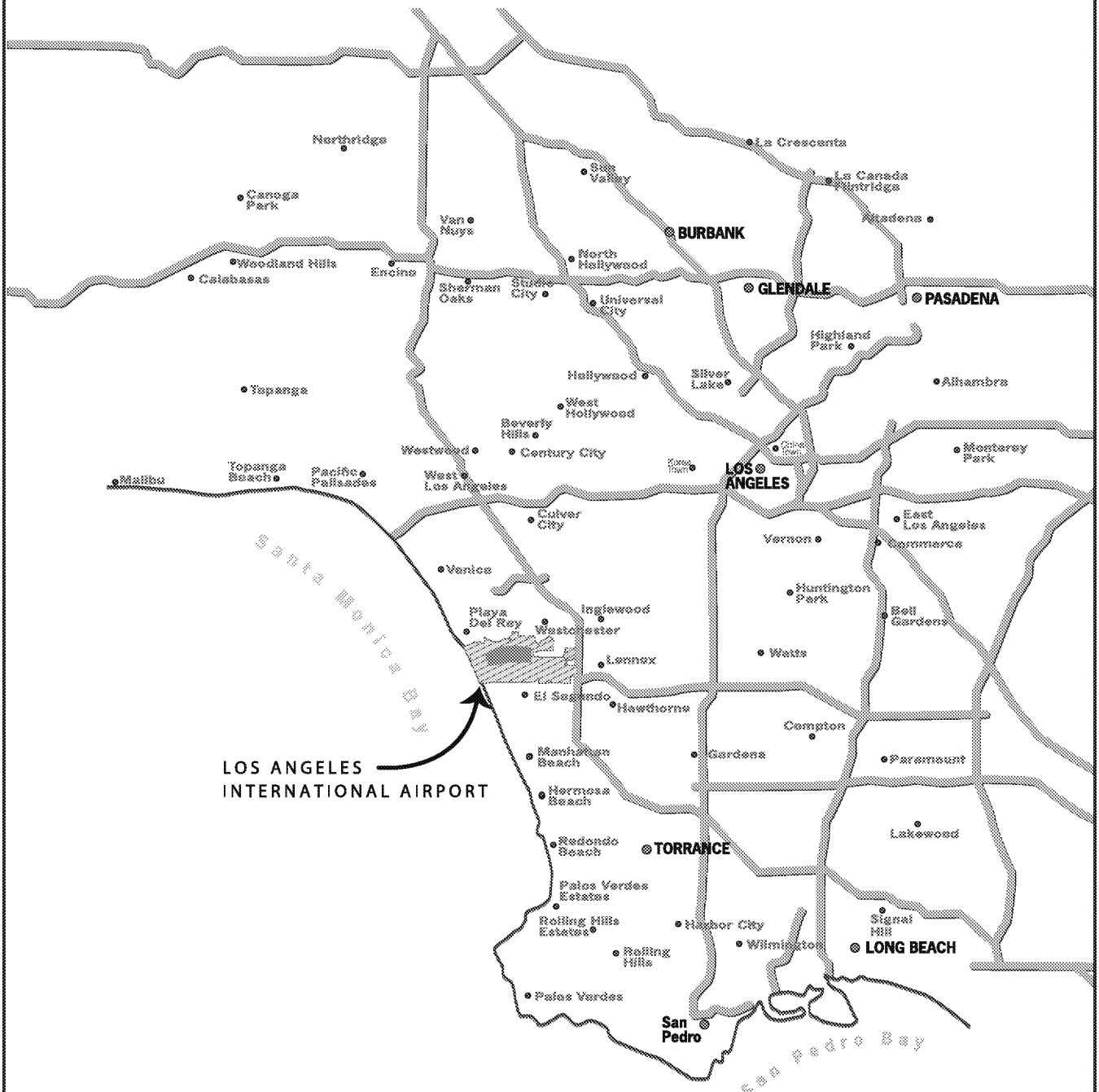
### Proposed Development

The proposed Project entails the development and implementation of a Sign District at LAX to permit off-site signs (non-airport-related signage). The proposed Project includes a maximum of approximately 81,522 sq ft of proposed new signage within the Landside Sub-Area and a maximum of approximately 289,600 sq ft of proposed new signage within the Airside Sub-Area. The proposed Project would include a sign ordinance which would govern the type and size of allowable off-site signs and their placement throughout the Project site.

The proposed Project would contain provisions that establish regulations such as sign types, number of signs, sign dimensions, sign placement, sign illumination, sign motion/animation, sign content, etc. The regulations of the proposed Sign District would supersede the regulations set forth in the Los Angeles Municipal Code (LAMC). As part of the proposed Project, signage would be limited to the CTA and portions of the Airside Sub-Area - no new signage is proposed beyond these areas (see Figure 1). The proposed Project has been designed to limit visibility from off-site locations (i.e., surrounding communities) and to not visually or negatively affect airport operations or affect or alter historical buildings within LAX. In addition, the proposed Project would require findings of compliance with the City of Los Angeles General Plan, LAX Plan, and LAX Specific Plan.

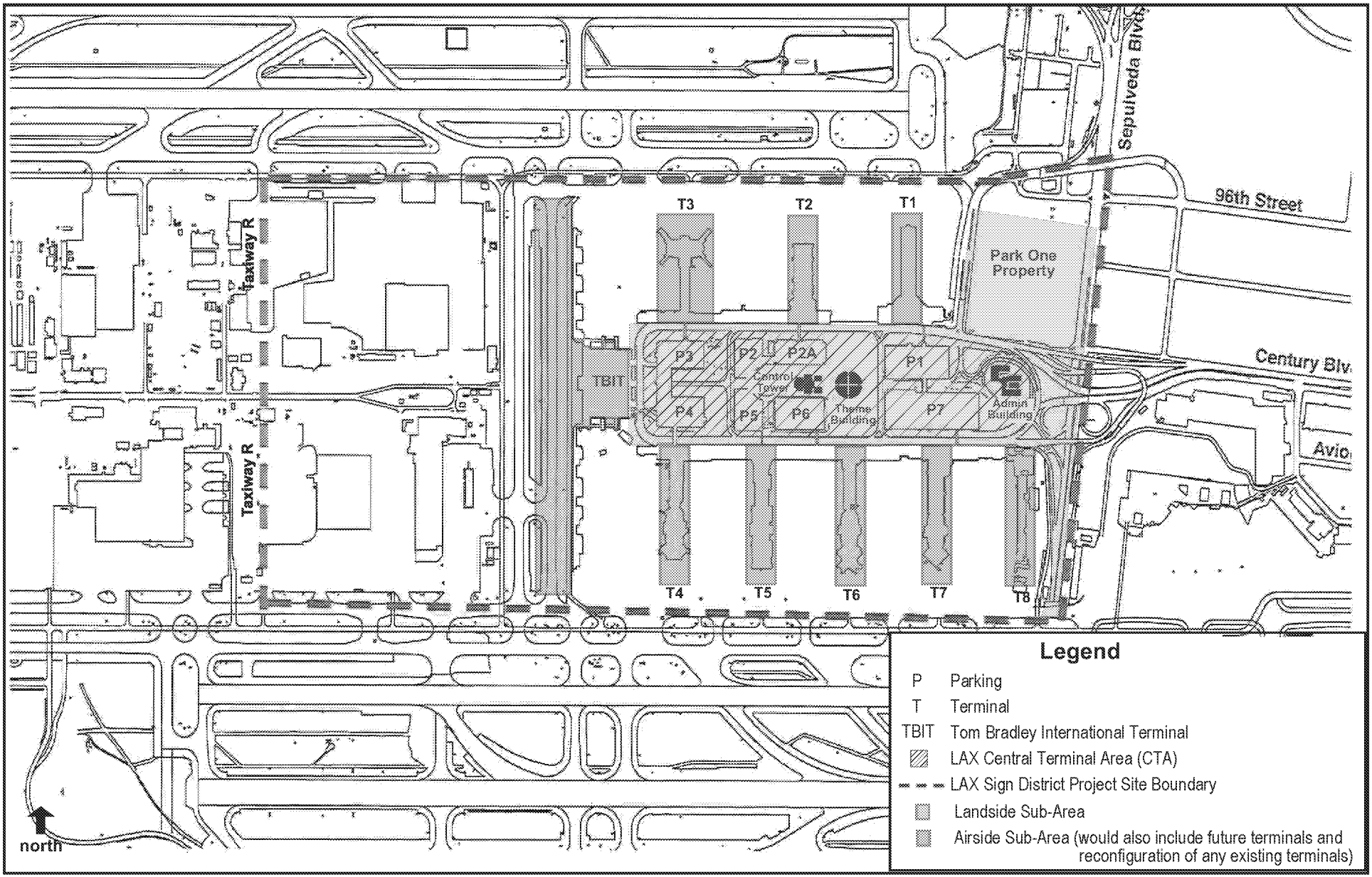
Table 1 lists all the types of proposed and existing off-site signs that would be allowed in the proposed Sign District/Project site and their proposed locations within LAX. As detailed in Table 1, the proposed Project would include a range of off-site signage, including supergraphics, digital display signs, signs on passenger boarding bridges, signs on columns, and hanging signs. Because on-site signs (signs which promote a business, use, facility, service or product located on-site at LAX or airport-related) are already allowed within the proposed Sign District, on-site signs are not a part of the proposed Project.

Off-site signs would not be permitted on a number of buildings within the Project site including the Theme Building, the Airport Traffic Control Tower, and the Administration East Buildings (including the former Airport Traffic Control Tower [1961]). These buildings are shown in Figure 2. In addition,




Prepared by: CDM Smith, 2012

| LAX Sign District Project | Regional Location Map | Figure 1 |
|---|---|---|




| LAX Sign District Project | Project Location Map | Figure 2 |
|---|---|---|

the proposed Project would include a plan to remove a number of billboards in LAWA's control and compliance with other applicable requirements from the Department of City Planning.

As part of the proposed Project, the Sign District would allow flexibility to provide either a digital display or supergraphic at the locations where a digital display has been proposed. The analysis of environmental impacts in the Initial Study and the forthcoming draft EIR for the proposed Project will be prepared based on the maximum use and intensity, but would allow for a reduced intensity of use. This will ensure that the environmental analysis accounts for the total maximum potential scope of the proposed Project.

Signage within LAX is regulated through existing LAX planning documents. The LAX Specific Plan establishes procedures for approval of all projects within the LAX Specific Plan area, including signage. The LAX Specific Plan, approved by the Los Angeles City Council in December 2004 and effective January 20, 2005, anticipates the erection, installation, or construction of new off-site signs, pursuant to the establishment of a sign district as set forth in LAMC Section 13.11. The proposed Project implements this element of the LAX Specific Plan.

Pursuant to the LAX Specific Plan, LAWA submitted an application to the City of Los Angeles, Department of City Planning on August 2, 2011 for the proposed Sign District.

## DISCRETIONARY ACTIONS

The City of Los Angeles is the Lead Agency for the proposed Project. In order to permit development of the proposed Project, approval of the following discretionary actions would be required:

- Supplemental Use District (SUD) for signage (i.e., Sign District);
- Other approvals (as needed), ministerial or otherwise, may be necessary, as the City finds appropriate, in order to execute and implement the proposed Project. Such approvals may include, but are not limited to: sign (including sign support structures) and electrical permits from the City of Los Angeles, and review by the Federal Aviation Administration, as applicable.

Other reviewing agencies for the proposed Project (and this Initial Study) may include, but are not limited to, the following:

- Los Angeles Fire Department.
- City of Los Angeles Department of Building and Safety
- Federal Aviation Administration (FAA).
- California Department of Transportation (Caltrans).
- Los Angeles Department of Transportation.
- South Coast Air Quality Management District.

**Table 1.**
**Types of Signs, Definitions, and Locations**

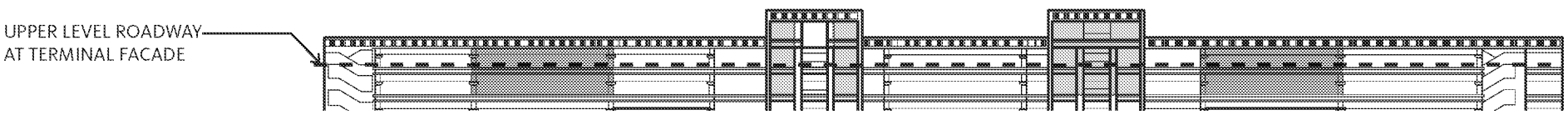
| Types of Signs | Definitions | Locations | Figures |
|---|---|---|---|
| **Supergraphic Sign** | **A supergraphic sign is an off-site sign which consists of an image applied to a wall/facade, which is printed on vinyl or similar material.** | **Parking Structures 1-7 (including 2A and 2B); Terminal Buildings 1-7** | **Figures 3 to 14[1]** |
| **Digital Display** | **Digital display signs will show images, on a building face or any structural component. Two types of digital display signs are proposed: Controlled Refresh (CR) I with an image refresh rate of no more than one refresh event every eight seconds, and CR III with no more than one refresh event every 12 hours.** | **CR I: Parking Structures 1-7 (including 2A and 2B); CR III: Sky Bridges at Terminals 1-7, Tom Bradley International Terminal - TBIT (upper level east elevation), Terminal 1 (upper level east elevation), and Terminal 4 (upper level north elevation).** | **Figures 5 to 12 and 14** |
| **Column Wrap Sign** | **Column wrap signs are digitally printed on a unique vinyl material designed to adhere to the existing columns that support the CTA upper level roadway.** | **Alternating columns that flank the terminal curb areas of the internal lower roadway lower level roadway of TBIT and Terminals 1-7** | **Figures 15 to 17** |
| **Passenger Boarding Bridge** | **A passenger boarding bridge sign is a supergraphic sign that is applied to the exterior of the boarding bridges located in the Airside Sub-Area that connects passengers from the terminals to the aircraft.** | **Boarding Bridges at TBIT and existing Terminals 1-8 and future terminals (Airside Sub-Area)** | **Figure 18** |
| **Hanging Sign** | **A hanging sign is a type of sign with individual channel letters and/or a prefabricated image that is suspended from an architectural feature or projection.** | **Throughout CTA** | **Figure 19** |
| **Existing Billboards** | **A billboard is a supported sign panel that is attached to pole(s), post(s), or column(s) and that may be cantilevered over a building or structure.** | **Park One Property [no new billboard signs are proposed at this location, nor along Sepulveda Boulevard, as part of the proposed Project]** | **Figure 2** |

[1] *It is assumed that the approved Sign District would allow flexibility to use the locations where a digital display has been proposed for supergraphics; therefore, figures associated with digital displays are referenced in Table 1 under supergraphics.*

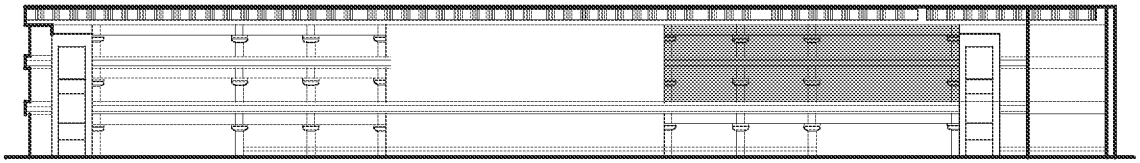
| LAX Sign District Project | Supergraphic (Example) | Figure 3 |
|---|---|---|


| LAX Sign District Project | Supergraphic (Example) | Figure 4 |
|---|---|---|

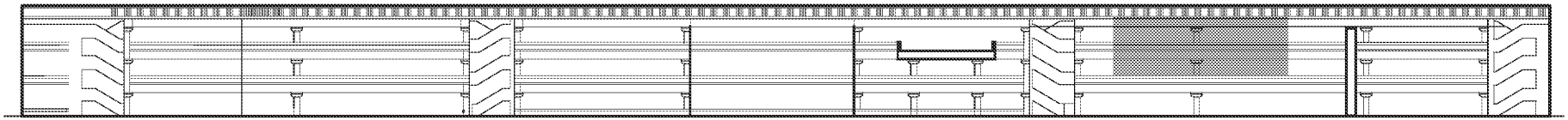

| LAX Sign District Project | Digital Display (Example) | Figure 5 |
|---|---|---|




PARKING STRUCTURE 1 - NORTH ELEVATION



PARKING STRUCTURE 1 - EAST ELEVATION



PARKING STRUCTURE 1 - SOUTH ELEVATION

**SIGN TYPE LEGEND**

SUPERGRAPHICS SIGNS

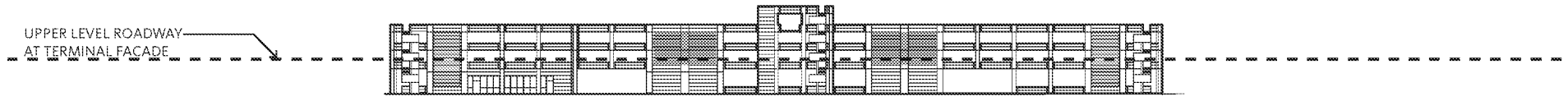
CONTROLLED REFRESH I

Not to Scale

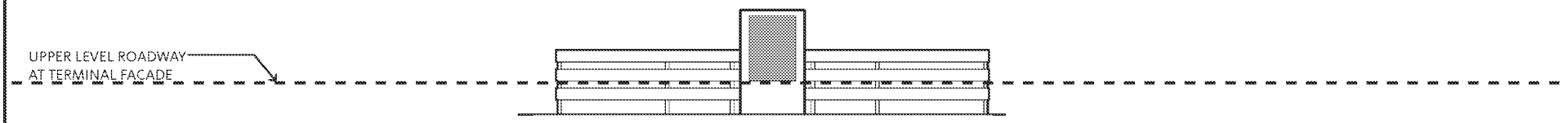
Source: Gensler, 2012

Note: Locations proposed for Controlled Refresh I could be used for Supergraphic signs in lieu of digital.

| LAX Sign District Project | Parking Structure 1 | Figure 6 |
|---|---|---|




PARKING STRUCTURE 2A - NORTH ELEVATION




PARKING STRUCTURE 2B - NORTH ELEVATION

**SIGN TYPE LEGEND**

SUPERGRAPHICS SIGNS

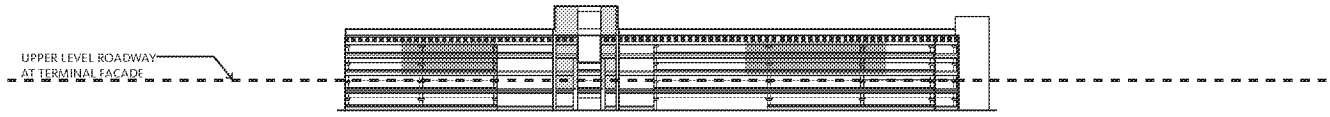
CONTROLLED REFRESH I

Not to Scale

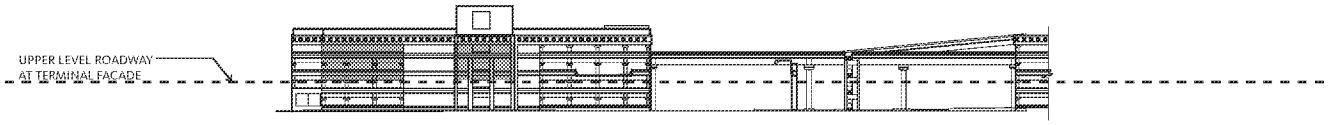
Source: Gensler, 2012

Note: Locations proposed for Controlled Refresh I could be used for Supergraphic signs in lieu of digital.

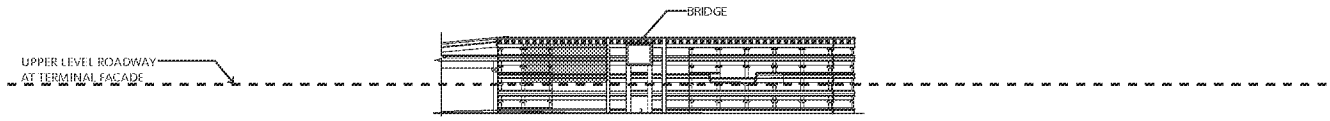
| LAX Sign District Project | Parking Structures 2A and 2B | Figure 7 |
|---|---|---|



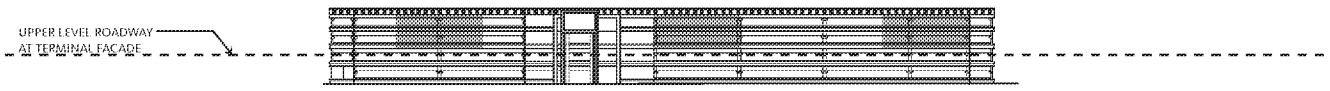

PARKING STRUCTURE 3 - NORTH ELEVATION




PARKING STRUCTURE 3 - WEST ELEVATION




PARKING STRUCTURE 4 - WEST ELEVATION




PARKING STRUCTURE 4 - SOUTH ELEVATION

**SIGN TYPE LEGEND**

SUPERGRAPHICS SIGNS

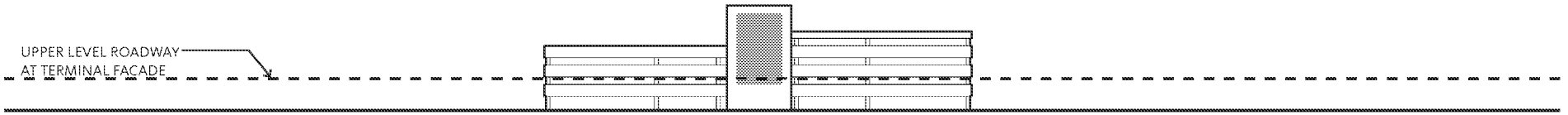
CONTROLLED REFRESH I

Not to Scale

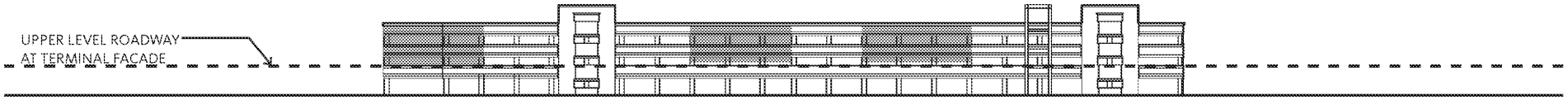
Source: Gensler, 2012

Note: Locations proposed for Controlled Refresh I could be used for Supergraphic signs in lieu of digital.

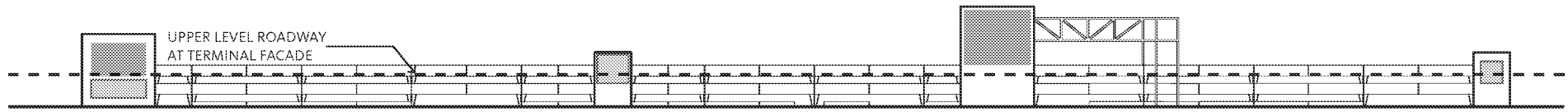
| LAX Sign District Project | Parking Structures 3 and 4 | Figure 8 |
|---|---|---|



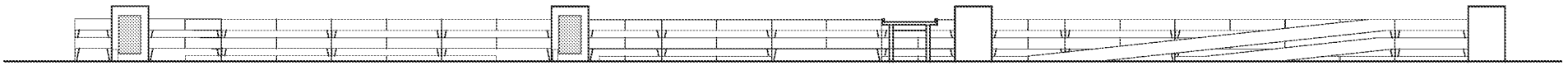

PARKING STRUCTURE 5 - SOUTH ELEVATION




PARKING STRUCTURE 6 - SOUTH ELEVATION




PARKING STRUCTURE 7 - SOUTH ELEVATION



PARKING STRUCTURE 7 - NORTH ELEVATION

**SIGN TYPE LEGEND**

SUPERGRAPHICS SIGNS

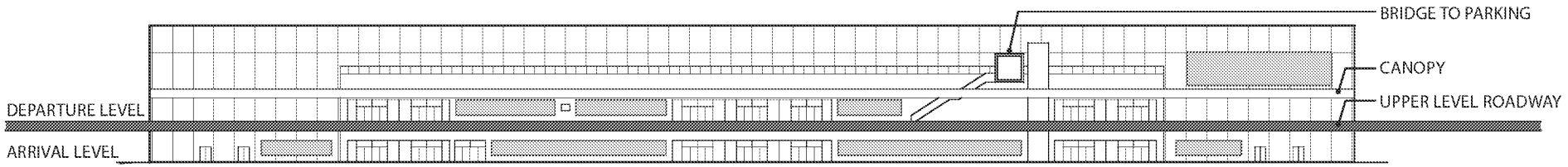
CONTROLLED REFRESH I

Not to Sca@

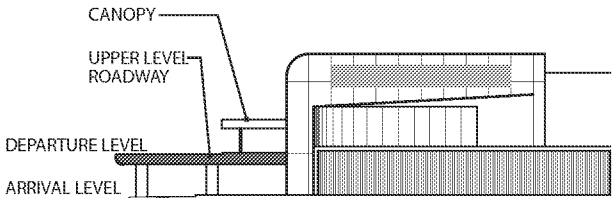
Source: Gensler, 2012

Note: Locations proposed for Controlled Refresh I could be used for Supergraphic signs in lieu of digital.

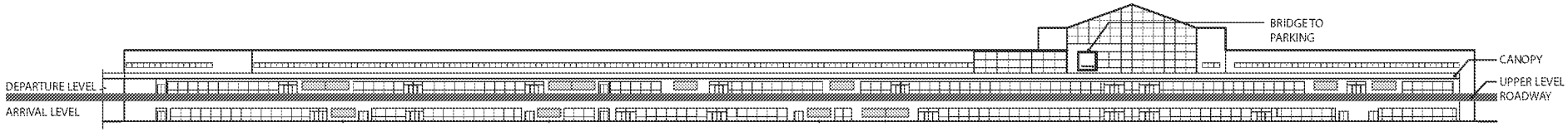
| LAX Sign District Project | Parking Structures 5, 6, and 7 | Figure 9 |
|---|---|---|




TERMINAL 1 - SOUTH ELEVATION




TERMINAL 1 - EAST ELEVATION




TERMINAL 2 - SOUTH ELEVATION

**SIGN TYPE LEGEND**

SUPERGRAPHICS SIGNS

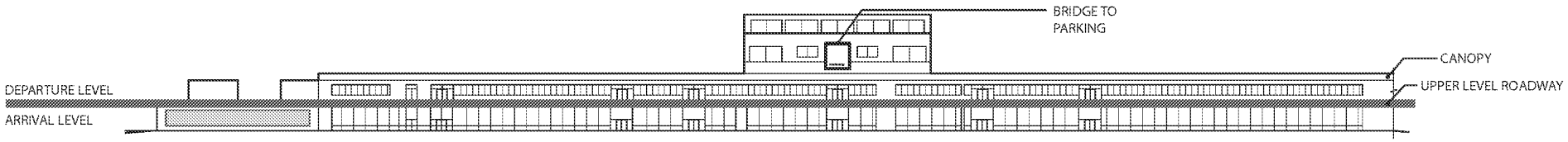
CONTROLLED REFRESH III

Not to Scale

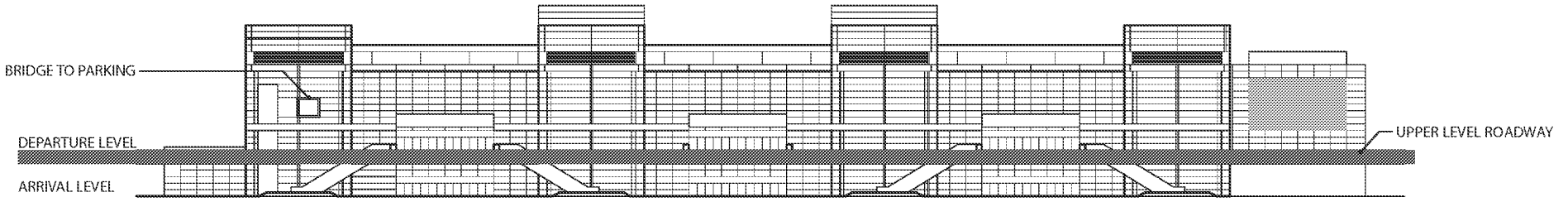
Source: Gensler, 2012

Note: Locations proposed for Controlled Refresh III could be used for Controlled Refresh I or Supergraphic signs in lieu of digital.

| LAX Sign District Project | Terminals 1 and 2 | Figure 10 |
|---|---|---|




TERMINAL 3 - SOUTH ELEVATION




TOM BRADLEY INTERNATIONAL
TERMINAL - EAST ELEVATION

**SIGN TYPE LEGEND**

SUPERGRAPHICS SIGNS

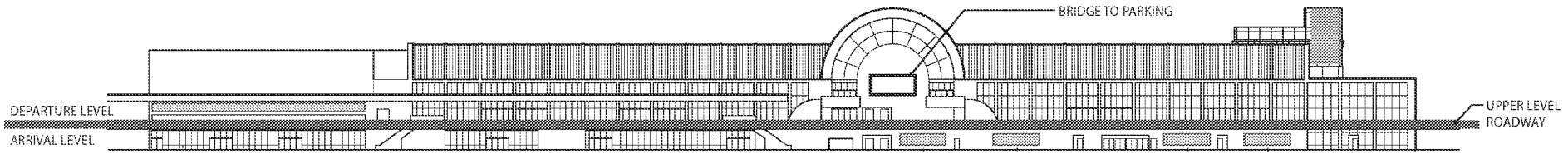
CONTROLLED REFRESH III

Not to Scale

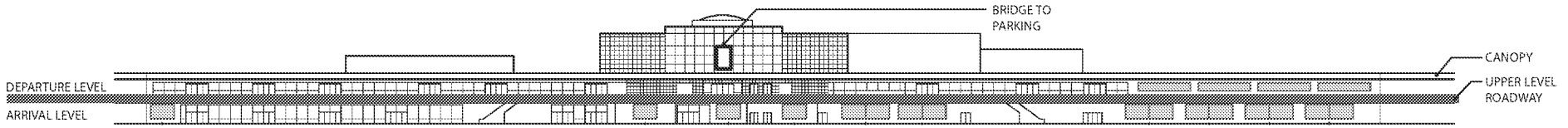
Source: Gensler, 2012

Note: Locations proposed for Controlled Refresh III could be used for Controlled Refresh I or Supergraphic signs in lieu of digital.

| LAX Sign District Project | Terminals 3 and TBIT | Figure 11 |
|---|---|---|




TERMINAL 4 - NORTH ELEVATION




TERMINAL 5 - NORTH ELEVATION

**SIGN TYPE LEGEND**

SUPERGRAPHICS SIGNS

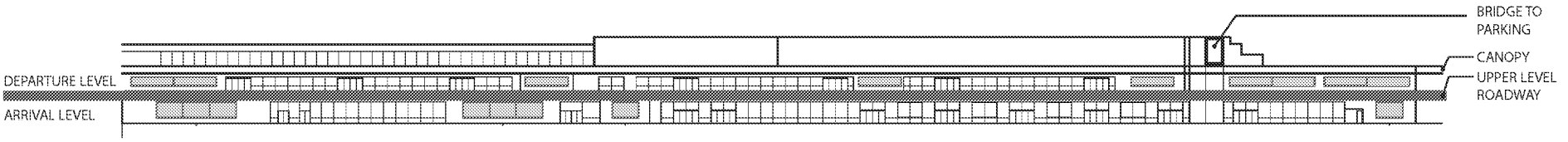
CONTROLLED REFRESH III

Not to Scale

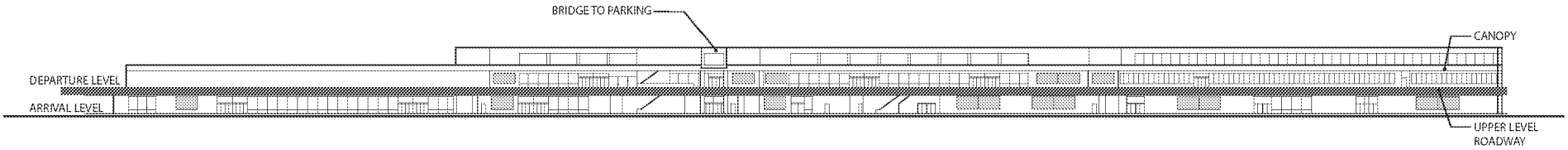
Source: Gensler, 2012

Note: Locations proposed for Controlled Refresh III could be used for Controlled Refresh I or Supergraphic signs in lieu of digital.

| LAX Sign District Project | Terminals 4 and 5 | Figure 12 |
|---|---|---|




TERMINAL 6 - NORTH ELEVATION




TERMINAL 7 - NORTH ELEVATION

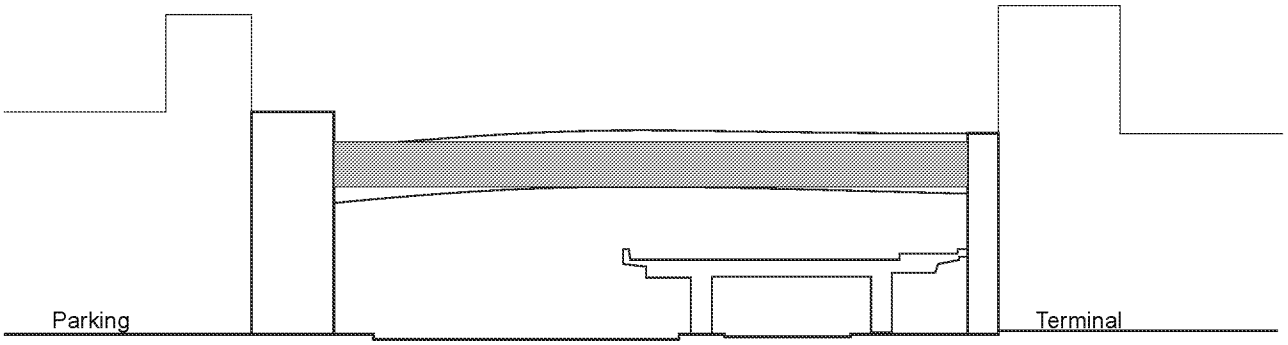
**SIGN TYPE LEGEND**

SUPERGRAPHICS SIGNS

Not to Scale

Source: Gensler, 2012

| LAX Sign District Project | Terminals 6 and 7 | Figure 13 |
|---|---|---|




**SIGN TYPE LEGEND**

CONTROLLED REFRESH III

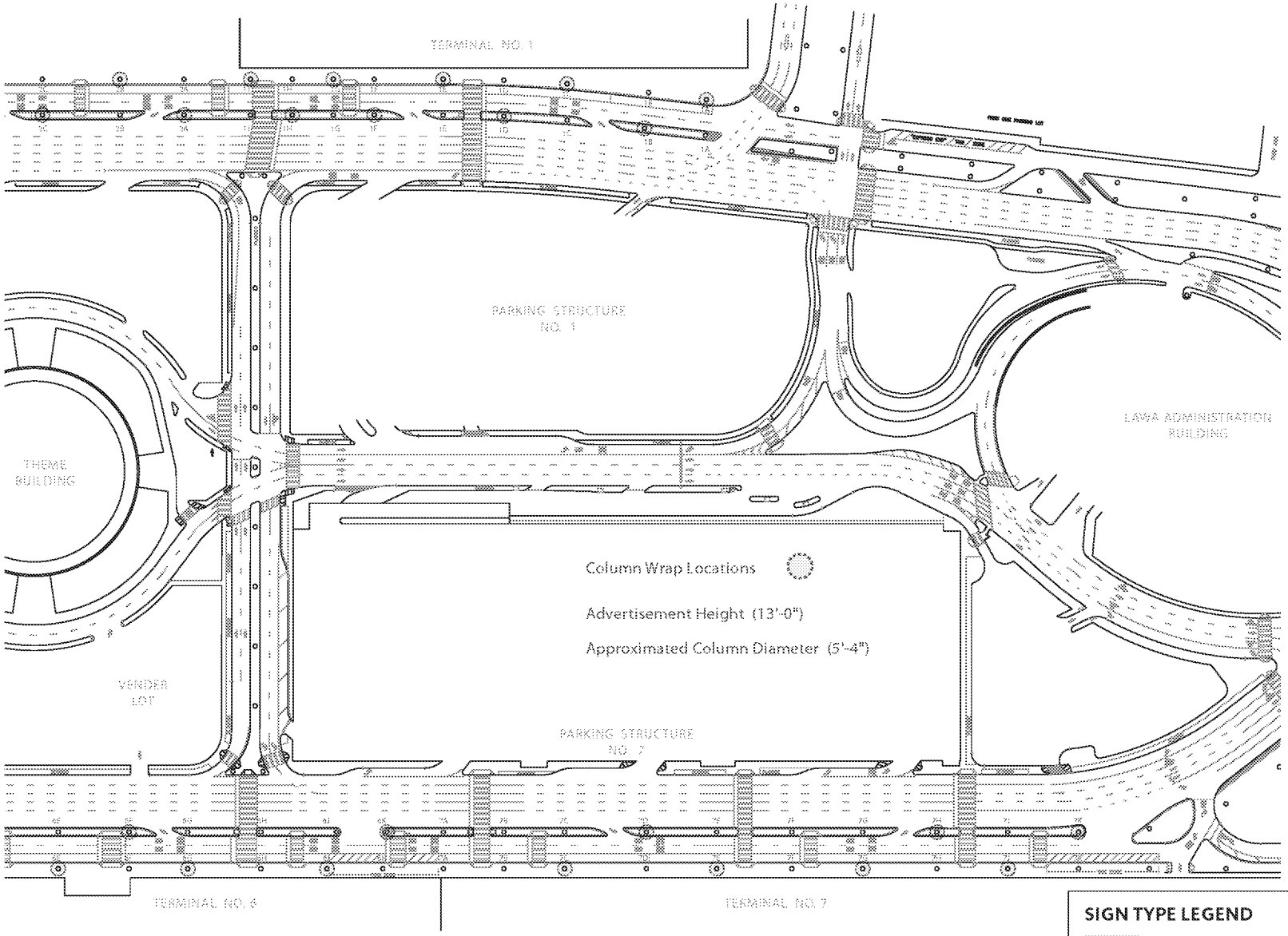
Not to Scale

Source: Gensler, 2012

Note: Locations proposed for Controlled Refresh III could be used for Supergraphic signs in lieu of digital.

| LAX Sign District Project | Typical Sky Bridge | Figure 14 |
|---|---|---|


| LAX Sign District Project | Column Wrap (Example) | Figure 15 |
|---|---|---|



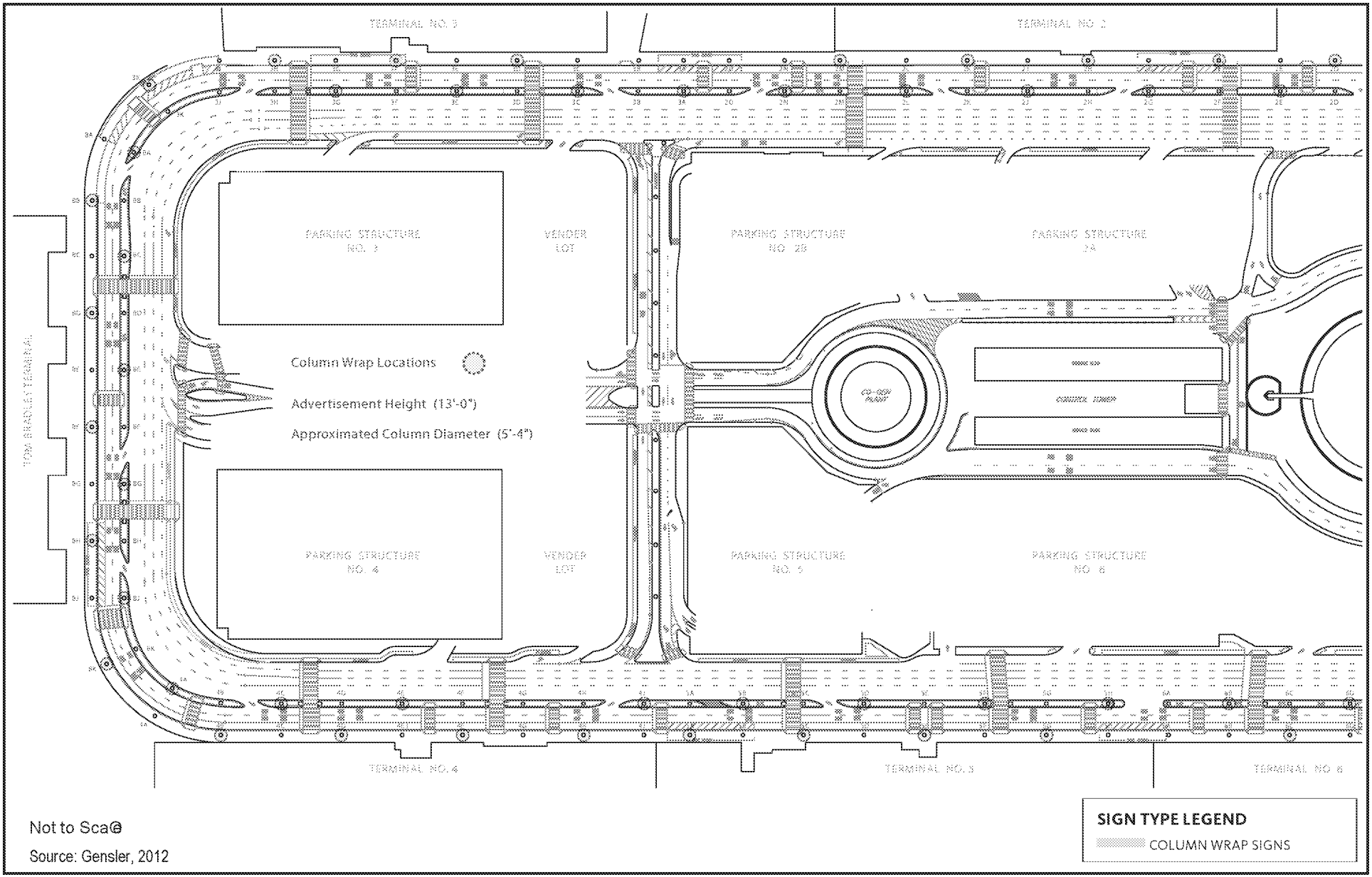

Not to Scale

Source: Gensler, 2012

**SIGN TYPE LEGEND**

COLUMN WRAP SIGNS

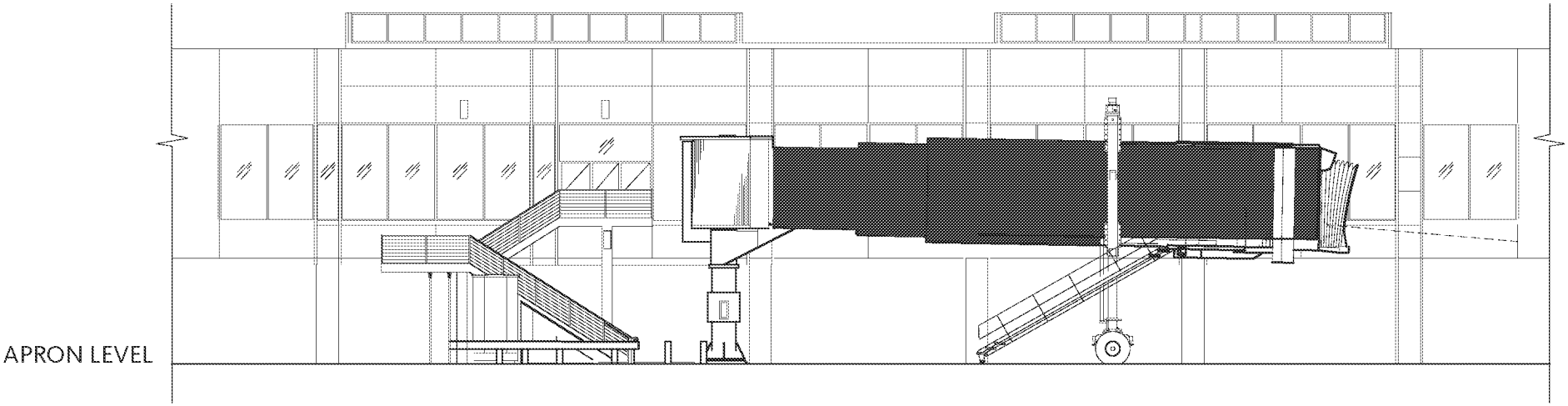
| | | |
|---|---|---|
| **LAX Sign District Project** | **Column Wrap Signs - Site Locations Lower Level East Portion** | Figure 16 |




Not to Scale

Source: Gensler, 2012

| LAX Sign District Project | Column Wrap Signs - Site Locations Lower Level West Portion | Figure 17 |
|---|---|---|




TYPICAL BOARDING BRIDGE

1 SIGN EACH SIDE OF BOARDING BRIDGE

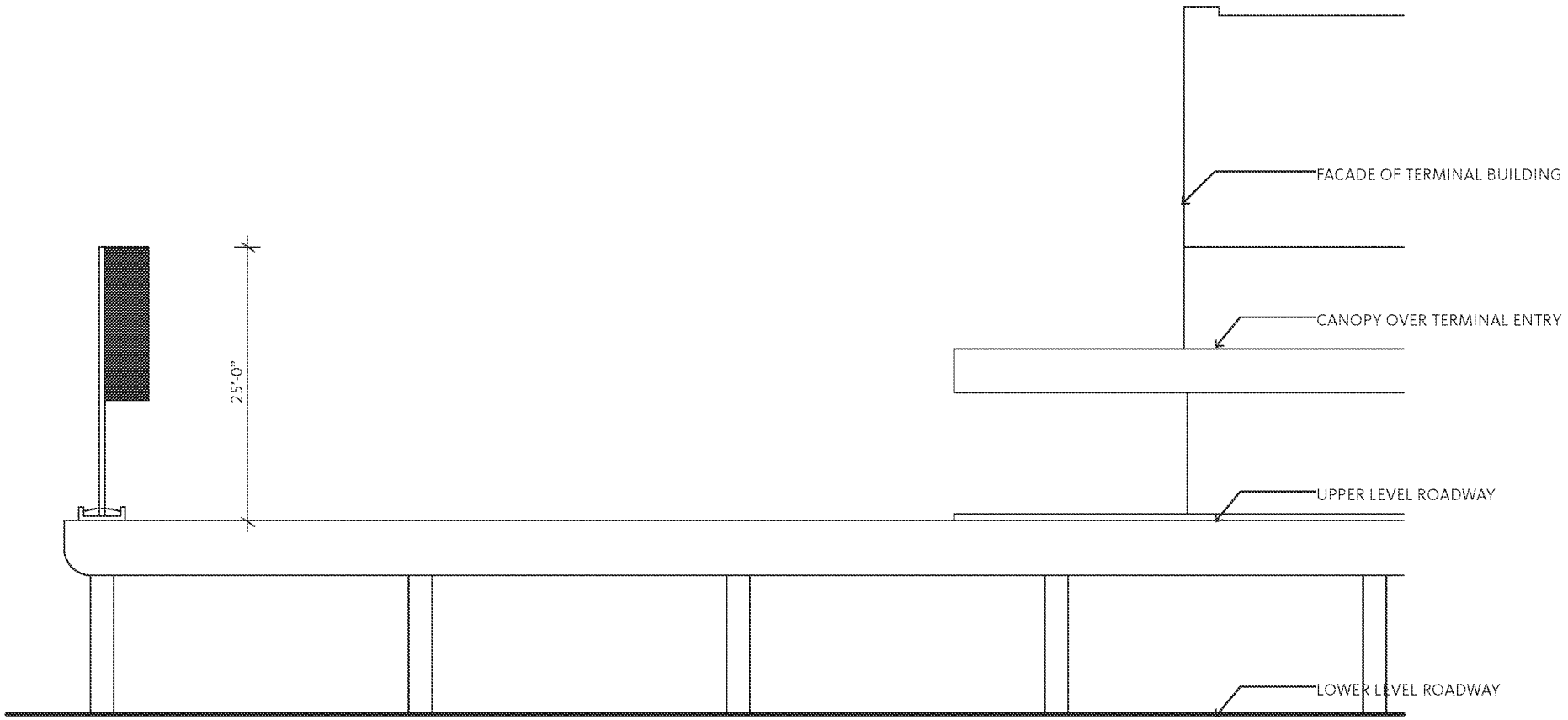
**SIGN TYPE LEGEND**

PASSENGER BOARDING BRIDGE SIGNS

Not to Scale

Source: Gensler, 2012

| LAX Sign District Project | Typical Boarding Bridge | Figure 18 |
|---|---|---|




**SIGN TYPE LEGEND**

HANGING SIGN

Not to Scale

Source: Gensler, 2012

| LAX Sign District Project | Typical Hanging Signs - Upper Level Roadway | Figure 19 |
|---|---|---|

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# III. INITIAL STUDY CHECKLIST

| LEAD CITY AGENCY | COUNCIL DISTRICT | DATE |
|---|---|---|
| City of Los Angeles, Department of City Planning | Council District 11 | March 16, 2012 |

**RESPONSIBLE AGENCIES**

| PROJECT TITLE/NO. | CASE NO. |
|---|---|
| Los Angeles International Airport (LAX) Sign District | ENV-2011-1965-EIR<br>CPC-2011-1964-SN |

| PREVIOUS ACTIONS CASE NO. | |
|---|---|
| LAX Specific Plan | ☐ **DOES have significant changes from previous actions.**<br>☒ **DOES NOT have significant changes from previous actions.** |

**PROJECT DESCRIPTION:**
The proposed Project entails the development and implementation of a Sign District at LAX, in which commercial signage would be permitted subject to certain restrictions. The proposed Project includes a maximum of approximately 81,522 square feet (sq ft) of proposed new signage within the Landside Sub-Area and a maximum of approximately 289,600 sq ft of proposed new signage within the Airside Sub-Area. The proposed Project would include a range of off-site signage, including supergraphics, digital display signs, and other signs such as signs on passenger boarding bridges and signs on columns. Off-site signs advertise a business, use, facility, service or product not found at LAX (non-airport-related signage). The estimated implementation date for the construction and operation of the new signage within the Project site is 2013. The proposed Project would include a sign ordinance which would contain provisions that establish regulations such as sign types, placement, number, dimensions, illumination, motion/animation, content, etc. The regulations of the proposed Sign District would supersede the regulations set forth in the Los Angeles Municipal Code. The proposed Project would also include a program to remove a number of billboards in the Los Angeles World Airport's control and compliance with other applicable requirements from the Department of City Planning.

**ENVIRONMENTAL SETTING:**
The boundary of the Project site encompasses approximately 502 acres of LAX. However, because the proposed Project would be limited to specific terminals, parking structures, columns, and boarding bridges, the Project would only affect approximately 40 percent of the 502-acres (approximately 203 acres total). The immediate environmental setting is characterized by a highly-built environment with vehicle and passenger movement activity within and adjacent to the site throughout the day and much of the night. The adjacent area is a highly-developed, urbanized area consisting of airport, commercial, transportation (i.e., interstate highways) and residential uses.

**PROJECT LOCATION**
The Project site is within LAX, which is situated within the City of Los Angeles, an incorporated city within Los Angeles County. The Project site includes the LAX CTA, the area along Sepulveda Boulevard known as the Park One Property, and extends west of Taxiway R. The proposed Project would also include a program to remove existing and future billboards in LAWA's control and compliance with other applicable requirements from the Department of City Planning.

| PLANNING DISTRICT | STATUS: |
|---|---|
| LAX Plan | ☐ **PRELIMINARY**<br>☐ **PROPOSED** _____<br>☒ **ADOPTED** **December 2004** |

| EXISTING ZONING – LAX Specific Plan | MAX. DENSITY ZONING | |
|---|---|---|
| LAX - L Zone: Airport Landside Sub-Area;<br>LAX - A Zone: Airport Airside Sub-Area | Not Applicable | ☒ **DOES CONFORM TO PLAN** |
| **PLANNED LAND USE & ZONE**<br>same as existing | **MAX. DENSITY PLAN**<br>Not Applicable | ☐ **DOES NOT CONFORM TO PLAN** |
| **SURROUNDING LAND USES**<br>North - Airport Airfield (LAX North Airfield, specifically Taxilane D and service road)<br>East - Airport Landside (roads and commercial)<br>South - Airport Airfield (South Airfield)<br>West - Airport Landside (taxiway, fuel farm, and gates) | **PROJECT DENSITY**<br>Not Applicable | ☐ **NO DISTRICT PLAN** |

**DETERMINATION (To be completed by Lead Agency)**

**On the basis of this initial evaluation:**

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

☐ I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions on the project have been made by or agreed to by the Project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

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

☐ I find the proposed Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

Wendy J. Keller — SIGNATURE

Senior city planner — TITLE

## EVALUATION OF ENVIRONMENTAL IMPACTS:

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less that significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Less Than Significant With Mitigation Incorporated" applies where the incorporation of a mitigation measure has reduced an effect from "Potentially Significant Impact" to

"Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from Section XVII, "Earlier Analysis," cross referenced).

5) Earlier analysis must be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR, or negative declaration. Section 15063(c)(3)(D). In this case, a brief discussion should identify the following:

    1) Earlier Analysis Used. Identify and state where they are available for review.
    2) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.
    3) Mitigation Measures. For effects that are "Less Than Significant With Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A sources list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whichever format is selected.

9) The explanation of each issue should identify:
    1) The significance criteria or threshold, if any, used to evaluate each question; and
    2) The mitigation measure identified, if any, to reduce the impact to less than significance.

## ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

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

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

**INITIAL STUDY CHECKLIST (To be completed by the Lead City Agency)**

### BACKGROUND

| PROPONENT NAME | PHONE NUMBER* |
|---|---|
| Los Angeles World Airports - Herb Glasgow | 424-646-5180 |
| **PROPONENT ADDRESS** | |
| One World Way, Room 218, Los Angeles, CA 90045 | |
| **AGENCY REQUIRING CHECKLIST** | **DATE SUBMITTED** |
| City of Los Angeles, Department of City Planning | March 16, 2012 |
| **PROPOSAL NAME (If Applicable)*** | |
| Los Angeles International Airport (LAX) Sign District Project | |

## ENVIRONMENTAL IMPACTS

(Explanations of all potentially and less than significant impacts are required to be attached on separate sheets)

| | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **I. AESTHETICS.** Would the project: | | | | |
| a. Have a substantial adverse effect on a scenic vista? | ☐ | ☐ | ☐ | ☒ |
| b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, or other locally recognized desirable aesthetic natural feature within a city-designated scenic highway? | ☐ | ☐ | ☒ | ☐ |
| c. Substantially degrade the existing visual character or quality of the site and its surroundings? | ☒ | ☐ | ☐ | ☐ |
| d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? | ☒ | ☐ | ☐ | ☐ |
| **II. AGRICULTURAL AND FOREST RESOURCES.** In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project: | | | | |
| a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | ☐ | ☐ | ☐ | ☒ |
| b. Conflict with the existing zoning for agricultural use, or a Williamson Act Contract? | ☐ | ☐ | ☐ | ☒ |
| c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))? | ☐ | ☐ | ☐ | ☒ |
| d. Result in the loss of forest land or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |
| e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| **III. AIR QUALITY.** The significance criteria established by the South Coast Air Quality Management District (SCAQMD) may be relied upon to make the following determinations. Would the project: | | | | |
| a. Conflict with or obstruct implementation of the applicable South Coast Air Quality Management District plans? | ☐ | ☐ | ☒ | ☐ |
| b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | ☐ | ☐ | ☒ | ☐ |
| c. Result in a cumulatively considerable net increase of any criteria pollutant for which the air basin is non-attainment ($O_3$, $NO_2$, $PM_{10}$, $PM_{2.5}$, and lead) under an applicable federal or state ambient air quality standard? | ☐ | ☐ | ☒ | ☐ |
| d. Expose sensitive receptors to substantial pollutant concentrations? | ☐ | ☐ | ☒ | ☐ |
| e. Create objectionable odors affecting a substantial number of people? | ☐ | ☐ | ☒ | ☐ |
| **IV. BIOLOGICAL RESOURCES.** Would the project: | | | | |
| a. Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | ☐ | ☐ | ☒ |
| b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the City or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | ☐ | ☐ | ☐ | ☒ |
| c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? | ☐ | ☐ | ☐ | ☒ |
| d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | ☐ | ☐ | ☐ | ☒ |
| e. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)? | ☐ | ☐ | ☐ | ☒ |
| f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? | ☐ | ☐ | ☐ | ☒ |
| **V. CULTURAL RESOURCES:** Would the project: | | | | |

| | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| a. Cause a substantial adverse change in significance of a historical resource as defined in State CEQA §15064.5? | ☐ | ☐ | ☒ | ☐ |
| b. Cause a substantial adverse change in significance of an archaeological resource pursuant to State CEQA §15064.5? | ☐ | ☐ | ☐ | ☒ |
| c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | ☐ | ☐ | ☐ | ☒ |
| d. Disturb any human remains, including those interred outside of formal cemeteries? | ☐ | ☐ | ☐ | ☒ |
| **VI. GEOLOGY AND SOILS.** Would the project: | | | | |
| a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury or death involving: | | | | |
| i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | ☐ | ☐ | ☐ | ☒ |
| ii. Strong seismic ground shaking? | ☐ | ☐ | ☐ | ☒ |
| iii. Seismic-related ground failure, including liquefaction? | ☐ | ☐ | ☐ | ☒ |
| iv. Landslides? | ☐ | ☐ | ☐ | ☒ |
| b. Result in substantial soil erosion or the loss of topsoil? | ☐ | ☐ | ☐ | ☒ |
| c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse? | ☐ | ☐ | ☐ | ☒ |
| d. Be located on expansive soil, as defined in Table 18-1-B of the Los Angeles Building Code (2002), creating substantial risks to life or property? | ☐ | ☐ | ☐ | ☒ |
| e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? | ☐ | ☐ | ☐ | ☒ |
| **VII. GREENHOUSE GAS EMISSIONS.** Would the project: | | | | |
| a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | ☐ | ☐ | ☒ | ☐ |
| b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? | ☐ | ☐ | ☒ | ☐ |
| **VIII. HAZARDS AND HAZARDOUS MATERIALS.** Would the project: | | | | |
| a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | ☐ | ☐ | ☐ | ☒ |
| c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | ☐ | ☐ | ☐ | ☒ |
| d. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? | ☐ | ☐ | ☐ | ☒ |
| e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area? | ☒ | ☐ | ☐ | ☐ |
| f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for the people residing or working in the area? | ☐ | ☐ | ☐ | ☒ |
| g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | ☐ | ☐ | ☒ | ☐ |
| h. Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | ☐ | ☐ | ☐ | ☒ |
| **IX. HYDROLOGY AND WATER QUALITY.** Would the project: | | | | |
| a. Violate any water quality standards or waste discharge requirements? | ☐ | ☐ | ☐ | ☒ |
| b. Substantially deplete groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned land uses for which permits have been granted)? | ☐ | ☐ | ☐ | ☒ |
| c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site? | ☐ | ☐ | ☐ | ☒ |
| d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site? | ☐ | ☐ | ☐ | ☒ |
| e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| provide substantial additional sources of polluted runoff? | | | | |
| f. Otherwise substantially degrade water quality? | ☐ | ☐ | ☐ | ☒ |
| g. Place housing within a 100-year flood plain as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | ☐ | ☐ | ☐ | ☒ |
| h. Place within a 100-year flood plain structures which would impede or redirect flood flows? | ☐ | ☐ | ☐ | ☒ |
| i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | ☐ | ☐ | ☐ | ☒ |
| j. Inundation by seiche, tsunami, or mudflow? | ☐ | ☐ | ☐ | ☒ |
| **X. LAND USE AND PLANNING**. Would the project: | | | | |
| a. Physically divide an established community? | ☐ | ☐ | ☐ | ☒ |
| b. Conflict with applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | ☒ | ☐ | ☐ | ☐ |
| c. Conflict with any applicable habitat conservation plan or natural community conservation plan? | ☐ | ☐ | ☐ | ☒ |
| **XI. MINERAL RESOURCES**. Would the project: | | | | |
| a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? | ☐ | ☐ | ☐ | ☒ |
| b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan? | ☐ | ☐ | ☐ | ☒ |
| **XII. NOISE.** Would the project result in: | | | | |
| a. Exposure of persons to or generation of noise in level in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | ☐ | ☐ | ☒ | ☐ |
| b. Exposure of people to or generation of excessive groundborne vibration or groundborne noise levels? | ☐ | ☐ | ☒ | ☐ |
| c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | ☐ | ☐ | ☒ | ☐ |
| d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | ☐ | ☐ | ☒ | ☐ |
| e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? | ☐ | ☐ | ☐ | ☒ |
| **XIII. POPULATION AND HOUSING.** Would the project: | | | | |
| a. Induce substantial population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | ☐ | ☐ | ☐ | ☒ |
| b. Displace substantial numbers of existing housing necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |
| c. Displace substantial numbers of people necessitating the construction of replacement housing elsewhere? | ☐ | ☐ | ☐ | ☒ |
| **XIV. PUBLIC SERVICES.** Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | | | | |
| a. Fire protection? | ☐ | ☐ | ☒ | ☐ |
| b. Police protection? | ☐ | ☐ | ☐ | ☒ |
| c. Schools? | ☐ | ☐ | ☐ | ☒ |
| d. Parks? | ☐ | ☐ | ☐ | ☒ |
| e. Other governmental services (including roads)? | ☐ | ☐ | ☐ | ☒ |
| **XV. RECREATION.** | | | | |
| a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? | ☐ | ☐ | ☐ | ☒ |
| b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | ☐ | ☐ | ☐ | ☒ |
| **XVI. TRANSPORTATION/CIRCULATION.** Would the project: | | | | |
| a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, | ☐ | ☐ | ☒ | ☐ |

| | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| pedestrian and bicycle paths, and mass transit? | | | | |
| b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways? | ☐ | ☐ | ☒ | ☐ |
| c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | ☐ | ☐ | ☐ | ☒ |
| d. Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | ☒ | ☐ | ☐ | ☐ |
| e. Result in inadequate emergency access? | ☐ | ☐ | ☒ | ☐ |
| f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? | ☐ | ☐ | ☐ | ☒ |
| **XVII. UTILITIES.** Would the project: | | | | |
| a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | ☐ | ☐ | ☐ | ☒ |
| b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | ☐ | ☐ | ☐ | ☒ |
| c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | ☐ | ☐ | ☐ | ☒ |
| d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed? | ☐ | ☐ | ☐ | ☒ |
| e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | ☐ | ☐ | ☐ | ☒ |
| f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | ☐ | ☐ | ☒ | ☐ |
| g. Comply with federal, state, and local statutes and regulations related to solid waste? | ☐ | ☐ | ☒ | ☐ |
| **XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.** | | | | |
| a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or | ☐ | ☐ | ☐ | ☒ |

| | Potentially Significant Impact | Potentially Significant Unless Mitigation Incorporated | Less Than Significant Impact | No Impact |
|---|---|---|---|---|
| animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | | | | |
| b. Does the project have impacts which are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects). | ☒ | ☐ | ☐ | ☐ |
| c. Does the project have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly? | ☒ | ☐ | ☐ | ☐ |

**DISCUSSION OF THE ENVIRONMENTAL EVALUATION (Attach additional sheets if necessary)**

**(SEE ATTACHMENT A - EXPLANATION OF CHECKLIST DETERMINATION)**

# IV. ENVIRONMENTAL IMPACT ANALYSIS

The following analysis provides the supporting documentation for the determination presented in the City of Los Angeles Initial Study (IS) and California Environmental Quality Act (CEQA) Environmental Checklist presented in Section III of this document. Each response that is provided below evaluates how the proposed Project (as defined in Section II, Project Description) may affect the existing environmental conditions at the Project site and the surrounding environment. The EIR will evaluate topics for which the potential for an impact has been identified. The EIR will analyze the identified potentially significant impacts and, where appropriate, identify mitigation measures, and explain how measures would reduce the identified impacts.

## I. AESTHETICS

*Would the project:*

**a. Have a substantial adverse effect on a scenic vista?**

*No Impact.* The Project site is not located adjacent to or within the viewshed of a designated scenic highway or vista. To the extent that there are scenic vistas to the north and northwest of the City and the coastline from vantage points at higher elevations to the south of the airport, the Project site is well below this line-of-sight and does not enter into or contribute to scenic vistas. As such, no impacts on a scenic vista would occur, and, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, or other locally recognized desirable aesthetic natural feature within a city-designated scenic highway?**

*Less than Significant Impact.* As detailed in Response No. V.a. below, of the previously-identified historical resources at LAX, only the Theme Building (currently the Encounter restaurant) is located within the Project site. Although no signage would be placed on or at the building, the Theme Building and its "Setting" includes views of the airport and local mountains. The proposed Project would place static supergraphic, digital, column wrap and hanging off-site (non-airport-related) signs within approved areas at the airport, including within the CTA, which are visible from the restaurant associated with the Theme Building. The signs would be located along the faces of existing and future structures, columns and equipment. Signs would not extend above the height of the terminal buildings or parking structures. As a result, the signs would not interfere with scale, proportion, or massing of the Theme Building setting.

The Project site is approximately two miles east of a City-designated scenic highway (Vista Del Mar from Imperial Highway to Culver Boulevard, and Culver Boulevard from Vista Del Mar to Lincoln Boulevard). Based on distance and intervening features (i.e., the Project site is east of the Los Angeles/El Segundo Dunes); the proposed Project is not anticipated to impact a locally recognized desirable aesthetic natural feature within a City-designated scenic highway.

Therefore, implementation of the proposed Project would not damage scenic resources, including historical resources or other locally recognized desirable aesthetic natural features within a City-designated scenic highway or from other non-designated locales. As such, no significant impacts on

scenic resources would occur, and, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**c. Substantially degrade the existing visual character or quality of the site and its surroundings?**

*Potentially Significant Impact.* The Project site is a highly disturbed area within a busy international airport. The Project site is currently being used for gates, terminals, passenger processing (including arrival and departure activities), aircraft apron and parking areas. The majority of structures surrounding the Project site are of a utilitarian style of architecture. Existing signage within the proposed Project area is primarily limited to wayfinding signs around the CTA, Airfield Operations Area Signs (AOA Signs), such as runway/taxiway designation signs, location signs, direction signs, destination signs including terminal gate signs, and information signs within the Airside Sub-Area, and billboards in the Park One Property. Several structures with notable architecture (i.e., the Theme Building and former (1961) airport traffic control tower) are located within the Project area, however, no signage would be placed on or at the Theme Building and former airport traffic control tower. As discussed further under Cultural Resources (Item V.a), the views of the Theme Building and its Setting are not expected to change and therefore the visual character and quality of the Theme Building would not adversely be affected. However, the proposed Project would increase the amount and locations of signage throughout the Project site, which could potentially result in a change in visual character and affect views of the Project site in general. In addition, the proposed Project would introduce additional off-site signage throughout the CTA, where none is currently allowed. Therefore, the draft EIR will evaluate the potential for the proposed Project to have significant aesthetic impacts related to visual character and quality.

**d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?**

*Potentially Significant Impact.* The Project site is located within a heavily lighted urban area. There are many existing sources of light in the Project area, including building lighting, street lighting, traffic, and airfield lights (runway and taxiway lighting). New lighted signs, including new digital display signs, would add to the existing sources of light in the Project area; however, such lighting would be directed downward/inward toward the signs to minimize spillover. Digital display lighting intensity will also be controlled. Although the proposed Project is not expected to create substantial light or glare impacts, this issue will be further addressed in the draft EIR to provide additional analysis.

**II. AGRICULTURAL AND FOREST RESOURCES.** *In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California agricultural land evaluation and site assessment model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. Would the project:*

**a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?**

**b. Conflict with the existing zoning for agricultural use, or a Williamson Act Contract?**

**c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)), timberland (as defined by Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g))?**

**d. Result in the loss of forest land or conversion of forest land to non-forest use?**

**e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?**

*a-e. No Impact.* The Project site is located within a developed airport and is surrounded by airport uses, urbanized areas, and the Los Angeles/El Segundo Dunes. There are no agricultural resources or operations within the vicinity of the Project site, including prime or unique farmlands or farmlands of statewide of local importance. Further, there are no Williamson Act contracts in effect within the LAX vicinity.[2] The proposed Project would be consistent with the current airport-related and urban uses and would not convert farmland to non-agricultural use nor would it result in any conflicts with existing zoning for agricultural use or a Williamson Act contract. Therefore, no impacts to agricultural resources would occur with implementation of the proposed Project. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

## III. AIR QUALITY.

The significance criteria established by the South Coast Air Quality Management District (SCAQMD) may be relied upon to make the following determinations. *Would the project:*

**a. Conflict with or obstruct implementation of the applicable South Coast Air Quality Management District plans?**

*Less than Significant Impact.* The proposed Project is located in the South Coast Air Basin (SCAB), which is under the jurisdiction of the SCAQMD. The SCAQMD is the regional agency responsible for air quality regulations within the SCAB including enforcing the California Ambient Air Quality Standards (CAAQS) and implementing strategies to improve air quality and to mitigate effects from new growth. The SCAQMD, in association with the California Air Resources Board (CARB) and the Southern California Association of Governments (SCAG), is responsible for preparing the Air Quality Management Plan (AQMP) that details how the region intends to attain or maintain the state and federal ambient air quality standards.

The Final 2007 AQMP[3] describes the SCAQMD's plan to attain the federal fine particulate matter less than or equal to 2.5 microns (μm) in diameter ($PM_{2.5}$) and 8-hour ozone ($O_3$) standards. Long-term operational emissions, with the exception of periodic replacement of the advertising material (signage), would not occur as a result of the proposed Project; therefore, only construction-related emissions were assessed for compliance with the Final 2007 AQMP. Although the SCAQMD cannot directly regulate mobile source emissions, the Final 2007 AQMP requires the use of cleaner (as compared to "baseline") in-use (i.e., existing) off-road (i.e., non-highway) equipment. In 2007, CARB

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[2] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.16, April 2004.

[3] South Coast Air Quality Management District, Final 2007 Air Quality Management Plan, June 2007.

adopted a regulation to reduce diesel particulate matter and nitrogen oxides (NOx) emissions from in-use (existing) off-road heavy-duty diesel vehicles. Any construction equipment necessary to install signs would operate in compliance with state law and would therefore be consistent with the objectives of the Final 2007 AQMP.

The City of Los Angeles adopted an Air Quality Element that is part of the General Plan.[4] Objective 1.3 of the Air Quality Element is to reduce particulate matter emissions from unpaved areas, parking lots, and construction sites. Any construction-related activities associated with the proposed Project would be relatively minor and would not involve grading, trenching, or other activities that would cause fugitive dust emissions. No excavation would occur; however, should the installation of any sign or removal of billboards require the ground to be disturbed, then all activities would be performed in compliance with the SCAQMD's Rule 403 for fugitive dust control. Operations would involve periodic replacement of the advertising material, which would also be minor and not involve grading, trenching, or other activities that would cause fugitive dust emissions. The proposed Project would be consistent with the Air Quality Element of the General Plan.

As discussed above, the proposed Project would not obstruct or conflict with the applicable SCAQMD plan and thus, no significant impacts would occur with implementation of the proposed Project. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

*Less than Significant Impact.* The California Clean Air Act, signed into law in 1988, established the CAAQS; all areas of the state are required to achieve and maintain the CAAQS by the earliest practicable date. Regions of the state that have not met one or more of the CAAQS are known as nonattainment areas, while regions that meet the CAAQS are known as attainment areas.

The proposed Project would be located in the Los Angeles County sub-area of the SCAB. Los Angeles County is designated as a state nonattainment area for $O_3$, $PM_{2.5}$, inhalable particulate matter less than or equal to 10 µm in diameter ($PM_{10}$), nitrogen dioxide ($NO_2$), and lead; and an attainment or unclassified area for carbon monoxide (CO), sulfur dioxide ($SO_2$), sulfates, hydrogen sulfide, and visibility reducing particles.

The SCAQMD publishes thresholds of significance for these pollutants.[5] If the proposed Project results in substantial emissions that would exceed the significance criteria, then a significant impact would occur. Appendix A of this Initial Study contains the air quality worksheets and calculations. Table 2 summarizes the mass daily thresholds for construction and operation.

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[4] City of Los Angeles, Department of City Planning, Air Quality Element: An Element of the General Plan of the City of Los Angeles, November 1992.

[5] South Coast Air Quality Management District, SCAQMD Air Quality Significance Thresholds, March 2011.

**Table 2.**
**SCAQMD Mass Daily Pollutant Emission Thresholds**

| Pollutant | Construction | Operation |
|---|---|---|
| $NO_x$ | 100 lbs/day | 55 lbs/day |
| VOC | 75 lbs/day | 55 lbs/day |
| $PM_{10}$ | 150 lbs/day | 150 lbs/day |
| $PM_{2.5}$ | 55 lbs/day | 55 lbs/day |
| $SO_x$ | 150 lbs/day | 150 lbs/day |
| CO | 550 lbs/day | 550 lbs/day |
| Lead | 3 lbs/day | 3 lbs/day |

Source: SCAQMD, 2011.
Key:
CO = carbon monoxide
lbs/day = pounds per day
$NO_x$ = nitrogen oxides
$PM_{10}$ = inhalable particulate matter
$PM_{2.5}$ = fine particulate matter
$SO_x$ = sulfur oxides
VOC = volatile organic compounds

Any construction-related emissions would be limited and would only consist of the equipment necessary to install signage on the face of the structures and equipment and remove existing and future billboards (those in LAWA's control). Construction would be relatively minor and not involve grading or trenching. One-time installation of framework to hold the supergraphic signs and digital displays would occur on parking structures, terminal facades, and several of the sky bridges (Terminals 3, 5, and 6 have existing frames that would not require any additional work).

The type of equipment, length of time, and number of workers required for frame and sign installation and billboard removal would vary depending on the sign type as presented below:

**Landside Sub-Area**

***Digital Displays*** - The digital display framework would be secured on the face of the structure using hand-held drilling equipment. The assembly/installation of appurtenant equipment such as lights, and an electrical box would be completed within the delineated work zone. The equipment required is estimated to consist of two cranes (i.e., cherry pickers or lifts) and two pickup/utility trucks. It would take an estimated two days (8 hours a day) to construct and four workers.

***Supergraphics*** - A frame would be secured to the structure using hand-held drilling equipment. Installing the frames for supergraphic signs would consist of drilling holes (using hand-held equipment) for placement of hooks or rail system on buildings, nighttime welding of supports and painting. Installation of each frame would take approximately one week (i.e., 40 hours of work) and would require two lifts, portable lighting and portable arrowboard (to direct traffic). It would take an estimated four to five workers. Once the frame has been installed, a truck (general utility or flatbed) would bring

the supergraphic to the site. The supergraphic would be hoisted/positioned into place and attached to building surfaces using hooks, rails or adhesives (the method of securing the supergraphic would depend on the surface of the structure where the supergrahic will be placed). The equipment required is estimated to consist of two cranes (i.e., cherry pickers or lifts) and one pickup/utility truck. It would take an estimated crew of two to three workers.

***Column Wrap*** – Column wraps would be self-adhesive and thus, no frame or other site preparation would be required. Column wrap signage is anticipated to require one lift and one pickup/utility truck. It would take an estimated crew of two workers approximately six hours to install signs on six columns (i.e., one hour per column).

***Hanging Signs*** – Hanging signs would be suspended from an architectural feature or projection. The projection is anticipated to resemble a frame. The frames associated with hanging signs are anticipated to require one lift and an estimated crew of two workers approximately six hours to install.

***Existing Billboard Removal*** – Removal of the existing and future billboards in LAWA's control would require a crane to remove the billboard(s) and pole, which would be placed on a flatbed truck. Once disassembled, the hole where the pole was removed would be filled and the surface restored in accordance with all applicable standards. It would take an estimated two days (8 hours a day) to remove a billboard structure (which may include two billboard faces) and up to six workers.

**Airside Sub-Area**

***Passenger Boarding Bridge*** – Similar to column wraps, the signage designed for placement on the passenger boarding bridges throughout the Airside Sub-area would be self-adhesive and thus, no frame or other site preparation would be required. It is anticipated that signage would require one lift and one pickup/utility truck. It would take an estimated crew of two workers approximately three hours to install signs on one passenger boarding bridge (both sides).

***Supergraphics*** – Installation would be similar as under the Landside Sub-Area discussion above, but these would be limited to existing and future terminal buildings within the Airside Sub-Area.

Operation of the proposed Project includes the changing of the supergraphic signs, column wraps and passenger boarding bridge signage, as well as annual maintenance of the digital displays. It is estimated that on a worst-case basis, the larger supergraphics would be changed a maximum of once every three months and column wraps and passenger boarding bridge signage would be changed a maximum of once per month. The digital sign copy would be changed remotely and not require any on-site work other than maintenance. Maintenance of the digital display and other signage would occur as needed. Changes to sign copy would occur overnight between the hours of 11:00 p.m. through approximately 3:00 to 4:00 a.m. The equipment required is estimated to consist of a boom lift and one pickup/utility truck. It would take an estimated crew of three workers. Equipment would be brought to the site the day of installation and removed the following day.

It is possible that a combination of the several types of proposed signage would be installed at the same time throughout the Project site.

The California Emissions Estimator Model (CalEEMod) was used to estimate construction-related emissions based on the types and quantity of off-road construction equipment, number of construction workers, and number of pickup, utility, or flatbed trucks. Installation of various sign types (i.e., digital display, supergraphics, passenger boarding bridge signs, column wraps, and hanging signs),

as well as billboard removal, could occur concurrently and thus would represent a potential worst-case. Table 3 summarizes maximum estimated criteria pollutant emissions from Project construction activities.

**Table 3.**
**Estimated Construction Emissions**

| | Emissions (pounds per day) | | | | | |
|---|---|---|---|---|---|---|
| | **VOC** | **NOx** | **CO** | **SO2** | **PM10** | **PM2.5** |
| **Peak Day** | 4 | 20 | 16 | <1 | 2 | 1 |
| **Threshold** | 75 | 100 | 550 | 150 | 150 | 55 |
| **Significant?** | No | No | No | No | No | No |

Source: CDM Smith, 2012
Key:
CO = carbon monoxide
lbs/day = pounds per day
$NO_x$ = nitrogen oxides
$PM_{10}$ = inhalable particulate matter
$PM_{2.5}$ = fine particulate matter
$SO_2$ = sulfur dioxide
VOC = volatile organic compounds

As stated in Response No. III.a. and described above, long-term operational emissions would be very minor and only consist of periodic replacement of advertising materials, which would include the same types of vehicles as would construction (pickup/utility truck(s), construction workers, and one or two cherry picker/lift[s]). Emission factors published by the SCAQMD were used to estimate emissions from on-road vehicles. A roundtrip travel distance of approximately 27 miles was used in the calculations, based on default assumptions in CalEEMod. Table 4 summarizes maximum estimated criteria pollutant emissions from Project operational activities.

**Table 4.**
**Estimated Operational Emissions**

| | Emissions (pounds per day) | | | | | |
|---|---|---|---|---|---|---|
| **Equipment** | **VOC** | **NOx** | **CO** | **$SO_2$** | **$PM_{10}$** | **$PM_{2.5}$** |
| Boom lift | 0.07 | 0.82 | 0.27 | <0.01 | 0.04 | 0.03 |
| Pickup/Utility /Truck | 0.06 | 0.46 | 0.41 | <0.01 | 0.02 | 0.01 |
| Crew | 0.06 | 0.06 | 0.61 | <0.01 | 0.01 | <0.01 |
| Total | 0.19 | 1.35 | 1.29 | <0.01 | 0.06 | 0.05 |
| Threshold | 55 | 55 | 550 | 150 | 150 | 55 |
| Significant? | No | No | No | No | No | No |

Source: CDM Smith, 2012
Key:
CO = carbon monoxide
lbs/day = pounds per day
$NO_x$ = nitrogen oxides
$PM_{10}$ = inhalable particulate matter
$PM_{2.5}$ = fine particulate matter
$SO_2$ = sulfur dioxide
VOC = volatile organic compounds

The analysis indicates that no pollutant would exceed the SCAQMD's thresholds of significance for construction or operational emissions. Emissions would therefore not violate an air quality standard or contribute substantially to an existing or projected air quality violation and therefore, no significant impacts would occur with implementation of the proposed Project. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**c. Result in a cumulatively considerable net increase of any criteria pollutant for which the air basin is non-attainment ($O_3$, $NO_2$, $PM_{10}$, $PM_{2.5}$, and lead) under an applicable federal or state ambient air quality?**

*Less Than Significant Impact.* Cumulative impacts occur when the impact of one project when added to other past, present, or reasonably foreseeable future projects could cause a significant impact. In other words, although an individual project would be less than significant, the combined impacts from other projects could cause a significant impact. Since any potential emissions associated with the proposed Project would be substantially less than the significance criteria in Response No. III.b. above, the proposed Project would not result in a cumulatively considerable net increase in any criteria pollutant. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**d. Expose sensitive receptors to substantial pollutant concentrations?**

*Less Than Significant Impact.* As described in Response No. III.b. above, daily construction emissions from installation of the new signage or removal from the existing and future billboards (those in LAWA's control) would be substantially below significance thresholds. Diesel particulate matter is listed as a toxic air contaminant in California and would be subject to human health risk standards of 10 in 1 million for the maximum individual cancer risk and 1.0 (project increment) for the chronic and

acute hazard indices. The closest sensitive receptors (i.e., hospitals, K-12 schools, residences, and day care centers) are the residential areas within the City of El Segundo to the south (approximately 0.6 mile) and the community of Westchester to the northeast (approximately 0.5 mile) and north (approximately 0.75 mile), from the Project site. Based on the limited duration of the installation activities, any impact on sensitive receptors would be minimal. The impact to sensitive receptors would be less than significant. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**e. Create objectionable odors affecting a substantial number of people?**

*Less Than Significant Impact.* During installation of the signs and periodic replacement of the advertising material, there would be diesel exhaust from construction equipment. Due to the short installation period and distance to sensitive receptors, there would be no impact from diesel exhaust. In addition, only minimal, if any, materials or chemicals to install the new signage would be stored on-site; however, the types and quantities are not anticipated to have the potential to cause odor impacts. As such, there would be a less than significant impact and this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

## IV. BIOLOGICAL RESOURCES.

*Would the project:*

**a. Have a substantial adverse effect, either directly or through habitat modification, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

**b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in the City or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?**

**c. Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?**

**d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

**e. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance (e.g., oak trees or California walnut woodlands)?**

**f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?**

*a-f. No Impact.* The proposed Project would establish new signage within the Landside Sub-Area (i.e., core of the CTA) and portions of the Airside Sub-Area, and remove existing and future billboards in LAWA's control. The sign areas are highly urbanized areas and devoid of candidate, sensitive or special status biological resources. Wildlife use of the airport is generally limited to common species. The vegetation within the Project site is ruderal (i.e., weeds) and ornamental vegetation (i.e., palm trees, Giant Bird of Paradise, various shrubs and groundcover) planted to denote

perimeters or as a buffer. As part of the proposed Project's construction and operation, signage would be placed in a manner that does not adversely impact the landscaping within the Landside Sub-Area (i.e., CTA). There is no landscaping within the Airside Sub-Area. Therefore, no impacts to sensitive or special status species or habitats are expected to occur. There is no riparian habitat or other sensitive natural community at the Project site or near the vicinity of the proposed Project. Therefore, there would be no potential impacts to any riparian or other sensitive natural community. There is no adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan that includes the Project site or immediate vicinity. The Dunes Specific Plan Area, a designated Los Angeles County Significant Ecological Area, is located at the far western portion of the boundaries of LAX. It is well removed from the Project site and would not be impacted by the proposed Project. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

## V. CULTURAL RESOURCES.

*Would the project:*

**a. Cause a substantial adverse change in significance of a historical resource as defined in State CEQA §15064.5?**

*Less than Significant Impact.* Previously-identified historical resources at LAX include the following:[6]

- Hangar One (listed on the National Register of Historic Places) on the southeastern portion of LAX near the northwest corner of Aviation Boulevard and Imperial Highway;
- Theme Building (eligible for the National Register of Historic Places) in the center of the LAX terminals;
- WWII Munitions Storage Bunker (eligible for the National Register of Historic Places) near the western boundary of LAX; and
- Intermediate Terminal Complex (eligible for the California Register of Historical Resources) on the south side of Century Boulevard between Sepulveda Boulevard and Airport Boulevard.

Of these, only the Theme Building is located within the Project site. Constructed in 1961-1962, the Theme Building was the centerpiece of the large expansion of LAX which converted it into a "jet-age" airport. The arresting design of parabolic arches with a flying saucer-shaped restaurant suspended between them was conceived by joint venture architects William L. Pereira, Charles Luckman, Welton Becket, and Paul R. Williams. The Theme Building was designated Los Angeles Historic-Cultural Monument No. 570 in 1992, is eligible for listing in the California Register for architectural merit under Criterion 3, and is considered eligible for the National Register of Historic Places under Criteria Consideration G and Criterion C for exceptional architectural significance.

With regard to historical resources, comprehensive surveys of LAX and adjacent areas were completed in association with the LAX Master Plan EIS/EIR[7], as well as the LAX Master Plan

[6] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.9.1, April 2004.

[7] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.9.1, April 2004.

Supplemental Section 106 evaluation process.[8] The purpose of this evaluation was to update previous historical resource information. The evaluation identified structures and spatial relationships/views remaining from the "Central Complex" of the "jet-age" airport that contribute to the setting of the Theme Building. The "Central Complex" is the grouping of support services located in the center of the CTA, which consists of parking structures, as well as the old and new airport traffic control towers, new central utility plant (currently under construction), the Theme Building, and portions of the Modern and Central Service Facility Buildings. Although several of the original buildings that made up the Central Complex have been altered and no longer contribute to the setting associated with the "jet-age" airport, the axial view between the Theme Building and the 1961 Airport Traffic Control Tower remains, and two Modern storage buildings from the Central Service Facility also remain intact located immediately adjacent to the Theme Building on the west. While the 1961 Airport Traffic Control Tower is substantially altered and not individually eligible, the axial relationship between the Theme Building and the 1961 Airport Traffic Control Tower to the east remains and this primary east-west view still conveys the spatial relationships and original design intent of the Central Complex of which the Theme Building was the centerpiece within the context of the "jet-age" airport. Based on the results of the evaluation, not only was the Theme Building a potential historical resource but also its "Setting" (i.e., surroundings and/or the setting that contributes to the significance of the building).

There are no other structures within the Project site that are potentially historic. The existing Terminals 1, 2, 4, 5, 6, 7, 8 and Tom Bradley International Terminal (TBIT) were redeveloped from 1984-1989 and are not eligible for listing as historical resources nor are they considered historically significant. The earlier control tower, while considered state-of-the-art in 1961, was considerably altered in 1996 when the Federal Aviation Administration relocated to the new airport traffic control tower. Terminal 3 was built in 1960 and underwent an extensive renovation in the early 1980s. This renovation expanded and remodeled the terminal to provide a second level ticketing facility and an upper level concourse connecting the terminal to the satellite building, which housed the gates. Terminal 3 is associated with the Los Angeles "jet-age" International Airport of the early 1960s; however, the renovations may have adversely affected the overall integrity of the structure and therefore, it is not considered potentially eligible for listing as a historical resource. None of the parking structures are considered potentially historic.

The proposed Project includes potential for signage on terminal facades, parking structures, sky bridges, columns, and hanging signs throughout the CTA (Landside Sub-Area) and signage within a portion of the Airside Sub-Area (i.e., supergraphics and passenger boarding bridge signs). No signage would be placed on or at the Theme Building; therefore, there would be no direct impacts and no adverse indirect impacts on historical resources because of their design, distance, and intervening development. Although signage is proposed on the parking structures, including the internal roadway areas that traverse the Central Complex, there would be no interruption of primary views that characterize the Theme Building and its Setting. The signs would be located along the faces of structures, columns, and equipment and would not extend above the height of the terminal buildings or parking structures. As a result, the signs would not interfere with scale, proportion, or massing of the Theme Building and its Setting, or adversely reduce or change the setting and primary views of the Theme Building, and therefore, construction and operation of the proposed Project would not cause a

[8] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Appendix S-G, Supplemental Section 106 Report, prepared by PCR Services Corporation, June 2003.

substantial adverse change in significance of a historical resource. Therefore, the proposed Project would not cause a direct or indirect substantial adverse change in significance of a historical resource and this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**b. Cause a substantial adverse change in significance of an archaeological resource pursuant to State CEQA §15064.5?**

*No Impact.* The Project site is a highly disturbed area that has long been, and is currently being, used for airport and airport-related uses. Any resources that may have existed on the site at one time are likely to have been displaced or damaged and, as a result, the overall sensitivity of the site with respect to buried resources is low. Additionally, no excavation into soils is expected to occur, which would further limit the potential for archaeological resources to be encountered with implementation of the proposed Project. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?**

*No Impact.* A previous records search identified the presence of two vertebrate fossil occurrences within the airport area, three more in the immediate vicinity of the airport, and one within approximately two miles of the airport.[9] These fossils were found at depths ranging from 13 to 70 feet. As discussed for archaeological resources above, the Project site is a highly disturbed area and no excavation/grading is planned for the proposed Project. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**d. Disturb any human remains, including those interred outside of formal cemeteries?**

*No Impact.* The Project site is developed with an airport and airport-related uses, and is located within a highly urbanized area. Based on previous surveys conducted at LAX and the results of the record searches completed in 1995, 1997, and 2000, no traditional burial sites have been identified within the LAX boundaries or in the vicinity.[10] In addition, no grading or excavation activities are planned as part of the proposed Project. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

[9] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.9.1, April 2004.

[10] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

## VI. GEOLOGY AND SOILS.

*Would the project:*

**a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:**

**i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.**

*No Impact.* Fault rupture is the surface displacement that occurs along the surface of a fault during an earthquake. The Project site is located within the seismically active southern California region, but it is not located within an Alquist-Priolo Special Study Zone.[11] Geotechnical literature indicates that the Charnock Fault, a potentially active fault, may be located near or through the eastern portion of the Project site. However, evaluations have indicated that the Charnock Fault is considered to have low potential for surface rupture independently or in conjunction with movement on the Newport-Inglewood Fault Zone, which is located approximately three miles east of the Project site.[12] The proposed Project would involve the establishment of new signage within the Project site mounted on structures (i.e., facades, sky and passenger boarding bridges, columns, and poles) and removal of billboards (those in LAWA's control). Construction of framework and mounting of the signs would comply with current Los Angeles Building Code (LABC) and Uniform Building Code (UBC) requirements and would not affect foundations or result in other structural or engineering modifications that could increase exposure of people or structures to risk associated with rupture of a known earthquake fault. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**ii. Strong seismic ground shaking?**

*No Impact.* The Project site is located in the seismically active southern California region; however, there is no evidence of faulting on the site, and it is not located within an Alquist-Priolo Special Study Zone.[13] The proposed Project would involve the placement of new signage mounted on structures (i.e., facades, sky and passenger boarding bridges, columns, and poles) and removal of billboards (those in LAWA's control). Construction of framework and mounting of the signs would comply with current LABC and UBC requirements and would not affect foundations or result in other structural or engineering modifications that could increase exposure of people or structures to risk associated with strong seismic ground shaking. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

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[11] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

[12] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

[13] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

### iii. Seismic-related ground failure, including liquefaction?

*No Impact.* Liquefaction is a seismic hazard that occurs when strong ground shaking causes saturated granular soil (such as sand) to liquefy and lose strength. The susceptibility of soil to liquefy tends to decrease as the density of the soil increases and the intensity of ground shaking decreases. Liquefaction could potentially occur in very localized areas with perched groundwater[14] conditions including immediately to the west of the CTA where average groundwater depth was detected at 24 feet below ground surface; however, previous reports have indicated that the overall potential for liquefaction at the Project site is considered low.

Strong ground shaking will also tend to densify loose to medium dense deposits of partially saturated granular soils and could result in seismic settlement of foundations and the ground surface at the Project site. Due to variations in material type, seismic settlements would tend to vary considerably across LAX, but the overall potential for damaging seismically-induced settlement is considered to be low.[15]

Seismically-induced ground shaking can also cause slope-related hazards through various processes including slope failure, lateral spreading,[16] flow liquefaction, and ground lurching.[17] The eastern portion of the Project site, near Sepulveda Boulevard contains existing slopes that are relatively small in area and of low angle and height (less than 15 feet); therefore, the overall potential for such failures is considered to be low.[18] In addition, no signage is proposed in the area of these existing slopes.

As the potential for liquefaction and seismic settlement at the Project site is low, and the proposed Project would not cause any new structures to be built or modify any existing or future structures, there would be no impacts associated with seismic-related ground failure and liquefaction and therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

### iv. Landslides?

*No Impact.* The Project site and vicinity are relatively flat and are primarily surrounded by existing airport and urban development. Furthermore, the City of Los Angeles Landslide Inventory and Hillside Areas map does not identify any areas in the vicinity of the Project site that contain unstable slopes which may be prone to seismically-produced landslides.[19] Implementation of the proposed Project would not result in the exposure of people or structures to the risk of landslides during a seismic

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[14] Groundwater, generally shallow, that is isolated and not connected to an aquifer.

[15] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

[16] Lateral Spreading: Deformation of very gently sloping ground (or virtually flat ground adjacent to an open body of water) that occurs when cyclic shear stresses caused by an earthquake induce liquefaction, reducing the shear strength of the soil and causing failure and "spreading" of the slope.

[17] Ground Lurching: Ground-lurching (and related lateral extension) is the horizontal movement of soil, sediments, or fill located on relatively steep embankments or scarps as a result of earthquake-induced ground shaking. Damage includes lateral movement of the slope in the direction of the slope face, ground cracks, slope bulging, and other deformations.

[18] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

[19] City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, Exhibit C, Landslide Inventory & Hillside Areas In the City of Los Angeles, November 1996.

event. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**b. Result in substantial soil erosion or the loss of topsoil?**

*No Impact.* The potential for soil erosion on the Project site is low due to the level topography of the Project site. In addition, the Project site is developed with buildings and covered with impervious surfaces and the proposed Project would not involve any excavation or grading. Therefore, no impacts related to soil erosion are anticipated, and as such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?**

*No Impact.* Settlement of foundation soils beneath existing engineered structures or fills typically results from the consolidation and/or compaction of the foundation soils in response to the increased load induced by the structure or fill. The presence of undocumented and typically weak artificial fill at the Project site creates the potential for settlement.[20] However, the proposed Project would only place signs on structures and equipment and remove billboards (those in LAWA's control) and as such would not cause any risk associated with unstable geologic units or soils. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3). See also Response Nos. VI.a.iii and VI.a.iv above.

**d. Be located on expansive soil, as defined in Table 18-1-B of the Los Angeles Building Code (2002), creating substantial risks to life or property?**

*No Impact.* Expansive soils are typically composed of certain types of silts and clays that have the capacity to shrink or swell in response to changes in soil moisture content. Shrinking or swelling of foundation soils can lead to damage to foundations and engineered structures including tilting and cracking. Fill materials located in some portions of the Project area could be prone to expansion, and some portions of the Lakewood Formation found beneath portions of the Project site may also be susceptible, due to their higher content of clay and silt.[21]

The proposed Project would involve the placement of new signage mounted on structures and equipment (i.e., facades, sky and passenger boarding bridges, columns, and poles) and removal of billboards (those in LAWA's control). Construction of framework and mounting of the signs would comply with current LABC and UBC requirements and would not affect foundations or result in other structural or engineering modifications that could increase exposure of people or structures to risk associated with expansive soils. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

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[20] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

[21] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.22, April 2004.

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

*No Impact.* The Project site is located in an urbanized area where wastewater infrastructure is currently in place. The proposed Project involves establishment and implementation of a Sign District which would not involve wastewater or use septic tanks or alternative wastewater disposal systems. Therefore, the ability of on-site soils to support septic tanks or alternative wastewater systems would not be relevant to the proposed Project. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

## VII. GREENHOUSE GAS EMISSIONS.

*Would the project:*

**a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?**

*Less Than Significant Impact.* The proposed Project could generate greenhouse gas (GHG) emissions from vehicle exhaust (i.e., trucks, cherry picker/lift[s], and construction worker commuting) associated with installation of signs, removal of existing and future billboards (those in LAWA's control), and periodic replacement of the advertising material. Additionally, purchased electricity necessary to operate the signs (digital display signs and lighting of other types of signage) would cause indirect GHG emissions. The operation of the proposed digital display signs (Controlled Refresh I and Controlled Refresh III combined) would consume approximately 272 kilowatts at full power. Assuming that it operated at full power 24 hours per day, approximately 2,383,499 kilowatt-hours per year (kWh/year) would be consumed.

To evaluate the significance of operating the digital display and lighting of other signage, indirect GHG emissions from purchased electricity were estimated using carbon dioxide emission factors from the Los Angeles Department of Water and Power;[22] methane and nitrous oxide emission factors were obtained from the U.S. Environmental Protection Agency's Emissions & Generation Resource Integrated Database (eGRID).[23] Using global warming potential factors from the Intergovernmental Panel on Climate Change's Second Assessment Report,[24] total carbon dioxide equivalent ($CO_2e$) emissions were estimated to be approximately 1,331 metric tons per year for all digital displays (i.e., 38,649 sq ft) operating continuously at full power.

As previously stated for the air quality analysis (Response No. III.b. above), CalEEMod was used to estimate construction-related emissions based on the types and quantity of off-road construction equipment, number of construction workers, and number of pickup, utility, or flatbed trucks. Additional long-term operational emissions would be very minor and only consist of periodic replacement of advertising materials, which would include the same types of vehicles as would construction (pickup/utility truck(s), construction workers, and one or two cherry picker/lift[s]). Emission factors

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[22] California Climate Action Registry, Los Angeles Department of Water and Power, 2007 Annual Entity Emissions: Electric Power Generation/Electric Utility Sector.

[23] United States Environmental Protection Agency, eGRID2010 Version 1.1, Available: http://www.epa.gov/cleanenergy/energy-resources/egrid/index.html, October 27, 2011.

[24] Intergovernmental Panel on Climate Change, Climate Change 1995: The Science of Climate Change. Contribution of Working Group I to the Second Assessment Report of the Intergovernmental Panel on Climate Change, 1996.

published by the SCAQMD were used to estimate emissions from maintenance vehicles. A roundtrip travel distance of approximately 27 miles was used in the calculations, based on default assumptions in CalEEMod. Appendix B of this Initial Study contains the GHG emission worksheets and calculations. Table 5 summarizes maximum estimated emissions from construction and operational activities.

**Table 5.**
**Greenhouse Gas Emissions Summary**

| Phase | Emissions (metric tons per year) | | | |
|---|---|---|---|---|
| | $CO_2$ | $CH_4$ | $N_2O$ | $CO_2e$ |
| Signage Operation | 1,328 | 0.03 | 0.01 | 1,331 |
| Maintenance | 5 | 0.0002 | n/a | 5 |
| Total Operation | 1,333 | 0.03 | 0.01 | 1,336 |
| Construction | 4 | n/a | n/a | 4 |
| Amortized Construction[1] | 0.1 | n/a | n/a | 0.1 |
| **Total[2]** | **1,333** | **0.03** | **0.01** | **1,336** |

Source: CDM Smith, 2012.
Notes:
[1] Amortized construction emissions are defined as total construction emissions divided by the project lifetime. The project lifetime is assumed to be 30 years unless project-specific data is known.
[2] Total emissions are defined as annual operational emissions plus amortized construction emissions.
Key: $CH_4$ = methane n/a = not available
$CO_2$ = carbon dioxide $N_2O$ = nitrous oxide $CO_2e$ = carbon dioxide equivalent

The SCAQMD[25] has established a draft GHG emissions significance threshold of 10,000 metric tons $CO_2e$ per year ($MTCO_2e$/year) for industrial facilities. While the SCAQMD has not formally adopted other GHG significance thresholds, in the GHG CEQA Significance Threshold Working Group September 28, 2010 meeting, the SCAQMD proposed a tiered approach that could be applied to projects. In that tiered approach, the SCAQMD proposed a draft quantitative screening threshold for commercial projects of 1,400 $MTCO_2e$/year, as well as a separate option for all non-industrial projects of 3,000 $MTCO_2e$/year amongst other options in the tiers.[26]

While the proposed installation and maintenance of the Sign District is not typically reflective of an industrial project because there are no stationary sources (e.g., boilers, heaters, or engines), it also does not meet the standard interpretation of a residential or commercial development which are usually characterized by high vehicle miles traveled and low stationary source emissions. As a result, the use of the commercial/residential thresholds proposed or finalized by the SCAQMD would not be directly applicable to the proposed Project because the Project is not strictly residential or commercial and the area's population would not travel to LAX for the sole purpose of looking at the signs.

[25] South Coast Air Quality Management District, SCAQMD Air Quality Significance Thresholds, March 2011.
[26] South Coast Air Quality Management District, Minutes for the GHG CEQA Significance Threshold Stakeholder Working Group #15, September 10, 2010.

Emissions associated with the Sign District are from vehicle exhaust associated with construction equipment, construction workers, and various trucks, as well as indirect emissions from purchased electricity. The indirect electricity emissions ultimately occur because of the combustion of fossil fuels in stationary sources. In the absence of an adopted significance threshold directly applicable to this Project, this analysis utilizes the industrial emissions threshold.

The SCAQMD recommends adding amortized construction emissions (amortized over the life of the Project) to the estimated operational emissions. This approach was therefore used to evaluate significance. As shown in Table 5, total emissions (operational plus amortized construction) would not exceed 10,000 $MTCO_2e$/year and would be less than significant. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**b. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?**

*Less Than Significant Impact.* As discussed in Response No. VII.a. above, GHG emissions that would occur from the installation and operation of the proposed Project would be substantially less than the SCAQMD's proposed GHG significance threshold. SCAQMD staff proposed this threshold so that projects would be captured to prevent new development from substantially hindering progress towards achieving the goals of Executive Order S-3-05,[27] which sets statewide GHG emission reduction targets. GHG emissions from the proposed Project would not conflict with Assembly Bill (AB 32), the purpose of which is to reduce statewide GHG emissions to 1990 levels by 2020, or S-3-05 and would be less than significant. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

## VIII. HAZARDS AND HAZARDOUS MATERIALS.

*Would the project:*

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

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

*a-b. No Impact.* All hazardous materials storage, handling, and disposal is required to comply with existing federal, state, and local regulations designed to reduce the potential for accidental releases of a hazardous material and minimize the impact of an accident should one occur. The proposed Project involves establishment and implementation of a Sign District, and would not involve the use, handling, or storage of any potentially hazardous materials, nor would it involve excavation that could potentially disturb contaminated soils or groundwater. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

[27] South Coast Air Quality Management District, Board Meeting Minutes, Agenda No. 31, Attachment D, December 5, 2008.

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

*No Impact.* As discussed in Response No. VIII.a-b above, construction and operation of the proposed Project would not result in the handling of hazardous materials. In addition, there are no schools located or proposed within one-quarter mile of the Project site. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

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

*No Impact.* An Environmental Data Resources (EDR) regulatory database review was performed for all of LAX in August 2011.[28] LAX was listed in several databases searched by EDR as a facility with underground storage tanks (USTs) and a facility with emissions of carbon monoxide, organic hydrocarbon gases, nitrogen oxides, sulfur oxides, and particulate matter. The proposed Project involves placing signs on structures and equipment and removing billboards (those in LAWA's control). It would not involve any excavation or otherwise disturb any of the listed hazardous sites listed in the EDR Report. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?**

*Potentially Significant Impact.* The Project site is located within a public airport. Numerous safeguards are required by law to minimize the potential for and the effects from an accident if one were to occur. FAA's Airport Design Standards establish, among other things, land use related guidelines to protect people and property on the ground, including establishment of safety zones that keep areas near runways free of objects that could interfere with aviation activities. City of Los Angeles Ordinance No. 132,319 regulates building height limits and land uses within the Hazard Area established by the Planning and Zoning Code to protect aircraft approaching and departing from LAX from obstacles. In addition to the many safeguards required by law, LAWA and tenants of LAX maintain Emergency Response and Evacuation Plans that also serve to minimize the potential for and the effects of an accident.

The proposed Project involves placing signs on structures and equipment and removing billboards (those in LAWA's control) and would not extend above the height of the terminal buildings, parking structures, and equipment, and therefore would not interfere with aviation activities. All construction activities and sign size and placement would comply with applicable aviation-related safeguards, and thus would not create a safety hazard. As discussed under Response No. I.d., sign lighting, including digital displays, would be directed inward and/or downward to minimize light spillover. As such, lighting from proposed signs is not anticipated to present a distraction that could constitute a safety hazard. Two types of digital displays are being proposed as part of the proposed Project – Controlled Refresh I and Controlled Refresh III. Controlled Refresh (CR) I has an image refresh rate of no more than one refresh event every eight seconds. CR III has no more than one refresh event every 12 hours. Proposed locations for CR I and CR III digital displays within the Project site

[28] Environmental Data Resources Inc. (EDR) . EDR Data Map Area Study, Los Angeles, California. August 2011.

have been chosen being mindful of driver, pedestrian and pilot safety. However, this issue will be addressed further in the draft EIR in the aesthetics and traffic analyses to provide additional detail and analysis.

Although there would be a temporary and minimal increase in construction jobs, none of the proposed improvements would increase the existing long-term employment or passenger capacity at LAX. Therefore, the proposed Project would not result in a significant impact with regard to safety for people working in the Project site or area. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for the people residing or working in the area?**

*No Impact.* The Project site is not located within the vicinity of a private airstrip but rather within a public airport. See Response No. VIII.e. above. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

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

*Less Than Significant Impact.* LAWA and tenants of LAX maintain Emergency Response Evacuation Plans to minimize the potential for and the effects of an accident, should one occur. The proposed Project involves placement of signs on structures and equipment and removal of existing and future billboards in LAWA's control and would not impair implementation of an emergency response plan or emergency evacuation plan. Construction of the proposed Project, as well as periodic changes to the advertising material (i.e., replacement of supergraphics and banners), may result in temporary periodic closures to local airport circulation roads or lanes within the Project site. As discussed in Response No. XVI.e-f, the road closures may temporarily impact intersection and emergency access routes at specific locations for a short period within the Project vicinity. The impacts to emergency access and intersection obstruction would be temporary and occur only at limited access points at any one time. Other areas of the CTA and Airside Sub-Area would be kept clear and unobstructed at all times during sign installation in accordance with FAA, State Fire Marshal, and Los Angeles Fire Code regulations. Therefore, the proposed Project would not significantly impair implementation or physically interfere with an adopted emergency response plan or emergency evacuation plan. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

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

*No Impact.* The Project site and vicinity are predominantly paved and/or developed. There is landscaping within the Landside Sub-Area (i.e., CTA) of the Project site, but this landscaping is regularly maintained and does not constitute a fire hazard. Furthermore, the Project site is not within a City of Los Angeles Wildfire Hazard Area, as delineated in the Safety Element of the General Plan.[29] Therefore, implementation of the proposed Project would not result in the exposure of people or structures to hazards associated with wildland fires and no mitigation measures or further evaluation are

[29] City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, Exhibit D, Selected Wildfire Hazard Areas In the City of Los Angeles, November 1996.

required. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

## IX. HYDROLOGY AND WATER QUALITY.

*Would the project:*

**a. Violate any water quality standards or waste discharge requirements?**

*No Impact.* The agency with jurisdiction over water quality within the Project area is the Los Angeles Regional Water Quality Control Board (LARWQCB). The Clean Water Act (CWA) prohibits the discharge of pollutants to waters of the United States from any point source unless the discharge is in compliance with a National Pollutant Discharge Elimination System (NPDES) permit. In accordance with the CWA, the Project site is within the region covered by NPDES Permit No. CAS004001 issued by the LARWQCB. The proposed Project involves placement of signs on structures and equipment and removal of billboards (those in LAWA's control), and as such would not cause any violations associated with water quality standards or water discharge requirements. The proposed Project would not change the amount of impervious surfaces at the Project site or otherwise alter existing drainage patterns or surface water runoff quantities on the Project site. As such, implementation of the proposed Project would not result in impacts on surface water quality. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

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

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

**d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?**

**e. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?**

**f. Otherwise substantially degrade water quality?**

*b-f. No Impact.* The Project site is located within the West Coast Groundwater Basin.[30] Groundwater beneath the Project site is not used for municipal or agricultural purposes.[31] Construction and operation of the proposed Project would not involve dewatering and, thus, would not deplete groundwater supplies. In addition, the proposed Project involves placement of signs on structures and equipment and removal of billboards (those in LAWA's control) and would not change the amount of

30 City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.7, April 2004.

31 City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.7, April 2004.

permeable surface areas, drainage patterns, or affect stormwater drainage systems. Implementation of the proposed Project would not substantially deplete groundwater supplies or interfere with groundwater recharge, and, as such, no impacts would occur and these issues will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**g. Place housing within a 100-year flood plain as mapped on federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?**

**h. Place within a 100-year flood plain structures which would impede or redirect flood flows?**

*g-h. No Impact.* The proposed Project is located within the boundaries of the LAX Master Plan study area, and no 100-year floodplain areas are located within the LAX Master Plan boundaries.[32] Further, the proposed Project does not involve the construction of housing. Therefore, no impacts resulting from the placement of housing or other structures within a 100-year floodplain would occur. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**i. Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?**

*No Impact.* Please see Response No. IX.g-h above. In addition, as delineated on the City of Los Angeles Inundation and Tsunami Hazard Areas map,[33] the Project site is not within a boundary of an inundation area from a flood control basin. Further, the Project site is not located within the downstream influence of any levee or dam. Therefore, no impacts due to the exposure of people or structures to a risk of loss, injury, or death involving flooding as a result of the failure of a levee or dam would occur. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**j. Inundation by seiche, tsunami, or mudflow?**

*No Impact.* The Project site is located approximately 1.5 miles east of the Pacific Ocean and is not delineated as a potential inundation or tsunami impacted area in the City of Los Angeles Inundation and Tsunami Hazard Areas map.[34] Mudflows are not a risk as the Project site is located on, and is surrounded by, relatively level terrain and urban development. Therefore, no impacts resulting from inundation by seiche, tsunami, or mudflow are anticipated to occur. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

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[32] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.13, April 2004.

[33] City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, Exhibit G, Inundation & Tsunami Hazard Areas in the City of Los Angeles, November 1996.

[34] City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, Exhibit G, Inundation & Tsunami Hazard Areas in the City of Los Angeles, November 1996.

## X. LAND USE AND PLANNING.

*Would the project:*

**a. Physically divide an established community?**

*No Impact.* The Project site is located entirely within the boundaries of a developed airport in an urbanized area and placement of signs on structures and equipment and removal of billboards (those in LAWA's control) would not disrupt or divide the physical arrangement of an established community. Thus, the proposed Project would not divide an established community. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**b. Conflict with applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?**

*Potentially Significant Impact.* Land use designations and development regulations applicable to the Project site are set forth in the General Plan, the LAX Plan,[35] and LAX Specific Plan[36] (both LAX plans were approved by the Los Angeles City Council in December 2004). The Project site is in an area designated in the LAX Plan as "Airport Landside (Central Terminal Area)" and "Airport Airside." Within the LAX Specific Plan, the site is in an area designated as LAX – A Zone: Airport Airside Sub-Area" and "LAX - L Zone: Airport Landside Sub-Area." Section 14 of the LAX Specific Plan delineates the signage regulated by the Plan and permitted within the Airport Airside and Landside Sub-Areas, and provides for the establishment of a Sign District to permit off-site signs.

The proposed Project is in compliance with the purposes, intent and provisions of all three plans. While no inconsistencies with the applicable LAX plans are anticipated, the draft EIR will detail the consistencies of the proposed Project with these plans, as well as LAMC Section 13.11. Therefore, the draft EIR will evaluate the potential for the proposed Project to have significant land use impacts related to incompatibilities and/or inconsistencies with local regulations, plans, and policies.

**c. Conflict with any applicable habitat conservation plan or natural community conservation plan?**

*No Impact.* The Dunes Specific Plan Area, a designated Los Angeles County Significant Ecological Area, is located to the west of the Project site, opposite Pershing Drive. The proposed Project would be located within an urbanized airport area within and adjacent to existing airport uses and would not affect the Dunes Specific Plan Area. There is no adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved habitat conservation plan or other natural community conservation plan that includes the Project site. Therefore, the proposed Project would not conflict with any such plan, and, as such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

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[35] City of Los Angeles, LAWA, LAX Plan, September 29, 2004.

[36] City of Los Angeles, LAWA, Los Angeles International Airport Specific Plan, January 20, 2005.

## XI. MINERAL RESOURCES.

*Would the project:*

**a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?**

*No Impact.* The State Mining and Geology Board classify mineral resource zones throughout the State. The Project site is contained within a MRZ-3 zone, which represents areas with mineral deposits whose significance cannot be evaluated from available data.[37] The Project site is within the boundaries of the LAX airport and surrounded by airport-related uses. There are no actively-mined mineral or timber resources on the Project site, nor is the site available for mineral resource extraction given the existing airport use. Therefore, the proposed Project would not affect access to or the availability of valued mineral resources. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**b. Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?**

*No Impact.* The Project site is not within an area delineated on the City of Los Angeles Oil Field & Oil Drilling Areas map in the City of Los Angeles General Plan Safety Element.[38] Furthermore, the Project site is disturbed and in an area that is not available for mineral resource extraction due to the existing airport use. Therefore, the proposed Project would not affect the availability of a locally-important mineral resource recovery site. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

## XII. NOISE.

*Would the project result in:*

**a. Exposure of persons to or generation of noise in level in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?**

**b. Exposure of people to or generation of excessive groundborne vibration or groundborne noise levels?**

**c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?**

**d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?**

*a-d. Less than Significant Impact.* Construction and implementation of the proposed Project would not result in a substantial temporary or permanent increase in ambient noise levels, nor would it expose persons to generation of noise levels in excess of standards or excessive groundborne vibration or noise. The proposed Project involves placement of signs on structures and equipment and removal of billboards (those in LAWA's control). It is located within a public airport in an urban environment with many existing sources of noise including aviation noise and traffic noise, and is far removed from

[37] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.17, April 2004.

[38] City of Los Angeles Planning Department, Safety Element of the City of Los Angeles General Plan, Exhibit E, Oil Field & Oil Drilling Areas in the City of Los Angeles, November 1996.

sensitive receptors such as residential uses. Installation of the signs and periodic replacement of the advertising material, which would involve the use of equipment such as trucks and cherry picker/lifts, would not generate noise in excess of the City's noise ordinance, nor would it result in a substantial temporary increase in ambient noise levels.

With regard to roadway noise associated with construction traffic on area roads, traffic volumes on roads with good operating conditions (i.e., Level of Service of B or better) would have to increase at more than a three-fold rate to reach the City's threshold of significance of a 5 dBA increase, and would need to increase even more on roads with poor operating conditions (i.e., Level of Service C or worse). Given the limited scope of construction activities (installation and removal of signs), only a small amount of construction traffic would occur, and this would not result in a noise level increase that would exceed the threshold of significance.

Operation of the proposed Project would not generate any noise with the exception of periodic replacement of the advertising material as discussed above. Additionally, the proposed Project would not result in an increase in noise generating activities such as traffic, an increase in the number of daily flights arriving and departing from LAX, or the ambient growth in aviation activity at LAX that is projected to occur in the future. Therefore, noise impacts are considered to be less than significant, and as such, will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?**

*No Impact.* The proposed Project would entail installation of signs on structures and removal of billboards (those in LAWA's control). As discussed under Response No. XII.a-d above, there would be no substantial temporary or permanent change in ambient noise levels. Further, no changes would be made to runway locations or configurations as part of the proposed Project. As such, no exposure of people to excessive noise levels would occur and as such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?**

*No Impact.* The Project site is not located within the vicinity of a private airstrip, but rather within a public airport. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

## XIII. POPULATION AND HOUSING.

*Would the project:*

**a. Induce substantial population growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?**

*No Impact.* The proposed Project involves placement of signs on structures and equipment and removal of billboards (those in LAWA's control) and does not include residential development. The proposed improvements would not increase existing long-term employment, passenger capacity or aircraft parking capacity at LAX. With no increase in long-term employment or passenger capacity, and

no new homes proposed, the proposed Project would not induce substantial population growth. Furthermore, the Project site is located within a developed airport, and no new roads or extensions of existing roads or other growth-accommodating infrastructure are proposed. Therefore, the proposed Project would not directly or indirectly induce substantial population growth through extension of roads or other infrastructure. No impacts would occur, and as such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**b. Displace substantial numbers of existing housing necessitating the construction of replacement housing elsewhere?**

**c. Displace substantial numbers of people necessitating the construction of replacement housing elsewhere?**

*b-c. No Impact.* There are no existing residential properties on the Project site. Implementation of the proposed Project would not displace housing. Therefore, no impacts on housing would occur, and as such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

## XIV. PUBLIC SERVICES.

*Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services?*

**a. Fire protection?**

*Less Than Significant Impact.* The City of Los Angeles Fire Department provides fire protection services throughout the Project site. Three LAFD fire stations are located at LAX (Fire Station Nos. 80, 51, and 95). Fire Station No. 80 is located within the Project boundary at 6911 World Way West; Fire Station No. 51, located at 10435 South Sepulveda Boulevard, is less than 0.5 mile south of the Project site; and Fire Station No. 95, located at 10010 International Road, is approximately one mile east of the Project site.[39] Construction of the proposed Project may result in temporary periodic closures or partial closures to local airport circulation roads. However, access to the Project site during construction would be kept clear and unobstructed at all times in accordance with FAA, State Fire Marshal, and Los Angeles Fire Code regulations. The periodic replacement of the advertising material, which would involve the use of equipment such as trucks and cherry picker/lifts, could result in lane closures within the CTA roadway. These lane closures would be of short duration and occur only at limited points at any one time. Other areas of the CTA and Airside Sub-Area would be kept clear and unobstructed at all times during sign installation in accordance with FAA, State Fire Marshal, and Los Angeles Fire Code regulations, and thereby would not create a significant impact.

Fire service requirements are generally based on the size of the building and relationships to other structures and property lines. The Project site is currently developed and no new structures would be constructed as part of the proposed Project. The proposed Project would comply with all applicable city, state, and federal codes and ordinances. All new signs and sign support structures would be made of noncombustible materials or plastics approved by both the Fire Department and Los Angeles Building

[39] City of Los Angeles, LAWA, Final Environmental Impact Report, Los Angeles International Airport Proposed Master Plan Improvements, Section 4.26.1, April 2004.

and Safety (LADBS). In addition, supergraphics would not cover windows or doors that could be used as exits in the case of a fire or other emergency situation. Therefore, the proposed Project would not result in any increase in demand for fire protection services that may result in the need for new or altered fire protection services nor would it affect response times. Accordingly, no significant impacts related to fire protection services would occur, and, as such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**b. Police protection?**

*No Impact.* Both the Los Angeles World Airports Police Division (LAWA PD) and the City of Los Angeles Police Department LAX Detail (LAPD LAX Detail) provide police protection services to the Project site. The LAWA PD station is located a few feet north of the Park One property and the LAPD LAX Detail station is located within the Project site. Demand for on-airport police protection services is typically determined by increases in aircraft activity and employees. As discussed in Response No. XIII.a. above, the proposed Project entails placement of signs on structures and equipment and removal of billboards (those in LAWA's control). It would not add new buildings, increase existing passenger capacity or aircraft parking capacity at LAX, or increase long-term employment. Therefore, no impacts on airport police protection services are expected with implementation of the proposed Project, and, as such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**c. Schools?**

*No Impact.* The proposed Project involves placement of signage on structures and equipment and removal of billboards (those in LAWA's control), and, therefore, does not include residential development. As discussed in Response No. XIII.a. above, the proposed improvements would not increase existing passenger capacity and would not increase long-term employment such that indirect growth would result in enrollment increases that would adversely impact schools. Therefore, no impacts to, or need for, new school facilities would occur and, as such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**d. Parks?**

*No Impact.* The proposed Project involves placement of signage on structures and equipment and removal of billboards (those in LAWA's control), and, therefore, does not include residential development. As discussed in Response No. XIII.a. above, the proposed improvements would not increase existing passenger capacity or increase long-term employment such that additional demand for parks would occur. Therefore, no impacts to, or need for, new parks would occur and, as such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**e. Other governmental services (including roads)?**

*No Impact.* The proposed Project would have no impacts on governmental services, including roads. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

## XV. RECREATION.

**a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?**

**b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?**

*a-b. No Impact.* The proposed Project does not include development of recreational facilities nor does it include residential development that would increase demand for recreational facilities. As discussed in Response No. XIII.a. above, the proposed Project would not increase existing passenger capacity at LAX or increase long-term employment such that increased demand for neighborhood and regional parks or other recreational facilities would occur. Therefore, the proposed Project would not result in substantial physical deterioration of existing area recreational facilities or require the construction or expansion of recreational facilities. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

## XVI. TRANSPORTATION/CIRCULATION.

*Would the project:*

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

**b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

*a-b. Less than Significant Impact.* Construction of the proposed Project would generate a minimal amount of traffic associated with workers traveling to and from the construction employee parking area,[40] truck haul/delivery trips, and miscellaneous construction-related travel. Given the limited construction activities (installation of framework associated with the signage), these vehicle trips would not be sufficient to result in noticeable traffic impacts on the local roadway system during the construction period. The proposed Project would temporarily modify the traffic flow during the installation of the framework for the supergraphics, hanging signs, and digital display signs. However, construction-related lane closures would be of short duration and occur only at limited points at any one time. Other areas of the CTA and Airside Sub-Area would be kept clear and unobstructed at all times during sign installation in accordance with FAA, State Fire Marshal, and Los Angeles Fire Code regulations, and thereby would not create a significant impact.

The proposed Project involves periodically installing and removing advertising material (signage) throughout the Project site. As discussed in Response No. XIII.a., the proposed Project would not increase existing passenger capacity or aircraft parking capacity at LAX, nor would it increase the

[40] It is anticipated that parking for construction employees would be located on surface parking lots near the CTA and therefore, there would be no need to shuttle employees to the job site.

number of employees traveling to LAX each day. The operation of the proposed Project would not generate any increase in traffic. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?**

*No Impact.* The proposed Project involves placement of signs on structures and equipment and removal of billboards (those in LAWA's control) and would not change air traffic patterns or increase airport operations. Therefore, the proposed Project would have no impact on air traffic patterns. As such, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**d. Substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

*Potentially Significant Impact.* Construction equipment would be required to use local roadways; however, this is not anticipated to create a safety hazard. Should it be necessary, travel lanes would be closed or restricted to allow for construction access and activities. However, the increase of off-site (non-airport related) signage could potentially create design hazards should it detract from directional/wayfinding signs designed to aid motorists navigating the CTA or aviation personnel within the Airside Sub-Area . As discussed under Response No. I.d., signage lighting, including the digital display signs, would be directed inwards/downwards to minimize light spillover. In addition, all digital display signage will have restricted animation to minimize distractions. As such, lighted signs are not anticipated to present a distraction that could constitute a safety hazard or substantially increase a safety hazard. However, this issue will be addressed further in the draft EIR to provide additional detail and analysis. Therefore, the draft EIR will evaluate the potential for the proposed Project to have significant traffic impacts related to design hazards.

**e. Result in inadequate emergency access?**

*Less than Significant Impact.* Construction of the proposed Project may require periodic temporary closures of the airport circulation lanes/roadways during the construction phase. These related lane closures would be of short duration and occur only at limited points at any one time so as not to impact intersection flow and emergency access routes within the Project site. In addition, areas of the CTA and Airside Sub-Area would be kept clear and unobstructed at all times during construction in accordance with FAA, State Fire Marshal, and Los Angeles Fire Code regulations, and thereby would not result in a significant impact. As with the construction of the proposed Project, operation involves the periodic installation and removal of advertising material, which could also require temporary lane closures (this applies mostly to supergraphics and, depending on the location, column wraps and hanging signs). As appropriate, the installation and removal of advertising material would occur during nighttime hours (approximately 11:00 p.m. to 4:00 a.m.) when traffic volume is the lowest. As with construction activities, any temporary lane or roadway closures would occur in accordance with FAA, State Fire Marshal, and Los Angeles Fire Code regulations and not result in inadequate emergency access. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?**

*No Impact.* The proposed Project involves the placement of signage on structures and equipment and removal of billboards (those in LAWA's control). It would not conflict with, nor hinder performance of policies, plans, or programs regarding alternative forms of transportation. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

## XVII. UTILITIES.

*Would the project:*

**a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?**

*No Impact.* Sanitary wastewater generated by activities at the Project site is treated at the Hyperion Treatment Plant. The City of Los Angeles has an approved plan to accommodate future and cumulative wastewater treatment capacity and is implementing the components that comprise its plan through the monitoring of triggers (i.e., population growth, regulatory changes, and other policy decisions) as part of their implementation strategy. As discussed in Response No. XIII.a., the proposed Project would not increase existing employment or passenger capacity at LAX or otherwise affect wastewater generation. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

*No Impact.* As discussed in Response No. XIII.a., the proposed Project would not increase existing employment or passenger capacity at LAX or otherwise affect water use or wastewater generation. As such, implementation of the proposed Project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. No impact to water or wastewater facilities would occur, and therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**c. Require or result in the construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?**

*No Impact.* As discussed in Response No. IX.b-f, the proposed Project involves placement of signs on structures and equipment and removal of billboards (those in LAWA's control) and would not change the amount of permeable surface areas, drainage patterns, or affect stormwater drainage systems. As discussed in Response No. XIII.a., the proposed Project would not increase existing employment or passenger capacity at LAX or otherwise affect water use or wastewater generation. As such, implementation of the proposed Project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. No impact to water or wastewater facilities would occur, and therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**d. Have sufficient water supplies available to serve the project from existing entitlements and resource, or are new or expanded entitlements needed?**

*No Impact.* The LADWP is the water purveyor for the Project site. LADWP is responsible for supplying, treating, and distributing water within the City. According to LADWP, it has met the immediate needs of its customers and is well positioned to continue to do so in the future.[41] The proposed Project would not increase existing employment or passenger capacity at LAX or otherwise affect water use. As such, no new or expanded water supply entitlements are needed. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?**

*No Impact.* As discussed in Response Nos. XVII.a. and b. above, the proposed Project would not increase employment or passenger capacity at LAX or otherwise affect wastewater generation. Therefore, no impact to wastewater facilities would occur, and this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?**

**g. Comply with federal, state, and local statutes and regulations related to solid waste?**

*f-g. Less Than Significant Impact.* All solid waste from the Project site is transferred to the Sunshine Canyon Landfill. Sunshine Canyon Landfill is located at 14747 San Fernando Road in Sylmar, CA, approximately 82 miles from the Project site. Sunshine Canyon Landfill is owned and operated by BFI, and has a maximum permitted throughput of 12,100 tons per day, with 5,500 tons per day allotted for City use and 6,600 for County use.[42] As of July 31, 2007, this facility had a remaining capacity of 112,300,000 cubic yards, and currently has an estimated closure date of 2037. The waste types accepted at this facility include construction and demolition debris, green materials, industrial, inert, and mixed municipal.

Implementation of the proposed Project would result in the generation of solid waste from removal of the billboards (those in LAWA's control) and periodic disposal of signage when advertisements are updated/replaced. Vinyl advertising (supergraphics, passenger boarding bridge signs, column signs, and hanging signs) would be changed approximately every 30 days or longer, with longer display periods ranging from six weeks to several months. Periodic replacement of the LED lights on the digital display signs would also be required. Although LED lights cannot be recycled, their disposal requires no particular procedure unlike other fluorescent light bulbs. The solid waste generated from replacing signage and lighting would be negligible and would not exceed the current capacity available at the Sunshine Landfill. In addition, no inert solid waste is anticipated to be generated as a result of the proposed Project. Therefore, this issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

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[41] City of Los Angeles Department of Water and Power, Urban Water Management Plan, 2010.

[42] California Integrated Waste Management Board (CIWMB)/CalRecycle. 2010. Active Landfills Profile for Sunshine Canyon Landfill (19-AA-0052). Available at: <http://www.calrecycle.ca.gov/SWFacilities/Directory/19-AA-2000/Detail/> Last accessed August 2011.

## XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.

**a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?**

*No Impact.* The proposed Project is located on a disturbed site within a developed airport. There are no plants or animal species listed on any state of federal lists for endangered, threatened or special status species or riparian/wetland areas, trees, or wildlife movement corridors at the Project site. Therefore, the proposed Project would not have an impact on biological resources.

The proposed Project is located on a previously developed highly disturbed site. Further, it does not involve excavation and thus would not result in destruction of archaeological or paleontological resources. Therefore, the proposed Project would not have an impact on archaeological, or paleontological resources.

The Theme Building and its Setting (a City of Los Angeles Historic Cultural Monument and eligible for the California Register of Historical Resources and National Register of Historic Places) is located within the Project site. No signage would be placed on or at the Theme Building and therefore, construction and operation of the proposed Project would not directly affect this historical resource nor any of the other historical resources at LAX. Signage is proposed on the parking structures, including the internal roadway areas that traverse the Central Complex. No indirect impact on the Theme Building and its Setting is anticipated as there would be no interruption of primary views that characterize the historical resource. The signs would be located along the faces of existing and future structures, columns, and equipment. Signs would not extend above the height of the terminal buildings, parking structures, or equipment (such as the passenger boarding bridges). As a result, the signs would not interfere with scale, proportion, or massing of the Theme Building and its Setting, or adversely reduce or change the setting and primary views of the Theme Building. Therefore, construction and operation of the proposed Project would not cause a direct or indirect substantial adverse change in significance of a historical resource.

Therefore, these issue will not be discussed in the draft EIR consistent with State CEQA Guidelines Section 15063(c)(3).

**b. Does the project have impacts which are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of an individual project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects).**

*Potentially Significant Impact.* Implementation of the proposed Project may result in cumulative impacts when considered with other past, present and probable future projects on the airport and in the surrounding area. The potential for the proposed Project to contribute to cumulative adverse environmental impacts will be evaluated in the draft EIR.

**c. Does the project have environmental effects which cause substantial adverse effects on human beings, either directly or indirectly?**

*Potentially Significant Impact.* Implementation of the proposed Project may result in adverse environmental effects which could potentially result in substantial adverse effects on human beings, either directly or indirectly. The potential for the proposed Project to cause substantial adverse effects on human beings will be evaluated in the draft EIR.

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# VI. PREPARERS AND PERSONS CONTACTED

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# APPENDIX A: AIR QUALITY WORKSHEETS AND CALCULATIONS

## Construction Emissions Summary

| Season | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
| Summer | 4.56 | 20.42 | 16.42 | 0.03 | 1.98 | 1.26 |
| Winter | 4.59 | 20.57 | 16.28 | 0.03 | 1.98 | 1.26 |
| Maximum | 5 | 21 | 16 | 0 | 2 | 1 |
| Threshold | 75 | 100 | 550 | 150 | 150 | 55 |
| Significant? | No | No | No | No | No | No |

Source:

SCAQMD. 2011. SCAQMD Air Quality Significance Thresholds. Accessed on: 02 08 2012. Available at: http://www.aqmd.gov/ceqa/handbook/signthres.pdf.

## Operational Emissions Summary

| Season | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| | ROG | NOx | CO | SO2 | PM10 | PM2.5 |
| Boom lift | 0.07 | 0.82 | 0.27 | 0.00 | 0.04 | 0.03 |
| Pickup/Utility Truck | 0.06 | 0.46 | 0.41 | 0.00 | 0.02 | 0.01 |
| Crew | 0.06 | 0.06 | 0.61 | 0.00 | 0.01 | 0.00 |
| Total | 0.19 | 1.35 | 1.29 | 0.00 | 0.06 | 0.05 |
| Threshold | 55 | 55 | 550 | 150 | 150 | 55 |
| Significant? | No | No | No | No | No | No |

Source:

SCAQMD. 2011. SCAQMD Air Quality Significance Thresholds. Accessed on: 02 08 2012. Available at: http://www.aqmd.gov/ceqa/handbook/signthres.pdf.

Maintenance Equipment

| | |
|---|---|
| Boom lift | 1 |
| Pickup/Utility Truck | 1 |
| Crew | 3 |

Round-trip Distance 26.6 miles (based on CalEEMod default)

| | Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| **Source** | **ROG** | **NOx** | **CO** | **SOx** | **PM10** | **PM2.5** |
| Boom lift | 0.07 | 0.82 | 0.27 | 0.00 | 0.04 | 0.03 |
| Pickup/Utility Truck | 0.06 | 0.46 | 0.41 | 0.00 | 0.02 | 0.01 |
| Crew | 0.06 | 0.06 | 0.61 | 0.00 | 0.01 | 0.00 |
| Total | 0.19 | 1.35 | 1.29 | 0.00 | 0.06 | 0.05 |

# LAX Sign District

**Los Angeles-South Coast County, Summer**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| Industrial Park | 0 | 1000sqft |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Los Angeles Department of Water & Power |
| **Climate Zone** | 11 | **Precipitation Freq (Days)** | 33 | | |

### 1.3 User Entered Comments

Project Characteristics - 2013 used as operational year to be later than construction year (2012).

Land Use - Land use type only used as a proxy - type will not be used in calculations.

Construction Phase - Phase type is used as proxy because project-specific equipment will be used. Start/end dates estimated based on when Initial Study was completed. Phases overlapped to the maximum extent feasible.

Off-road Equipment - Default equipment set to zero; remaining equipment based on project description.

Off-road Equipment - Default equipment entered as zero to prevent overwriting issues; other equipment based on project description.

Off-road Equipment - Default eqiupment set to zero; remaining equipment based on project description

Off-road Equipment - Default equipment set to zero; other equipment based on project description

Off-road Equipment - Default equipment set to zero; remaining equipment based on project description.

Off-road Equipment - Defaults entered as zero to prevent overwriting issues; remaining equipment based on project description

Off-road Equipment - Default equipment set to zero; remaining equipment based on project description

Trips and VMT - Vendor trips (MHDT) = pickup trucks and flatbed trucks. Trips estimated from project description (workers x 2 for number of trips).

Grading - No land would be disturbed; acreage set to zero.

Vehicle Trips - No daily operational emissions.

Energy Use -

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2012 | 4.56 | 20.42 | 16.42 | 0.03 | 0.75 | 1.23 | 1.98 | 0.03 | 1.23 | 1.26 | 0.00 | 2,790.65 | 0.00 | 0.41 | 0.00 | 2,799.35 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2012 | 4.56 | 20.42 | 16.42 | 0.03 | 0.03 | 1.23 | 1.26 | 0.03 | 1.23 | 1.26 | 0.00 | 2,790.65 | 0.00 | 0.41 | 0.00 | 2,799.35 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

## 3.1 Mitigation Measures Construction

## 3.2 Digital Displays - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 1.02 | 3.05 | 2.88 | 0.00 | | 0.27 | 0.27 | | 0.27 | 0.27 | | 313.23 | | 0.09 | | 315.16 |
| **Total** | **1.02** | **3.05** | **2.88** | **0.00** | **0.00** | **0.27** | **0.27** | **0.00** | **0.27** | **0.27** | | **313.23** | | **0.09** | | **315.16** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.44 | 0.26 | 0.00 | 0.04 | 0.01 | 0.05 | 0.00 | 0.01 | 0.01 | | 89.14 | | 0.00 | | 89.17 |
| Worker | 0.06 | 0.06 | 0.68 | 0.00 | 0.12 | 0.00 | 0.13 | 0.00 | 0.00 | 0.01 | | 104.80 | | 0.01 | | 104.94 |
| **Total** | **0.09** | **0.50** | **0.94** | **0.00** | **0.16** | **0.01** | **0.18** | **0.00** | **0.01** | **0.02** | | **193.94** | | **0.01** | | **194.11** |

## 3.2 Digital Displays - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 1.02 | 3.05 | 2.88 | 0.00 | | 0.27 | 0.27 | | 0.27 | 0.27 | 0.00 | 313.23 | | 0.09 | | 315.16 |
| **Total** | **1.02** | **3.05** | **2.88** | **0.00** | **0.00** | **0.27** | **0.27** | **0.00** | **0.27** | **0.27** | **0.00** | **313.23** | | **0.09** | | **315.16** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.44 | 0.26 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | | 89.14 | | 0.00 | | 89.17 |
| Worker | 0.06 | 0.06 | 0.68 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | | 104.80 | | 0.01 | | 104.94 |
| **Total** | **0.09** | **0.50** | **0.94** | **0.00** | **0.00** | **0.01** | **0.02** | **0.00** | **0.01** | **0.02** | | **193.94** | | **0.01** | | **194.11** |

## 3.3 Supergraphics - Frame installation - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 1.13 | 3.77 | 3.48 | 0.01 | | 0.29 | 0.29 | | 0.29 | 0.29 | | 411.77 | | 0.10 | | 413.91 |
| **Total** | **1.13** | **3.77** | **3.48** | **0.01** | **0.00** | **0.29** | **0.29** | **0.00** | **0.29** | **0.29** | | **411.77** | | **0.10** | | **413.91** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.22 | 0.13 | 0.00 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.07 | 0.07 | 0.85 | 0.00 | 0.15 | 0.01 | 0.16 | 0.01 | 0.01 | 0.01 | | 131.00 | | 0.01 | | 131.17 |
| **Total** | **0.08** | **0.29** | **0.98** | **0.00** | **0.17** | **0.02** | **0.18** | **0.01** | **0.02** | **0.02** | | **175.57** | | **0.01** | | **175.76** |

## 3.3 Supergraphics - Frame installation - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 1.13 | 3.77 | 3.48 | 0.01 | | 0.29 | 0.29 | | 0.29 | 0.29 | 0.00 | 411.77 | | 0.10 | | 413.91 |
| **Total** | **1.13** | **3.77** | **3.48** | **0.01** | **0.00** | **0.29** | **0.29** | **0.00** | **0.29** | **0.29** | **0.00** | **411.77** | | **0.10** | | **413.91** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.22 | 0.13 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.07 | 0.07 | 0.85 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | | 131.00 | | 0.01 | | 131.17 |
| **Total** | **0.08** | **0.29** | **0.98** | **0.00** | **0.01** | **0.02** | **0.02** | **0.01** | **0.02** | **0.02** | | **175.57** | | **0.01** | | **175.76** |

## 3.4 Column Wrap - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.38 | 1.14 | 1.08 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | | 117.46 | | 0.03 | | 118.18 |
| **Total** | **0.38** | **1.14** | **1.08** | **0.00** | **0.00** | **0.10** | **0.10** | **0.00** | **0.10** | **0.10** | | **117.46** | | **0.03** | | **118.18** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.22 | 0.13 | 0.00 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.03 | 0.03 | 0.34 | 0.00 | 0.06 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 | | 52.40 | | 0.00 | | 52.47 |
| **Total** | **0.04** | **0.25** | **0.47** | **0.00** | **0.08** | **0.01** | **0.08** | **0.00** | **0.01** | **0.01** | | **96.97** | | **0.00** | | **97.06** |

## 3.4 Column Wrap - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.38 | 1.14 | 1.08 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | 0.00 | 117.46 | | 0.03 | | 118.18 |
| **Total** | **0.38** | **1.14** | **1.08** | **0.00** | **0.00** | **0.10** | **0.10** | **0.00** | **0.10** | **0.10** | **0.00** | **117.46** | | **0.03** | | **118.18** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.22 | 0.13 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.03 | 0.03 | 0.34 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 52.40 | | 0.00 | | 52.47 |
| **Total** | **0.04** | **0.25** | **0.47** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | | **96.97** | | **0.00** | | **97.06** |

## 3.5 Passenger Boarding Bridge - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.38 | 1.14 | 1.08 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | | 117.46 | | 0.03 | | 118.18 |
| **Total** | **0.38** | **1.14** | **1.08** | **0.00** | **0.00** | **0.10** | **0.10** | **0.00** | **0.10** | **0.10** | | **117.46** | | **0.03** | | **118.18** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.22 | 0.13 | 0.00 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.03 | 0.03 | 0.34 | 0.00 | 0.06 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 | | 52.40 | | 0.00 | | 52.47 |
| **Total** | **0.04** | **0.25** | **0.47** | **0.00** | **0.08** | **0.01** | **0.08** | **0.00** | **0.01** | **0.01** | | **96.97** | | **0.00** | | **97.06** |

## 3.5 Passenger Boarding Bridge - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.38 | 1.14 | 1.08 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | 0.00 | 117.46 | | 0.03 | | 118.18 |
| **Total** | **0.38** | **1.14** | **1.08** | **0.00** | **0.00** | **0.10** | **0.10** | **0.00** | **0.10** | **0.10** | **0.00** | **117.46** | | **0.03** | | **118.18** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.22 | 0.13 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.03 | 0.03 | 0.34 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 52.40 | | 0.00 | | 52.47 |
| **Total** | **0.04** | **0.25** | **0.47** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | | **96.97** | | **0.00** | | **97.06** |

## 3.6 Hanging Signs - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.38 | 1.14 | 1.08 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | | 117.46 | | 0.03 | | 118.18 |
| **Total** | **0.38** | **1.14** | **1.08** | **0.00** | **0.00** | **0.10** | **0.10** | **0.00** | **0.10** | **0.10** | | **117.46** | | **0.03** | | **118.18** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.03 | 0.03 | 0.34 | 0.00 | 0.06 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 | | 52.40 | | 0.00 | | 52.47 |
| **Total** | **0.03** | **0.03** | **0.34** | **0.00** | **0.06** | **0.00** | **0.06** | **0.00** | **0.00** | **0.00** | | **52.40** | | **0.00** | | **52.47** |

## 3.6 Hanging Signs - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.38 | 1.14 | 1.08 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | 0.00 | 117.46 | | 0.03 | | 118.18 |
| **Total** | **0.38** | **1.14** | **1.08** | **0.00** | **0.00** | **0.10** | **0.10** | **0.00** | **0.10** | **0.10** | **0.00** | **117.46** | | **0.03** | | **118.18** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.03 | 0.03 | 0.34 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 52.40 | | 0.00 | | 52.47 |
| **Total** | **0.03** | **0.03** | **0.34** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | | **52.40** | | **0.00** | | **52.47** |

## 3.7 Existing Billboard removal - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.88 | 8.55 | 2.48 | 0.01 | | 0.31 | 0.31 | | 0.31 | 0.31 | | 895.64 | | 0.08 | | 897.30 |
| **Total** | **0.88** | **8.55** | **2.48** | **0.01** | **0.00** | **0.31** | **0.31** | **0.00** | **0.31** | **0.31** | | **895.64** | | **0.08** | | **897.30** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.22 | 0.13 | 0.00 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.09 | 0.09 | 1.02 | 0.00 | 0.18 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 157.20 | | 0.01 | | 157.41 |
| **Total** | **0.10** | **0.31** | **1.15** | **0.00** | **0.20** | **0.02** | **0.21** | **0.01** | **0.02** | **0.02** | | **201.77** | | **0.01** | | **202.00** |

## 3.7 Existing Billboard removal - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.88 | 8.55 | 2.48 | 0.01 | | 0.31 | 0.31 | | 0.31 | 0.31 | 0.00 | 895.64 | | 0.08 | | 897.30 |
| **Total** | **0.88** | **8.55** | **2.48** | **0.01** | **0.00** | **0.31** | **0.31** | **0.00** | **0.31** | **0.31** | **0.00** | **895.64** | | **0.08** | | **897.30** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.22 | 0.13 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.09 | 0.09 | 1.02 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | | 157.20 | | 0.01 | | 157.41 |
| **Total** | **0.10** | **0.31** | **1.15** | **0.00** | **0.01** | **0.02** | **0.02** | **0.01** | **0.02** | **0.02** | | **201.77** | | **0.01** | | **202.00** |

## 3.8 Supergraphics - Sign installation - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 1.76 | 17.11 | 4.95 | 0.02 | | 0.62 | 0.62 | | 0.62 | 0.62 | | 1,791.28 | | 0.16 | | 1,794.59 |
| **Total** | **1.76** | **17.11** | **4.95** | **0.02** | **0.00** | **0.62** | **0.62** | **0.00** | **0.62** | **0.62** | | **1,791.28** | | **0.16** | | **1,794.59** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.22 | 0.13 | 0.00 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.04 | 0.04 | 0.51 | 0.00 | 0.09 | 0.00 | 0.10 | 0.00 | 0.00 | 0.01 | | 78.60 | | 0.00 | | 78.70 |
| **Total** | **0.05** | **0.26** | **0.64** | **0.00** | **0.11** | **0.01** | **0.12** | **0.00** | **0.01** | **0.02** | | **123.17** | | **0.00** | | **123.29** |

## 3.8 Supergraphics - Sign installation - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 1.76 | 17.11 | 4.95 | 0.02 | | 0.62 | 0.62 | | 0.62 | 0.62 | 0.00 | 1,791.28 | | 0.16 | | 1,794.59 |
| **Total** | **1.76** | **17.11** | **4.95** | **0.02** | **0.00** | **0.62** | **0.62** | **0.00** | **0.62** | **0.62** | **0.00** | **1,791.28** | | **0.16** | | **1,794.59** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.22 | 0.13 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.04 | 0.04 | 0.51 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | | 78.60 | | 0.00 | | 78.70 |
| **Total** | **0.05** | **0.26** | **0.64** | **0.00** | **0.00** | **0.01** | **0.02** | **0.00** | **0.01** | **0.02** | | **123.17** | | **0.00** | | **123.29** |

# 4.0 Mobile Detail

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Industrial Park | 0.00 | 0.00 | 0.00 | | |
| Total | 0.00 | 0.00 | 0.00 | | |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW |
| Industrial Park | 8.90 | 13.30 | 7.40 | 59.00 | 28.00 | 13.00 |

# 5.0 Energy Detail

## 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| NaturalGas Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| Industrial Park | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| Industrial Park | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 6.2 Area by SubCategory

### Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

### Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Vegetation

# LAX Sign District

**Los Angeles-South Coast County, Winter**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| Industrial Park | 0 | 1000sqft |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Los Angeles Department of Water & Power |
| **Climate Zone** | 11 | **Precipitation Freq (Days)** | 33 | | |

### 1.3 User Entered Comments

Project Characteristics - 2013 used as operational year to be later than construction year (2012).

Land Use - Land use type only used as a proxy - type will not be used in calculations.

Construction Phase - Phase type is used as proxy because project-specific equipment will be used. Start/end dates estimated based on when Initial Study was completed. Phases overlapped to the maximum extent feasible.

Off-road Equipment - Default equipment set to zero; remaining equipment based on project description.

Off-road Equipment - Default equipment entered as zero to prevent overwriting issues; other equipment based on project description.

Off-road Equipment - Default eqiupment set to zero; remaining equipment based on project description

Off-road Equipment - Default equipment set to zero; other equipment based on project description

Off-road Equipment - Default equipment set to zero; remaining equipment based on project description.

Off-road Equipment - Defaults entered as zero to prevent overwriting issues; remaining equipment based on project description

Off-road Equipment - Default equipment set to zero; remaining equipment based on project description

Trips and VMT - Vendor trips (MHDT) = pickup trucks and flatbed trucks. Trips estimated from project description (workers x 2 for number of trips).

Grading - No land would be disturbed; acreage set to zero.

Vehicle Trips - No daily operational emissions.

Energy Use -

## 2.0 Emissions Summary

## 2.1 Overall Construction (Maximum Daily Emission)

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2012 | 4.59 | 20.57 | 16.28 | 0.03 | 0.75 | 1.23 | 1.98 | 0.03 | 1.23 | 1.26 | 0.00 | 2,750.22 | 0.00 | 0.41 | 0.00 | 2,758.89 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | lb/day | | | | | | | | | | lb/day | | | | | |
| 2012 | 4.59 | 20.57 | 16.28 | 0.03 | 0.03 | 1.23 | 1.26 | 0.03 | 1.23 | 1.26 | 0.00 | 2,750.22 | 0.00 | 0.41 | 0.00 | 2,758.89 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Area | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

## 3.0 Construction Detail

## 3.1 Mitigation Measures Construction

## 3.2 Digital Displays - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 1.02 | 3.05 | 2.88 | 0.00 | | 0.27 | 0.27 | | 0.27 | 0.27 | | 313.23 | | 0.09 | | 315.16 |
| **Total** | **1.02** | **3.05** | **2.88** | **0.00** | **0.00** | **0.27** | **0.27** | **0.00** | **0.27** | **0.27** | | **313.23** | | **0.09** | | **315.16** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.47 | 0.27 | 0.00 | 0.04 | 0.01 | 0.05 | 0.00 | 0.01 | 0.01 | | 89.14 | | 0.00 | | 89.17 |
| Worker | 0.06 | 0.07 | 0.65 | 0.00 | 0.12 | 0.00 | 0.13 | 0.00 | 0.00 | 0.01 | | 97.10 | | 0.01 | | 97.23 |
| **Total** | **0.09** | **0.54** | **0.92** | **0.00** | **0.16** | **0.01** | **0.18** | **0.00** | **0.01** | **0.02** | | **186.24** | | **0.01** | | **186.40** |

## 3.2 Digital Displays - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 1.02 | 3.05 | 2.88 | 0.00 | | 0.27 | 0.27 | | 0.27 | 0.27 | 0.00 | 313.23 | | 0.09 | | 315.16 |
| **Total** | **1.02** | **3.05** | **2.88** | **0.00** | **0.00** | **0.27** | **0.27** | **0.00** | **0.27** | **0.27** | **0.00** | **313.23** | | **0.09** | | **315.16** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.03 | 0.47 | 0.27 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | | 89.14 | | 0.00 | | 89.17 |
| Worker | 0.06 | 0.07 | 0.65 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | | 97.10 | | 0.01 | | 97.23 |
| **Total** | **0.09** | **0.54** | **0.92** | **0.00** | **0.00** | **0.01** | **0.02** | **0.00** | **0.01** | **0.02** | | **186.24** | | **0.01** | | **186.40** |

## 3.3 Supergraphics - Frame installation - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 1.13 | 3.77 | 3.48 | 0.01 | | 0.29 | 0.29 | | 0.29 | 0.29 | | 411.77 | | 0.10 | | 413.91 |
| **Total** | **1.13** | **3.77** | **3.48** | **0.01** | **0.00** | **0.29** | **0.29** | **0.00** | **0.29** | **0.29** | | **411.77** | | **0.10** | | **413.91** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.24 | 0.14 | 0.00 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.08 | 0.08 | 0.81 | 0.00 | 0.15 | 0.01 | 0.16 | 0.01 | 0.01 | 0.01 | | 121.37 | | 0.01 | | 121.54 |
| **Total** | **0.09** | **0.32** | **0.95** | **0.00** | **0.17** | **0.02** | **0.18** | **0.01** | **0.02** | **0.02** | | **165.94** | | **0.01** | | **166.13** |

## 3.3 Supergraphics - Frame installation - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 1.13 | 3.77 | 3.48 | 0.01 | | 0.29 | 0.29 | | 0.29 | 0.29 | 0.00 | 411.77 | | 0.10 | | 413.91 |
| **Total** | **1.13** | **3.77** | **3.48** | **0.01** | **0.00** | **0.29** | **0.29** | **0.00** | **0.29** | **0.29** | **0.00** | **411.77** | | **0.10** | | **413.91** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.24 | 0.14 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.08 | 0.08 | 0.81 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | | 121.37 | | 0.01 | | 121.54 |
| **Total** | **0.09** | **0.32** | **0.95** | **0.00** | **0.01** | **0.02** | **0.02** | **0.01** | **0.02** | **0.02** | | **165.94** | | **0.01** | | **166.13** |

## 3.4 Column Wrap - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.38 | 1.14 | 1.08 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | | 117.46 | | 0.03 | | 118.18 |
| **Total** | **0.38** | **1.14** | **1.08** | **0.00** | **0.00** | **0.10** | **0.10** | **0.00** | **0.10** | **0.10** | | **117.46** | | **0.03** | | **118.18** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.24 | 0.14 | 0.00 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.03 | 0.03 | 0.32 | 0.00 | 0.06 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 | | 48.55 | | 0.00 | | 48.62 |
| **Total** | **0.04** | **0.27** | **0.46** | **0.00** | **0.08** | **0.01** | **0.08** | **0.00** | **0.01** | **0.01** | | **93.12** | | **0.00** | | **93.21** |

## 3.4 Column Wrap - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.38 | 1.14 | 1.08 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | 0.00 | 117.46 | | 0.03 | | 118.18 |
| **Total** | **0.38** | **1.14** | **1.08** | **0.00** | **0.00** | **0.10** | **0.10** | **0.00** | **0.10** | **0.10** | **0.00** | **117.46** | | **0.03** | | **118.18** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.24 | 0.14 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.03 | 0.03 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 48.55 | | 0.00 | | 48.62 |
| **Total** | **0.04** | **0.27** | **0.46** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | | **93.12** | | **0.00** | | **93.21** |

## 3.5 Passenger Boarding Bridge - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.38 | 1.14 | 1.08 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | | 117.46 | | 0.03 | | 118.18 |
| **Total** | **0.38** | **1.14** | **1.08** | **0.00** | **0.00** | **0.10** | **0.10** | **0.00** | **0.10** | **0.10** | | **117.46** | | **0.03** | | **118.18** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.24 | 0.14 | 0.00 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.03 | 0.03 | 0.32 | 0.00 | 0.06 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 | | 48.55 | | 0.00 | | 48.62 |
| **Total** | **0.04** | **0.27** | **0.46** | **0.00** | **0.08** | **0.01** | **0.08** | **0.00** | **0.01** | **0.01** | | **93.12** | | **0.00** | | **93.21** |

## 3.5 Passenger Boarding Bridge - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.38 | 1.14 | 1.08 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | 0.00 | 117.46 | | 0.03 | | 118.18 |
| **Total** | **0.38** | **1.14** | **1.08** | **0.00** | **0.00** | **0.10** | **0.10** | **0.00** | **0.10** | **0.10** | **0.00** | **117.46** | | **0.03** | | **118.18** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.24 | 0.14 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.03 | 0.03 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 48.55 | | 0.00 | | 48.62 |
| **Total** | **0.04** | **0.27** | **0.46** | **0.00** | **0.00** | **0.01** | **0.01** | **0.00** | **0.01** | **0.01** | | **93.12** | | **0.00** | | **93.21** |

## 3.6 Hanging Signs - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.38 | 1.14 | 1.08 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | | 117.46 | | 0.03 | | 118.18 |
| **Total** | **0.38** | **1.14** | **1.08** | **0.00** | **0.00** | **0.10** | **0.10** | **0.00** | **0.10** | **0.10** | | **117.46** | | **0.03** | | **118.18** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.03 | 0.03 | 0.32 | 0.00 | 0.06 | 0.00 | 0.06 | 0.00 | 0.00 | 0.00 | | 48.55 | | 0.00 | | 48.62 |
| **Total** | **0.03** | **0.03** | **0.32** | **0.00** | **0.06** | **0.00** | **0.06** | **0.00** | **0.00** | **0.00** | | **48.55** | | **0.00** | | **48.62** |

## 3.6 Hanging Signs - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.38 | 1.14 | 1.08 | 0.00 | | 0.10 | 0.10 | | 0.10 | 0.10 | 0.00 | 117.46 | | 0.03 | | 118.18 |
| **Total** | **0.38** | **1.14** | **1.08** | **0.00** | **0.00** | **0.10** | **0.10** | **0.00** | **0.10** | **0.10** | **0.00** | **117.46** | | **0.03** | | **118.18** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Worker | 0.03 | 0.03 | 0.32 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 48.55 | | 0.00 | | 48.62 |
| **Total** | **0.03** | **0.03** | **0.32** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | | **48.55** | | **0.00** | | **48.62** |

## 3.7 Existing Billboard removal - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.88 | 8.55 | 2.48 | 0.01 | | 0.31 | 0.31 | | 0.31 | 0.31 | | 895.64 | | 0.08 | | 897.30 |
| **Total** | **0.88** | **8.55** | **2.48** | **0.01** | **0.00** | **0.31** | **0.31** | **0.00** | **0.31** | **0.31** | | **895.64** | | **0.08** | | **897.30** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.24 | 0.14 | 0.00 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.10 | 0.10 | 0.97 | 0.00 | 0.18 | 0.01 | 0.19 | 0.01 | 0.01 | 0.01 | | 145.65 | | 0.01 | | 145.85 |
| **Total** | **0.11** | **0.34** | **1.11** | **0.00** | **0.20** | **0.02** | **0.21** | **0.01** | **0.02** | **0.02** | | **190.22** | | **0.01** | | **190.44** |

## 3.7 Existing Billboard removal - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 0.88 | 8.55 | 2.48 | 0.01 | | 0.31 | 0.31 | | 0.31 | 0.31 | 0.00 | 895.64 | | 0.08 | | 897.30 |
| **Total** | **0.88** | **8.55** | **2.48** | **0.01** | **0.00** | **0.31** | **0.31** | **0.00** | **0.31** | **0.31** | **0.00** | **895.64** | | **0.08** | | **897.30** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.24 | 0.14 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.10 | 0.10 | 0.97 | 0.00 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | 0.01 | | 145.65 | | 0.01 | | 145.85 |
| **Total** | **0.11** | **0.34** | **1.11** | **0.00** | **0.01** | **0.02** | **0.02** | **0.01** | **0.02** | **0.02** | | **190.22** | | **0.01** | | **190.44** |

## 3.8 Supergraphics - Sign installation - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 1.76 | 17.11 | 4.95 | 0.02 | | 0.62 | 0.62 | | 0.62 | 0.62 | | 1,791.28 | | 0.16 | | 1,794.59 |
| **Total** | **1.76** | **17.11** | **4.95** | **0.02** | **0.00** | **0.62** | **0.62** | **0.00** | **0.62** | **0.62** | | **1,791.28** | | **0.16** | | **1,794.59** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.24 | 0.14 | 0.00 | 0.02 | 0.01 | 0.02 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.05 | 0.05 | 0.48 | 0.00 | 0.09 | 0.00 | 0.10 | 0.00 | 0.00 | 0.01 | | 72.82 | | 0.00 | | 72.92 |
| **Total** | **0.06** | **0.29** | **0.62** | **0.00** | **0.11** | **0.01** | **0.12** | **0.00** | **0.01** | **0.02** | | **117.39** | | **0.00** | | **117.51** |

## 3.8 Supergraphics - Sign installation - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | | | | | 0.00 |
| Off-Road | 1.76 | 17.11 | 4.95 | 0.02 | | 0.62 | 0.62 | | 0.62 | 0.62 | 0.00 | 1,791.28 | | 0.16 | | 1,794.59 |
| **Total** | **1.76** | **17.11** | **4.95** | **0.02** | **0.00** | **0.62** | **0.62** | **0.00** | **0.62** | **0.62** | **0.00** | **1,791.28** | | **0.16** | | **1,794.59** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Vendor | 0.01 | 0.24 | 0.14 | 0.00 | 0.00 | 0.01 | 0.01 | 0.00 | 0.01 | 0.01 | | 44.57 | | 0.00 | | 44.59 |
| Worker | 0.05 | 0.05 | 0.48 | 0.00 | 0.00 | 0.00 | 0.01 | 0.00 | 0.00 | 0.01 | | 72.82 | | 0.00 | | 72.92 |
| **Total** | **0.06** | **0.29** | **0.62** | **0.00** | **0.00** | **0.01** | **0.02** | **0.00** | **0.01** | **0.02** | | **117.39** | | **0.00** | | **117.51** |

# 4.0 Mobile Detail

## 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Industrial Park | 0.00 | 0.00 | 0.00 | | |
| Total | 0.00 | 0.00 | 0.00 | | |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW |
| Industrial Park | 8.90 | 13.30 | 7.40 | 59.00 | 28.00 | 13.00 |

# 5.0 Energy Detail

## 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| NaturalGas Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| NaturalGas Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| Industrial Park | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

## 5.2 Energy by Land Use - NaturalGas

**Mitigated**

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | lb/day | | | | | | | | | | lb/day | | | | | |
| Industrial Park | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | **0.00** | **0.00** |

# 6.0 Area Detail

## 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | lb/day | | | | | | | | | | lb/day | | | | | |
| Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 6.2 Area by SubCategory

### Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

### Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | lb/day | | | | | | | | | | lb/day | | | | | |
| Architectural Coating | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | | | | | | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | | 0.00 | | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | | **0.00** | | **0.00** |

## 7.0 Water Detail

### 7.1 Mitigation Measures Water

## 8.0 Waste Detail

### 8.1 Mitigation Measures Waste

## 9.0 Vegetation

**LAX Signs District**

| Phase | Equipment | Quantity | Notes | OFFROAD | Workers | Trucks |
|---|---|---|---|---|---|---|
| Digital Displays | Cherry Pickers | 2 | | Aerial Lifts | 8 | 4 |
| | Pickup trucks | 2 | | | | |
| Supergraphics | Lifts | 2 | Frame Installation | Aerial Lifts | 10 | 2 |
| | Portable lighting | 1 | Frame Installation | Signal Boards | | |
| | Portable arrowboard | 1 | Frame Installation | Signal Boards | | |
| | Flatbed truck | 1 | Sign delivery | | | |
| | Cranes | 2 | Sign installation | Cranes | 6 | 2 |
| | Pickup trucks | 1 | Sign installation | | | |
| Column Wrap | Lifts | 1 | | Aerial Lifts | 4 | 2 |
| | Pickup trucks | 1 | | | | |
| Passenger Boarding | Lifts | 1 | | Aerial Lifts | 4 | 2 |
| | Pickup trucks | 1 | | | | |
| Hanging Signs | Lifts | 1 | | Aerial Lifts | 4 | |
| Existing Billboard Re | Cranes | 1 | | Cranes | 12 | 2 |
| | Flatbed truck | 1 | | | | |

Notes:

Digital Displays

2 days
8 hrs/day
4 workers

Supergraphics (Frame Installation)

1 week
40 hours
5 workers

Supergraphics (Sign Installation)

3 workers

Column Wrap

2 workers
6 hours

Passenger Boarding Bridge

2 workers
6 hours

Hanging Signs

2 workers
6 hours

Existing Billboard Removal

2 days
8 hrs/day
6 workers

# Highest (Most Conservative) EMFAC2007 (version 2.3)
# Emission Factors for On-Road Heavy-Heavy-Duty Diesel Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

## Vehicle Class:
## Heavy-Heavy-Duty Diesel Trucks (33,001 to 60,000 pounds)

The following emission factors were compiled by running the California Air Resources Board's EMFAC2007 (version 2.3) Burden Model and extracting the **Heavy-Heavy-Duty Diesel Truck (HHDT)** Emission Factors.

These emission factors can be used to calculate on-road mobile source emissions for the vehicle/emission categories listed in the tables below, by use of the following equation:

**Emissions (pounds per day) = N x TL x EF**

where N = number of trips, TL = trip length (miles/day), and EF = emission factor (pounds per mile)

The **HHDT-DSL** vehicle/emission category accounts for all emissions from heavy-heavy-duty diesel trucks, including start, running and idling exhaust. In addition, ROG emission factors account for diurnal, hot soak, running and resting emissions, and the PM10 & PM2.5 emission factors account for tire and brake wear.

The **HHDT-DSL, Exh** vehicle/emission category includes only the exhaust portion of PM10 & PM2.5 emissions from heavy-heavy-duty diesel trucks.

Scenario Year: **2007**

All model years in the range 1965 to 2007

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | **0.01446237** |
| NOx | **0.04718166** |
| ROG | **0.00372949** |
| SOx | **0.00003962** |
| PM10 | **0.00230900** |
| PM2.5 | **0.00204018** |
| CO2 | **4.22184493** |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | **0.00216752** |
| PM2.5 | **0.00199491** |

Scenario Year: **2008**

All model years in the range 1965 to 2008

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | **0.01361368** |
| NOx | **0.04458017** |
| ROG | **0.00351579** |
| SOx | **0.00004136** |
| PM10 | **0.00215635** |
| PM2.5 | **0.00189990** |
| CO2 | **4.21067145** |
| CH4 | **0.00016269** |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | **0.00201296** |
| PM2.5 | **0.00185303** |

Scenario Year: **2009**

All model years in the range 1965 to 2009

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | **0.01282236** |
| NOx | **0.04184591** |
| ROG | **0.00329320** |
| SOx | **0.00004013** |
| PM10 | **0.00199572** |
| PM2.5 | **0.00175227** |
| CO2 | **4.21080792** |
| CH4 | **0.00015249** |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | **0.00185393** |
| PM2.5 | **0.00170680** |

Scenario Year: **2010**

All model years in the range 1966 to 2010

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | **0.01195456** |
| NOx | **0.03822102** |
| ROG | **0.00304157** |
| SOx | **0.00004131** |
| PM10 | **0.00183062** |
| PM2.5 | **0.00160083** |
| CO2 | **4.21120578** |
| CH4 | **0.00014201** |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | **0.00168861** |
| PM2.5 | **0.00155435** |


# Highest (Most Conservative) EMFAC2007 (version 2.3)
# Emission Factors for On-Road Heavy-Heavy-Duty Diesel Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

## Vehicle Class:
## Heavy-Heavy-Duty Diesel Trucks (33,001 to 60,000 pounds)

Scenario Year: **2011**

All model years in the range 1967 to 2011

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | **0.01112463** |
| NOx | **0.03455809** |
| ROG | **0.00279543** |
| SOx | **0.00003972** |
| PM10 | **0.00166087** |
| PM2.5 | **0.00144489** |
| CO2 | **4.22045680** |
| CH4 | **0.00012910** |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | **0.00151936** |
| PM2.5 | **0.00139772** |

Scenario Year: **2012**

All model years in the range 1968 to 2012

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | **0.01021519** |
| NOx | **0.03092379** |
| ROG | **0.00252764** |
| SOx | **0.00004042** |
| PM10 | **0.00149566** |
| PM2.5 | **0.00129354** |
| CO2 | **4.21590774** |
| CH4 | **0.00011651** |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | **0.00135537** |
| PM2.5 | **0.00124837** |

Scenario Year: **2013**

All model years in the range 1969 to 2013

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | **0.00931790** |
| NOx | **0.02742935** |
| ROG | **0.00226308** |
| SOx | **0.00004086** |
| PM10 | **0.00133697** |
| PM2.5 | **0.00114629** |
| CO2 | **4.21518556** |
| CH4 | **0.00010441** |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | **0.00119623** |
| PM2.5 | **0.00109863** |

Scenario Year: **2014**

All model years in the range 1970 to 2014

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | **0.00846435** |
| NOx | **0.02418049** |
| ROG | **0.00201594** |
| SOx | **0.00004092** |
| PM10 | **0.00118458** |
| PM2.5 | **0.00100582** |
| CO2 | **4.21279345** |
| CH4 | **0.00009261** |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | **0.00104243** |
| PM2.5 | **0.00096059** |

Scenario Year: **2015**

All model years in the range 1971 to 2015

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | **0.00766891** |
| NOx | **0.02122678** |
| ROG | **0.00178608** |
| SOx | **0.00004082** |
| PM10 | **0.00104715** |
| PM2.5 | **0.00087977** |
| CO2 | **4.20902225** |
| CH4 | **0.00008369** |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | **0.00090631** |
| PM2.5 | **0.00083282** |

Scenario Year: **2016**

All model years in the range 1972 to 2016

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | **0.00704604** |
| NOx | **0.01887374** |
| ROG | **0.00161035** |
| SOx | **0.00003952** |
| PM10 | **0.00094448** |
| PM2.5 | **0.00078443** |
| CO2 | **4.21063031** |
| CH4 | **0.00007508** |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | **0.00080419** |
| PM2.5 | **0.00073898** |

# Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy-Duty Diesel Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

## Vehicle Class:
## Heavy-Heavy-Duty Diesel Trucks (33,001 to 60,000 pounds)

Scenario Year: **2017**

All model years in the range 1973 to 2017

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | 0.00650533 |
| NOx | 0.01690387 |
| ROG | 0.00145203 |
| SOx | 0.00004033 |
| PM10 | 0.00084894 |
| PM2.5 | 0.00069721 |
| CO2 | 4.20820129 |
| CH4 | 0.00006722 |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | 0.00070873 |
| PM2.5 | 0.00065111 |

Scenario Year: **2018**

All model years in the range 1974 to 2018

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | 0.00604721 |
| NOx | 0.01526414 |
| ROG | 0.00131697 |
| SOx | 0.00003934 |
| PM10 | 0.00076808 |
| PM2.5 | 0.00062383 |
| CO2 | 4.20756838 |
| CH4 | 0.00006182 |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | 0.00062758 |
| PM2.5 | 0.00057700 |

Scenario Year: **2019**

All model years in the range 1975 to 2019

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | 0.00565433 |
| NOx | 0.01389113 |
| ROG | 0.00120235 |
| SOx | 0.00004032 |
| PM10 | 0.00070198 |
| PM2.5 | 0.00056085 |
| CO2 | 4.20637830 |
| CH4 | 0.00005499 |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | 0.00056085 |
| PM2.5 | 0.00051320 |

Scenario Year: **2020**

All model years in the range 1976 to 2020

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | 0.00532242 |
| NOx | 0.01274755 |
| ROG | 0.00110621 |
| SOx | 0.00003957 |
| PM10 | 0.00064574 |
| PM2.5 | 0.00050904 |
| CO2 | 4.20541416 |
| CH4 | 0.00005216 |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | 0.00050364 |
| PM2.5 | 0.00046227 |

Scenario Year: **2021**

All model years in the range 1977 to 2021

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | 0.00503726 |
| NOx | 0.01179977 |
| ROG | 0.00103095 |
| SOx | 0.00004033 |
| PM10 | 0.00059437 |
| PM2.5 | 0.00046287 |
| CO2 | 4.21495573 |
| CH4 | 0.00004734 |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | 0.00045411 |
| PM2.5 | 0.00041729 |

Scenario Year: **2022**

All model years in the range 1978 to 2022

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | 0.00478830 |
| NOx | 0.01098794 |
| ROG | 0.00096142 |
| SOx | 0.00004106 |
| PM10 | 0.00055427 |
| PM2.5 | 0.00042597 |
| CO2 | 4.21520828 |
| CH4 | 0.00004448 |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | 0.00041399 |
| PM2.5 | 0.00037807 |

# Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy-Duty Diesel Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, Summer)

## Vehicle Class:
## Heavy-Heavy-Duty Diesel Trucks (33,001 to 60,000 pounds)

Scenario Year: **2023**

All model years in the range 1979 to 2023

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | **0.00457902** |
| NOx | **0.01031407** |
| ROG | **0.00090210** |
| SOx | **0.00004009** |
| PM10 | **0.00052122** |
| PM2.5 | **0.00039592** |
| CO2 | **4.21483461** |
| CH4 | **0.00004176** |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | **0.00037922** |
| PM2.5 | **0.00034915** |

Scenario Year: **2024**

All model years in the range 1980 to 2024

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | **0.00444444** |
| NOx | **0.00974372** |
| ROG | **0.00084009** |
| SOx | **0.00003930** |
| PM10 | **0.00050766** |
| PM2.5 | **0.00038320** |
| CO2 | **4.19552935** |
| CH4 | **0.00003930** |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | **0.00036682** |
| PM2.5 | **0.00033735** |

Scenario Year: **2025**

All model years in the range 1981 to 2025

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | **0.00431086** |
| NOx | **0.00932573** |
| ROG | **0.00080206** |
| SOx | **0.00004018** |
| PM10 | **0.00048541** |
| PM2.5 | **0.00036326** |
| CO2 | **4.19512979** |
| CH4 | **0.00003697** |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | **0.00034397** |
| PM2.5 | **0.00031664** |

Scenario Year: **2026**

All model years in the range 1982 to 2026

| HHDT-DSL (pounds/mile) | |
|---|---|
| CO | **0.00420297** |
| NOx | **0.00898990** |
| ROG | **0.00077178** |
| SOx | **0.00003946** |
| PM10 | **0.00046717** |
| PM2.5 | **0.00034564** |
| CO2 | **4.19349747** |
| CH4 | **0.00003630** |

| HHDT-DSL, Exh (pounds/mile) | |
|---|---|
| PM10 | **0.00032670** |
| PM2.5 | **0.00029830** |

Source:

http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

# Highest (Most Conservative) EMFAC2007 (version 2.3)
# Emission Factors for On-Road Passenger Vehicles & Delivery Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

**Vehicle Class:**

**Passenger Vehicles (<8500 pounds) & Delivery Trucks (>8500 pounds)**

The following emission factors were compiled by running the California Air Resources Board's EMFAC2007 (version 2.3) Burden Model, taking the weighted average of vehicle types and simplifying into two categories: **Passenger Vehicles & Delivery Trucks.**

These emission factors can be used to calculate on-road mobile source emissions for the vehicle categories listed in the tables below, by use of the following equation:

**Emissions (pounds per day) = N x TL x EF**

where N = number of trips, TL = trip length (miles/day), and EF = emission factor (pounds per mile)

This methodology replaces the old EMFAC emission factors in Tables A-9-5-J-1 through A-9-5-L in Appendix A9 of the current SCAQMD CEQA Handbook. All the emission factors account for the emissions from start, running and idling exhaust. In addition, the ROG emission factors include diurnal, hot soak, running and resting emissions, and the PM10 & PM2.5 emission factors include tire and brake wear.

Scenario Year: **2007**

All model years in the range 1965 to 2007

| Passenger Vehicles (pounds/mile) | |
|---|---|
| CO | **0.01155158** |
| NOx | **0.00121328** |
| ROG | **0.00118234** |
| SOx | **0.00001078** |
| PM10 | **0.00008447** |
| PM2.5 | **0.00005243** |
| CO2 | **1.10672236** |
| CH4 | **0.00010306** |

| Delivery Trucks (pounds/mile) | |
|---|---|
| CO | **0.02407553** |
| NOx | **0.02508445** |
| ROG | **0.00323145** |
| SOx | **0.00002626** |
| PM10 | **0.00091020** |
| PM2.5 | **0.00078884** |
| CO2 | **2.72245619** |
| CH4 | **0.00016030** |

Scenario Year: **2008**

All model years in the range 1965 to 2008

| Passenger Vehicles (pounds/mile) | |
|---|---|
| CO | **0.01054844** |
| NOx | **0.00110288** |
| ROG | **0.00107919** |
| SOx | **0.00001075** |
| PM10 | **0.00008505** |
| PM2.5 | **0.00005293** |
| CO2 | **1.09953226** |
| CH4 | **0.00009465** |

| Delivery Trucks (pounds/mile) | |
|---|---|
| CO | **0.02194915** |
| NOx | **0.02371258** |
| ROG | **0.00299270** |
| SOx | **0.00002565** |
| PM10 | **0.00085607** |
| PM2.5 | **0.00073933** |
| CO2 | **2.71943400** |
| CH4 | **0.00014769** |

Scenario Year: **2009**

All model years in the range 1965 to 2009

| Passenger Vehicles (pounds/mile) | |
|---|---|
| CO | **0.00968562** |
| NOx | **0.00100518** |
| ROG | **0.00099245** |
| SOx | **0.00001066** |
| PM10 | **0.00008601** |
| PM2.5 | **0.00005384** |
| CO2 | **1.09755398** |
| CH4 | **0.00008767** |

| Delivery Trucks (pounds/mile) | |
|---|---|
| CO | **0.02016075** |
| NOx | **0.02236636** |
| ROG | **0.00278899** |
| SOx | **0.00002679** |
| PM10 | **0.00080550** |
| PM2.5 | **0.00069228** |
| CO2 | **2.72330496** |
| CH4 | **0.00013655** |

Scenario Year: **2010**

All model years in the range 1966 to 2010

| Passenger Vehicles (pounds/mile) | |
|---|---|
| CO | **0.00826276** |
| NOx | **0.00091814** |
| ROG | **0.00091399** |
| SOx | **0.00001077** |
| PM10 | **0.00008698** |
| PM2.5 | **0.00005478** |
| CO2 | **1.09568235** |
| CH4 | **0.00008146** |

| Delivery Trucks (pounds/mile) | |
|---|---|
| CO | **0.01843765** |
| NOx | **0.02062460** |
| ROG | **0.00258958** |
| SOx | **0.00002701** |
| PM10 | **0.00075121** |
| PM2.5 | **0.00064233** |
| CO2 | **2.73222199** |
| CH4 | **0.00012576** |


# Highest (Most Conservative) EMFAC2007 (version 2.3)
# Emission Factors for On-Road Passenger Vehicles & Delivery Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)
Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

## Vehicle Class:
## Passenger Vehicles (<8500 pounds) & Delivery Trucks (>8500 pounds)

Scenario Year: **2011**
All model years in the range 1967 to 2011

| Passenger Vehicles (pounds/mile) | | Delivery Trucks (pounds/mile) | |
|---|---|---|---|
| CO | 0.00826276 | CO | 0.01693242 |
| NOx | 0.00084460 | NOx | 0.01893366 |
| ROG | 0.00085233 | ROG | 0.00241868 |
| SOx | 0.00001077 | SOx | 0.00002728 |
| PM10 | 0.00008879 | PM10 | 0.00070097 |
| PM2.5 | 0.00005653 | PM2.5 | 0.00059682 |
| CO2 | 1.10235154 | CO2 | 2.75180822 |
| CH4 | 0.00007678 | CH4 | 0.00011655 |

Scenario Year: **2012**
All model years in the range 1968 to 2012

| Passenger Vehicles (pounds/mile) | | Delivery Trucks (pounds/mile) | |
|---|---|---|---|
| CO | 0.00765475 | CO | 0.01545741 |
| NOx | 0.00077583 | NOx | 0.01732423 |
| ROG | 0.00079628 | ROG | 0.00223776 |
| SOx | 0.00001073 | SOx | 0.00002667 |
| PM10 | 0.00008979 | PM10 | 0.00064975 |
| PM2.5 | 0.00005750 | PM2.5 | 0.00054954 |
| CO2 | 1.10152540 | CO2 | 2.76628414 |
| CH4 | 0.00007169 | CH4 | 0.00010668 |

Scenario Year: **2013**
All model years in the range 1969 to 2013

| Passenger Vehicles (pounds/mile) | | Delivery Trucks (pounds/mile) | |
|---|---|---|---|
| CO | 0.00709228 | CO | 0.01407778 |
| NOx | 0.00071158 | NOx | 0.01577311 |
| ROG | 0.00074567 | ROG | 0.00206295 |
| SOx | 0.00001072 | SOx | 0.00002682 |
| PM10 | 0.00009067 | PM10 | 0.00059956 |
| PM2.5 | 0.00005834 | PM2.5 | 0.00050174 |
| CO2 | 1.10087435 | CO2 | 2.78163459 |
| CH4 | 0.00006707 | CH4 | 0.00009703 |

Scenario Year: **2014**
All model years in the range 1970 to 2014

| Passenger Vehicles (pounds/mile) | | Delivery Trucks (pounds/mile) | |
|---|---|---|---|
| CO | 0.00660353 | CO | 0.01284321 |
| NOx | 0.00065484 | NOx | 0.01425162 |
| ROG | 0.00070227 | ROG | 0.00189649 |
| SOx | 0.00001069 | SOx | 0.00002754 |
| PM10 | 0.00009185 | PM10 | 0.00054929 |
| PM2.5 | 0.00005939 | PM2.5 | 0.00045519 |
| CO2 | 1.10257205 | CO2 | 2.79845465 |
| CH4 | 0.00006312 | CH4 | 0.00008798 |

Scenario Year: **2015**
All model years in the range 1971 to 2015

| Passenger Vehicles (pounds/mile) | | Delivery Trucks (pounds/mile) | |
|---|---|---|---|
| CO | 0.00614108 | CO | 0.01169445 |
| NOx | 0.00060188 | NOx | 0.01285026 |
| ROG | 0.00066355 | ROG | 0.00173890 |
| SOx | 0.00001070 | SOx | 0.00002741 |
| PM10 | 0.00009259 | PM10 | 0.00050307 |
| PM2.5 | 0.00006015 | PM2.5 | 0.00041268 |
| CO2 | 1.10192837 | CO2 | 2.81247685 |
| CH4 | 0.00005923 | CH4 | 0.00008076 |

Scenario Year: **2016**
All model years in the range 1972 to 2016

| Passenger Vehicles (pounds/mile) | | Delivery Trucks (pounds/mile) | |
|---|---|---|---|
| CO | 0.00575800 | CO | 0.01080542 |
| NOx | 0.00055658 | NOx | 0.01172881 |
| ROG | 0.00063254 | ROG | 0.00161521 |
| SOx | 0.00001071 | SOx | 0.00002767 |
| PM10 | 0.00009392 | PM10 | 0.00046606 |
| PM2.5 | 0.00006131 | PM2.5 | 0.00037868 |
| CO2 | 1.10677664 | CO2 | 2.83134285 |
| CH4 | 0.00005623 | CH4 | 0.00007355 |

# Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Passenger Vehicles & Delivery Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)
Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

## Vehicle Class:
## Passenger Vehicles (<8500 pounds) & Delivery Trucks (>8500 pounds)

Scenario Year: **2017**

All model years in the range 1973 to 2017

| Passenger Vehicles (pounds/mile) | |
|---|---|
| CO | 0.00537891 |
| NOx | 0.00051297 |
| ROG | 0.00060109 |
| SOx | 0.00001079 |
| PM10 | 0.00009446 |
| PM2.5 | 0.00006192 |
| CO2 | 1.10627489 |
| CH4 | 0.00005300 |

| Delivery Trucks (pounds/mile) | |
|---|---|
| CO | 0.00998101 |
| NOx | 0.01070034 |
| ROG | 0.00150242 |
| SOx | 0.00002723 |
| PM10 | 0.00043131 |
| PM2.5 | 0.00034605 |
| CO2 | 2.84005015 |
| CH4 | 0.00006663 |

Scenario Year: **2018**

All model years in the range 1974 to 2018

| Passenger Vehicles (pounds/mile) | |
|---|---|
| CO | 0.00502881 |
| NOx | 0.00047300 |
| ROG | 0.00057178 |
| SOx | 0.00001071 |
| PM10 | 0.00009494 |
| PM2.5 | 0.00006234 |
| CO2 | 1.10562643 |
| CH4 | 0.00005003 |

| Delivery Trucks (pounds/mile) | |
|---|---|
| CO | 0.00923234 |
| NOx | 0.00979416 |
| ROG | 0.00139856 |
| SOx | 0.00002749 |
| PM10 | 0.00040110 |
| PM2.5 | 0.00031792 |
| CO2 | 2.84646835 |
| CH4 | 0.00006203 |

Scenario Year: **2019**

All model years in the range 1975 to 2019

| Passenger Vehicles (pounds/mile) | |
|---|---|
| CO | 0.00471820 |
| NOx | 0.00043716 |
| ROG | 0.00054654 |
| SOx | 0.00001072 |
| PM10 | 0.00009523 |
| PM2.5 | 0.00006259 |
| CO2 | 1.10496100 |
| CH4 | 0.00004743 |

| Delivery Trucks (pounds/mile) | |
|---|---|
| CO | 0.00857192 |
| NOx | 0.00900205 |
| ROG | 0.00130563 |
| SOx | 0.00002706 |
| PM10 | 0.00037393 |
| PM2.5 | 0.00029276 |
| CO2 | 2.85060182 |
| CH4 | 0.00005619 |

Scenario Year: **2020**

All model years in the range 1976 to 2020

| Passenger Vehicles (pounds/mile) | |
|---|---|
| CO | 0.00444247 |
| NOx | 0.00040506 |
| ROG | 0.00052463 |
| SOx | 0.00001073 |
| PM10 | 0.00009550 |
| PM2.5 | 0.00006279 |
| CO2 | 1.10456157 |
| CH4 | 0.00004495 |

| Delivery Trucks (pounds/mile) | |
|---|---|
| CO | 0.00799617 |
| NOx | 0.00831802 |
| ROG | 0.00122382 |
| SOx | 0.00002733 |
| PM10 | 0.00035054 |
| PM2.5 | 0.00027128 |
| CO2 | 2.85148109 |
| CH4 | 0.00005330 |

Scenario Year: **2021**

All model years in the range 1977 to 2021

| Passenger Vehicles (pounds/mile) | |
|---|---|
| CO | 0.00421218 |
| NOx | 0.00037757 |
| ROG | 0.00050573 |
| SOx | 0.00001073 |
| PM10 | 0.00009640 |
| PM2.5 | 0.00006364 |
| CO2 | 1.11009559 |
| CH4 | 0.00004322 |

| Delivery Trucks (pounds/mile) | |
|---|---|
| CO | 0.00748303 |
| NOx | 0.00773500 |
| ROG | 0.00115568 |
| SOx | 0.00002755 |
| PM10 | 0.00033125 |
| PM2.5 | 0.00025331 |
| CO2 | 2.86434187 |
| CH4 | 0.00004905 |

Scenario Year: **2022**

All model years in the range 1978 to 2022

| Passenger Vehicles (pounds/mile) | |
|---|---|
| CO | 0.00397866 |
| NOx | 0.00035150 |
| ROG | 0.00048658 |
| SOx | 0.00001072 |
| PM10 | 0.00009661 |
| PM2.5 | 0.00006389 |
| CO2 | 1.11019931 |
| CH4 | 0.00004121 |

| Delivery Trucks (pounds/mile) | |
|---|---|
| CO | 0.00699290 |
| NOx | 0.00722470 |
| ROG | 0.00108569 |
| SOx | 0.00002774 |
| PM10 | 0.00031501 |
| PM2.5 | 0.00023906 |
| CO2 | 2.87006769 |
| CH4 | 0.00004557 |

# Highest (Most Conservative) EMFAC2007 (version 2.3)
# Emission Factors for On-Road Passenger Vehicles & Delivery Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

## Vehicle Class:

## Passenger Vehicles (<8500 pounds) & Delivery Trucks (>8500 pounds)

Scenario Year: **2023**

All model years in the range 1979 to 2023

| Passenger Vehicles (pounds/mile) | |
|---|---|
| CO | 0.00377527 |
| NOx | 0.00032851 |
| ROG | 0.00046900 |
| SOx | 0.00001070 |
| PM10 | 0.00009676 |
| PM2.5 | 0.00006405 |
| CO2 | 1.11023373 |
| CH4 | 0.00003951 |

| Delivery Trucks (pounds/mile) | |
|---|---|
| CO | 0.00658123 |
| NOx | 0.00679147 |
| ROG | 0.00102852 |
| SOx | 0.00002790 |
| PM10 | 0.00030109 |
| PM2.5 | 0.00022582 |
| CO2 | 2.87466338 |
| CH4 | 0.00004218 |

Scenario Year: **2024**

All model years in the range 1980 to 2024

| Passenger Vehicles (pounds/mile) | |
|---|---|
| CO | 0.00358611 |
| NOx | 0.00030721 |
| ROG | 0.00045136 |
| SOx | 0.00001080 |
| PM10 | 0.00009676 |
| PM2.5 | 0.00006410 |
| CO2 | 1.11061572 |
| CH4 | 0.00003781 |

| Delivery Trucks (pounds/mile) | |
|---|---|
| CO | 0.00625076 |
| NOx | 0.00647083 |
| ROG | 0.00096578 |
| SOx | 0.00002807 |
| PM10 | 0.00029407 |
| PM2.5 | 0.00021880 |
| CO2 | 2.88010717 |
| CH4 | 0.00004019 |

Scenario Year: **2025**

All model years in the range 1981 to 2025

| Passenger Vehicles (pounds/mile) | |
|---|---|
| CO | 0.00342738 |
| NOx | 0.00028846 |
| ROG | 0.00043545 |
| SOx | 0.00001070 |
| PM10 | 0.00009679 |
| PM2.5 | 0.00006418 |
| CO2 | 1.11078571 |
| CH4 | 0.00003641 |

| Delivery Trucks (pounds/mile) | |
|---|---|
| CO | 0.00595363 |
| NOx | 0.00615945 |
| ROG | 0.00092178 |
| SOx | 0.00002761 |
| PM10 | 0.00028425 |
| PM2.5 | 0.00020958 |
| CO2 | 2.88143570 |
| CH4 | 0.00003765 |

Scenario Year: **2026**

All model years in the range 1982 to 2026

| Passenger Vehicles (pounds/mile) | |
|---|---|
| CO | 0.00328779 |
| NOx | 0.00027141 |
| ROG | 0.00042052 |
| SOx | 0.00001076 |
| PM10 | 0.00009687 |
| PM2.5 | 0.00006415 |
| CO2 | 1.11105829 |
| CH4 | 0.00003518 |

| Delivery Trucks (pounds/mile) | |
|---|---|
| CO | 0.00569435 |
| NOx | 0.00589869 |
| ROG | 0.00088403 |
| SOx | 0.00002716 |
| PM10 | 0.00027657 |
| PM2.5 | 0.00020187 |
| CO2 | 2.88298299 |
| CH4 | 0.00003581 |

Source:

http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

# APPENDIX B: GREENHOUSE GAS EMISSIONS WORKSHEETS AND CALCULATIONS

## Construction Emissions Summary

| Season | Emissions (metric tons/year) | | | |
|---|---|---|---|---|
| | CO2 | CH4 | N2O | CO2e |
| Billboard Operation | 1,328 | 0.03 | 0.01 | 1,331 |
| Maintenance | 5 | 0.0002 | 0 | 5 |
| Total Operation | 1,333 | 0.03 | 0.01 | 1,336 |
| Construction | 4 | 0 | 0 | 4 |
| Amortized Construction | 0.1 | 0 | 0 | 0.1 |
| Total | 1,333 | 0.03 | 0.01 | 1,336 |
| Threshold | n/a | n/a | n/a | 10000 |
| Significant? | n/a | n/a | n/a | No |

Source:

SCAQMD. 2011. SCAQMD Air Quality Significance Thresholds. Accessed on: 02 08 2012. Available at: http://www.aqmd.gov/ceqa/handbook/signthres.pdf.

| | | | |
|---|---|---|---|
| GWP | 1 | 21 | 310 |

Project Lifetime 30 years

## Annual kWh Consumption for a Digital Billboard:

Assumption for Billboard on at Full Power:

Billboard Size = 38,649 square feet

-Average Operating Wattage of a Digital Billboard: 7.04 W/sq. ft.

-Sign will be on at 100% operating power 24 hours a day.

272,089 watts

2,383,499 kWh/year

Source: Calculations prepared by K. Travis

**GHG Emissions**

| | Emission | | | Emissions | |
|---|---|---|---|---|---|
| **Pollutant** | **Factor** | **Unit** | **Ref.** | **MT/year** | **MTCO2e/year** |
| CO2 | 1,227.89 | lbs/MWh | 1 | 1,327.54 | 1,327.54 |
| CH4 | 30.24 | lbs/GWh | 2 | 0.03 | 0.69 |
| N2O | 8.08 | lbs/GWh | 2 | 0.01 | 2.71 |
| | | | | Total | 1,330.93 |

| GWP | |
|---|---|
| CO2 | 1 |
| CH4 | 21 |
| N2O | 310 |

**References**


1 California Climate Action Registry, Los Angeles Department of Water and Power, 2007 Annual Entity Emissions: Electric Power Generation/Electric Utility Sector.

2 U.S. Environmental Protection Agency, eGRID2010 Version 1.1, http://www.epa.gov/cleanenergy/energy-resources/egrid/index.html, October 27, 2011.
eGRID Subregion: CAMX -- WECC California

Maintenance Equipment

| | |
|---|---|
| Boom lift | 1 |
| Pickup/Utility Truck | 1 |
| Crew | 3 |

Round-trip Distance 26.6 miles (based on CalEEMod default)

| Source | Emissions (metric tons/year) | | | |
|---|---|---|---|---|
| | CO2 | CH4 | N2O | CO2e |
| Boom lift | 2.03 | 0.00 | n/a | 2.04 |
| Pickup/Utility Truck | 1.34 | 0.00 | n/a | 1.34 |
| Crew | 1.59 | 0.00 | n/a | 1.60 |
| Total | 4.96 | 0.00 | 0.00 | 4.97 |

GWP 1 21 310

Days per year

| | | |
|---|---|---|
| Digital Displays | 0 | (changed remotely) |
| Supergraphics | 4 | (once every 3 months) |
| Column Wrap | 12 | (once per month) |
| Passenger Boarding Bri | 12 | (once per month) |
| Hanging Signs | 12 | (as needed; assumed once per month) |
| Total | 40 | |

# LAX Sign District

**Los Angeles-South Coast County, Annual**

## 1.0 Project Characteristics

### 1.1 Land Usage

| Land Uses | Size | Metric |
|---|---|---|
| Industrial Park | 0 | 1000sqft |

### 1.2 Other Project Characteristics

| | | | | | |
|---|---|---|---|---|---|
| **Urbanization** | Urban | **Wind Speed (m/s)** | 2.2 | **Utility Company** | Los Angeles Department of Water & Power |
| **Climate Zone** | 11 | **Precipitation Freq (Days)** | 33 | | |

### 1.3 User Entered Comments

Project Characteristics - 2013 used as operational year to be later than construction year (2012).

Land Use - Land use type only used as a proxy - type will not be used in calculations.

Construction Phase - Phase type is used as proxy because project-specific equipment will be used. Start/end dates estimated based on when Initial Study was completed. Phases overlapped to the maximum extent feasible.

Off-road Equipment - Default equipment set to zero; remaining equipment based on project description.

Off-road Equipment - Default equipment entered as zero to prevent overwriting issues; other equipment based on project description.

Off-road Equipment - Default eqiupment set to zero; remaining equipment based on project description

Off-road Equipment - Default equipment set to zero; other equipment based on project description

Off-road Equipment - Default equipment set to zero; remaining equipment based on project description.

Off-road Equipment - Defaults entered as zero to prevent overwriting issues; remaining equipment based on project description

Off-road Equipment - Default equipment set to zero; remaining equipment based on project description

Trips and VMT - Vendor trips (MHDT) = pickup trucks and flatbed trucks. Trips estimated from project description (workers x 2 for number of trips).

Grading - No land would be disturbed; acreage set to zero.

Vehicle Trips - No daily operational emissions.

Energy Use -

## 2.0 Emissions Summary

## 2.1 Overall Construction

### Unmitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2012 | 0.01 | 0.04 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.27 | 4.27 | 0.00 | 0.00 | 4.28 |
| **Total** | **0.01** | **0.04** | **0.02** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **4.27** | **4.27** | **0.00** | **0.00** | **4.28** |

### Mitigated Construction

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Year | tons/yr | | | | | | | | | | MT/yr | | | | | |
| 2012 | 0.01 | 0.04 | 0.02 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 4.27 | 4.27 | 0.00 | 0.00 | 4.28 |
| **Total** | **0.01** | **0.04** | **0.02** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **4.27** | **4.27** | **0.00** | **0.00** | **4.28** |

## 2.2 Overall Operational

### Unmitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waste | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 2.2 Overall Operational

### Mitigated Operational

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Area | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Energy | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Mobile | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Waste | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Water | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

# 3.0 Construction Detail

## 3.1 Mitigation Measures Construction

## 3.2 Digital Displays - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.28 | 0.28 | 0.00 | 0.00 | 0.29 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.28** | **0.28** | **0.00** | **0.00** | **0.29** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.08 | 0.00 | 0.00 | 0.08 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.09 | 0.00 | 0.00 | 0.09 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.17** | **0.17** | **0.00** | **0.00** | **0.17** |

## 3.2 Digital Displays - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.28 | 0.28 | 0.00 | 0.00 | 0.29 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.28** | **0.28** | **0.00** | **0.00** | **0.29** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.08 | 0.08 | 0.00 | 0.00 | 0.08 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.09 | 0.09 | 0.00 | 0.00 | 0.09 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.17** | **0.17** | **0.00** | **0.00** | **0.17** |

## 3.3 Supergraphics - Frame installation - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.01 | 0.01 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.93 | 0.93 | 0.00 | 0.00 | 0.94 |
| **Total** | **0.00** | **0.01** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.93** | **0.93** | **0.00** | **0.00** | **0.94** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.10 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.28 | 0.00 | 0.00 | 0.28 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.38** | **0.38** | **0.00** | **0.00** | **0.38** |

## 3.3 Supergraphics - Frame installation - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.01 | 0.01 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.93 | 0.93 | 0.00 | 0.00 | 0.94 |
| **Total** | **0.00** | **0.01** | **0.01** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.93** | **0.93** | **0.00** | **0.00** | **0.94** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.10 | 0.10 | 0.00 | 0.00 | 0.10 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.28 | 0.28 | 0.00 | 0.00 | 0.28 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.38** | **0.38** | **0.00** | **0.00** | **0.38** |

## 3.4 Column Wrap - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.00 | 0.05 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.05** | **0.05** | **0.00** | **0.00** | **0.05** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.02 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.02 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.04** | **0.04** | **0.00** | **0.00** | **0.04** |

## 3.4 Column Wrap - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.00 | 0.05 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.05** | **0.05** | **0.00** | **0.00** | **0.05** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.02 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.02 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.04** | **0.04** | **0.00** | **0.00** | **0.04** |

## 3.5 Passenger Boarding Bridge - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.00 | 0.05 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.05** | **0.05** | **0.00** | **0.00** | **0.05** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.02 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.02 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.04** | **0.04** | **0.00** | **0.00** | **0.04** |

## 3.5 Passenger Boarding Bridge - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.00 | 0.05 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.05** | **0.05** | **0.00** | **0.00** | **0.05** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio- CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.02 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.02 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.04** | **0.04** | **0.00** | **0.00** | **0.04** |

## 3.6 Hanging Signs - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.00 | 0.05 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.05** | **0.05** | **0.00** | **0.00** | **0.05** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.02 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.02** | **0.02** | **0.00** | **0.00** | **0.02** |

## 3.6 Hanging Signs - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.05 | 0.05 | 0.00 | 0.00 | 0.05 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.05** | **0.05** | **0.00** | **0.00** | **0.05** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.02 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.02** | **0.02** | **0.00** | **0.00** | **0.02** |

## 3.7 Existing Billboard removal - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.41 | 0.41 | 0.00 | 0.00 | 0.41 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.41** | **0.41** | **0.00** | **0.00** | **0.41** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.02 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.07 | 0.00 | 0.00 | 0.07 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.09** | **0.09** | **0.00** | **0.00** | **0.09** |

## 3.7 Existing Billboard removal - 2012

### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.41 | 0.41 | 0.00 | 0.00 | 0.41 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.41** | **0.41** | **0.00** | **0.00** | **0.41** |

### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.02 | 0.02 | 0.00 | 0.00 | 0.02 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.07 | 0.00 | 0.00 | 0.07 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.09** | **0.09** | **0.00** | **0.00** | **0.09** |

## 3.8 Supergraphics - Sign installation - 2012

### Unmitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.02 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 1.62 | 1.62 | 0.00 | 0.00 | 1.63 |
| **Total** | **0.00** | **0.02** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1.62** | **1.62** | **0.00** | **0.00** | **1.63** |

### Unmitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.00 | 0.04 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.07 | 0.00 | 0.00 | 0.07 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.11** | **0.11** | **0.00** | **0.00** | **0.11** |

### 3.8 Supergraphics - Sign installation - 2012

#### Mitigated Construction On-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Fugitive Dust | | | | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Off-Road | 0.00 | 0.02 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 1.62 | 1.62 | 0.00 | 0.00 | 1.63 |
| **Total** | **0.00** | **0.02** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **1.62** | **1.62** | **0.00** | **0.00** | **1.63** |

#### Mitigated Construction Off-Site

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Hauling | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Vendor | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.04 | 0.04 | 0.00 | 0.00 | 0.04 |
| Worker | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.07 | 0.07 | 0.00 | 0.00 | 0.07 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.11** | **0.11** | **0.00** | **0.00** | **0.11** |

## 4.0 Mobile Detail

### 4.1 Mitigation Measures Mobile

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 4.2 Trip Summary Information

| | Average Daily Trip Rate | | | Unmitigated | Mitigated |
|---|---|---|---|---|---|
| Land Use | Weekday | Saturday | Sunday | Annual VMT | Annual VMT |
| Industrial Park | 0.00 | 0.00 | 0.00 | | |
| Total | 0.00 | 0.00 | 0.00 | | |

## 4.3 Trip Type Information

| | Miles | | | Trip % | | |
|---|---|---|---|---|---|---|
| Land Use | H-W or C-W | H-S or C-C | H-O or C-NW | H-W or C-W | H-S or C-C | H-O or C-NW |
| Industrial Park | 8.90 | 13.30 | 7.40 | 59.00 | 28.00 | 13.00 |

# 5.0 Energy Detail

## 5.1 Mitigation Measures Energy

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Electricity Mitigated | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Electricity Unmitigated | | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NaturalGas Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| NaturalGas Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 5.2 Energy by Land Use - NaturalGas

### Unmitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Industrial Park | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 5.2 Energy by Land Use - NaturalGas

### Mitigated

| | NaturalGas Use | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Land Use | kBTU | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Industrial Park | 0 | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 5.3 Energy by Land Use - Electricity

### Unmitigated

| | Electricity Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | kWh | tons/yr | | | | MT/yr | | | |
| Industrial Park | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

### 5.3 Energy by Land Use - Electricity

**Mitigated**

| | Electricity Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | kWh | tons/yr | | | | MT/yr | | | |
| Industrial Park | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

## 6.0 Area Detail

### 6.1 Mitigation Measures Area

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Mitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Unmitigated | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 6.2 Area by SubCategory

### Unmitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

### Mitigated

| | ROG | NOx | CO | SO2 | Fugitive PM10 | Exhaust PM10 | PM10 Total | Fugitive PM2.5 | Exhaust PM2.5 | PM2.5 Total | Bio- CO2 | NBio-CO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SubCategory | tons/yr | | | | | | | | | | MT/yr | | | | | |
| Architectural Coating | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Consumer Products | 0.00 | | | | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Landscaping | 0.00 | 0.00 | 0.00 | 0.00 | | 0.00 | 0.00 | | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **0.00** | **0.00** | **0.00** | **0.00** | | **0.00** | **0.00** | | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** | **0.00** |

## 7.0 Water Detail

## 7.1 Mitigation Measures Water

| | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|
| Category | tons/yr | | | | MT/yr | | | |
| Mitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Unmitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 7.2 Water by Land Use

### Unmitigated

| | Indoor/Outdoor Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | Mgal | tons/yr | | | | MT/yr | | | |
| Industrial Park | 0 / 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

## 7.2 Water by Land Use

### Mitigated

| | Indoor/Outdoor Use | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | Mgal | tons/yr | | | | MT/yr | | | |
| Industrial Park | 0 / 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

# 8.0 Waste Detail

## 8.1 Mitigation Measures Waste

### Category/Year

| | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|
| | tons/yr | | | | MT/yr | | | |
| Mitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| Unmitigated | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** | **NA** |

## 8.2 Waste by Land Use

### Unmitigated

| | Waste Disposed | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | tons | tons/yr | | | | MT/yr | | | |
| Industrial Park | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

### Mitigated

| | Waste Disposed | ROG | NOx | CO | SO2 | Total CO2 | CH4 | N2O | CO2e |
|---|---|---|---|---|---|---|---|---|---|
| Land Use | tons | tons/yr | | | | MT/yr | | | |
| Industrial Park | 0 | | | | | 0.00 | 0.00 | 0.00 | 0.00 |
| **Total** | | | | | | **0.00** | **0.00** | **0.00** | **0.00** |

## 9.0 Vegetation

# Highest (Most Conservative) EMFAC2007 (version 2.3)
# Emission Factors for On-Road Heavy-Heavy-Duty Diesel Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

## Vehicle Class:
## Heavy-Heavy-Duty Diesel Trucks (33,001 to 60,000 pounds)

The following emission factors were compiled by running the California Air Resources Board's EMFAC2007 (version 2.3) Burden Model and extracting the **Heavy-Heavy-Duty Diesel Truck (HHDT)** Emission Factors.

These emission factors can be used to calculate on-road mobile source emissions for the vehicle/emission categories listed in the tables below, by use of the following equation:

**Emissions (pounds per day) = N x TL x EF**

where N = number of trips, TL = trip length (miles/day), and EF = emission factor (pounds per mile)

The **HHDT-DSL** vehicle/emission category accounts for all emissions from heavy-heavy-duty diesel trucks, including start, running and idling exhaust. In addition, ROG emission factors account for diurnal, hot soak, running and resting emissions, and the PM10 & PM2.5 emission factors account for tire and brake wear.

The **HHDT-DSL, Exh** vehicle/emission category includes only the exhaust portion of PM10 & PM2.5 emissions from heavy-heavy-duty diesel trucks.

Scenario Year: **2007**

All model years in the range 1965 to 2007

| (pounds/mile) | |
|---|---|
| CO | **0.01446237** |
| NOx | **0.04718166** |
| ROG | **0.00372949** |
| SOx | **0.00003962** |
| PM10 | **0.00230900** |
| PM2.5 | **0.00204018** |
| CO2 | **4.22184493** |

| (pounds/mile) | |
|---|---|
| PM10 | **0.00216752** |
| PM2.5 | **0.00199491** |

Scenario Year: **2008**

All model years in the range 1965 to 2008

| (pounds/mile) | |
|---|---|
| CO | **0.01361368** |
| NOx | **0.04458017** |
| ROG | **0.00351579** |
| SOx | **0.00004136** |
| PM10 | **0.00215635** |
| PM2.5 | **0.00189990** |
| CO2 | **4.21067145** |
| CH4 | **0.00016269** |

| (pounds/mile) | |
|---|---|
| PM10 | **0.00201296** |
| PM2.5 | **0.00185303** |

Scenario Year: **2009**

All model years in the range 1965 to 2009

| (pounds/mile) | |
|---|---|
| CO | **0.01282236** |
| NOx | **0.04184591** |
| ROG | **0.00329320** |
| SOx | **0.00004013** |
| PM10 | **0.00199572** |
| PM2.5 | **0.00175227** |
| CO2 | **4.21080792** |
| CH4 | **0.00015249** |

| (pounds/mile) | |
|---|---|
| PM10 | **0.00185393** |
| PM2.5 | **0.00170680** |

Scenario Year: **2010**

All model years in the range 1966 to 2010

| (pounds/mile) | |
|---|---|
| CO | **0.01195456** |
| NOx | **0.03822102** |
| ROG | **0.00304157** |
| SOx | **0.00004131** |
| PM10 | **0.00183062** |
| PM2.5 | **0.00160083** |
| CO2 | **4.21120578** |
| CH4 | **0.00014201** |

| (pounds/mile) | |
|---|---|
| PM10 | **0.00168861** |
| PM2.5 | **0.00155435** |


# Highest (Most Conservative) EMFAC2007 (version 2.3)
# Emission Factors for On-Road Heavy-Heavy-Duty Diesel Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

## Vehicle Class:
## Heavy-Heavy-Duty Diesel Trucks (33,001 to 60,000 pounds)

Scenario Year: **2011**

All model years in the range 1967 to 2011

| (pounds/mile) | |
|---|---|
| CO | **0.01112463** |
| NOx | **0.03455809** |
| ROG | **0.00279543** |
| SOx | **0.00003972** |
| PM10 | **0.00166087** |
| PM2.5 | **0.00144489** |
| CO2 | **4.22045680** |
| CH4 | **0.00012910** |

| (pounds/mile) | |
|---|---|
| PM10 | **0.00151936** |
| PM2.5 | **0.00139772** |

Scenario Year: **2012**

All model years in the range 1968 to 2012

| (pounds/mile) | |
|---|---|
| CO | **0.01021519** |
| NOx | **0.03092379** |
| ROG | **0.00252764** |
| SOx | **0.00004042** |
| PM10 | **0.00149566** |
| PM2.5 | **0.00129354** |
| CO2 | **4.21590774** |
| CH4 | **0.00011651** |

| (pounds/mile) | |
|---|---|
| PM10 | **0.00135537** |
| PM2.5 | **0.00124837** |

Scenario Year: **2013**

All model years in the range 1969 to 2013

| (pounds/mile) | |
|---|---|
| CO | **0.00931790** |
| NOx | **0.02742935** |
| ROG | **0.00226308** |
| SOx | **0.00004086** |
| PM10 | **0.00133697** |
| PM2.5 | **0.00114629** |
| CO2 | **4.21518556** |
| CH4 | **0.00010441** |

| (pounds/mile) | |
|---|---|
| PM10 | **0.00119623** |
| PM2.5 | **0.00109863** |

Scenario Year: **2014**

All model years in the range 1970 to 2014

| (pounds/mile) | |
|---|---|
| CO | **0.00846435** |
| NOx | **0.02418049** |
| ROG | **0.00201594** |
| SOx | **0.00004092** |
| PM10 | **0.00118458** |
| PM2.5 | **0.00100582** |
| CO2 | **4.21279345** |
| CH4 | **0.00009261** |

| (pounds/mile) | |
|---|---|
| PM10 | **0.00104243** |
| PM2.5 | **0.00096059** |

Scenario Year: **2015**

All model years in the range 1971 to 2015

| (pounds/mile) | |
|---|---|
| CO | **0.00766891** |
| NOx | **0.02122678** |
| ROG | **0.00178608** |
| SOx | **0.00004082** |
| PM10 | **0.00104715** |
| PM2.5 | **0.00087977** |
| CO2 | **4.20902225** |
| CH4 | **0.00008369** |

| (pounds/mile) | |
|---|---|
| PM10 | **0.00090631** |
| PM2.5 | **0.00083282** |

Scenario Year: **2016**

All model years in the range 1972 to 2016

| (pounds/mile) | |
|---|---|
| CO | **0.00704604** |
| NOx | **0.01887374** |
| ROG | **0.00161035** |
| SOx | **0.00003952** |
| PM10 | **0.00094448** |
| PM2.5 | **0.00078443** |
| CO2 | **4.21063031** |
| CH4 | **0.00007508** |

| (pounds/mile) | |
|---|---|
| PM10 | **0.00080419** |
| PM2.5 | **0.00073898** |

# Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy-Duty Diesel Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

## Vehicle Class:
## Heavy-Heavy-Duty Diesel Trucks (33,001 to 60,000 pounds)

Scenario Year: **2017**

All model years in the range 1973 to 2017

Scenario Year: **2018**

All model years in the range 1974 to 2018

| (pounds/mile) | |
|---|---|
| CO | 0.00650533 |
| NOx | 0.01690387 |
| ROG | 0.00145203 |
| SOx | 0.00004033 |
| PM10 | 0.00084894 |
| PM2.5 | 0.00069721 |
| CO2 | 4.20820129 |
| CH4 | 0.00006722 |

| (pounds/mile) | |
|---|---|
| PM10 | 0.00070873 |
| PM2.5 | 0.00065111 |

| (pounds/mile) | |
|---|---|
| CO | 0.00604721 |
| NOx | 0.01526414 |
| ROG | 0.00131697 |
| SOx | 0.00003934 |
| PM10 | 0.00076808 |
| PM2.5 | 0.00062383 |
| CO2 | 4.20756838 |
| CH4 | 0.00006182 |

| (pounds/mile) | |
|---|---|
| PM10 | 0.00062758 |
| PM2.5 | 0.00057700 |

Scenario Year: **2019**

All model years in the range 1975 to 2019

| (pounds/mile) | |
|---|---|
| CO | 0.00565433 |
| NOx | 0.01389113 |
| ROG | 0.00120235 |
| SOx | 0.00004032 |
| PM10 | 0.00070198 |
| PM2.5 | 0.00056085 |
| CO2 | 4.20637830 |
| CH4 | 0.00005499 |

| (pounds/mile) | |
|---|---|
| PM10 | 0.00056085 |
| PM2.5 | 0.00051320 |

Scenario Year: **2020**

All model years in the range 1976 to 2020

| (pounds/mile) | |
|---|---|
| CO | 0.00532242 |
| NOx | 0.01274755 |
| ROG | 0.00110621 |
| SOx | 0.00003957 |
| PM10 | 0.00064574 |
| PM2.5 | 0.00050904 |
| CO2 | 4.20541416 |
| CH4 | 0.00005216 |

| (pounds/mile) | |
|---|---|
| PM10 | 0.00050364 |
| PM2.5 | 0.00046227 |

Scenario Year: **2021**

All model years in the range 1977 to 2021

| (pounds/mile) | |
|---|---|
| CO | 0.00503726 |
| NOx | 0.01179977 |
| ROG | 0.00103095 |
| SOx | 0.00004033 |
| PM10 | 0.00059437 |
| PM2.5 | 0.00046287 |
| CO2 | 4.21495573 |
| CH4 | 0.00004734 |

| (pounds/mile) | |
|---|---|
| PM10 | 0.00045411 |
| PM2.5 | 0.00041729 |

Scenario Year: **2022**

All model years in the range 1978 to 2022

| (pounds/mile) | |
|---|---|
| CO | 0.00478830 |
| NOx | 0.01098794 |
| ROG | 0.00096142 |
| SOx | 0.00004106 |
| PM10 | 0.00055427 |
| PM2.5 | 0.00042597 |
| CO2 | 4.21520828 |
| CH4 | 0.00004448 |

| (pounds/mile) | |
|---|---|
| PM10 | 0.00041399 |
| PM2.5 | 0.00037807 |

## Highest (Most Conservative) EMFAC2007 (version 2.3) Emission Factors for On-Road Heavy-Heavy-Duty Diesel Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, Summer)

### Vehicle Class:

### Heavy-Heavy-Duty Diesel Trucks (33,001 to 60,000 pounds)

Scenario Year: **2023**

All model years in the range 1979 to 2023

| (pounds/mile) | |
|---|---|
| CO | 0.00457902 |
| NOx | 0.01031407 |
| ROG | 0.00090210 |
| SOx | 0.00004009 |
| PM10 | 0.00052122 |

| (pounds/mile) | |
|---|---|
| PM10 | 0.00037922 |
| PM2.5 | 0.00034915 |

Scenario Year: **2024**

All model years in the range 1980 to 2024

| (pounds/mile) | |
|---|---|
| CO | 0.00444444 |
| NOx | 0.00974372 |
| ROG | 0.00084009 |
| SOx | 0.00003930 |
| PM10 | 0.00050766 |

| (pounds/mile) | |
|---|---|
| PM10 | 0.00036682 |
| PM2.5 | 0.00033735 |

| | |
|---|---|
| PM2.5 | **0.00039592** |
| CO2 | **4.21483461** |
| CH4 | **0.00004176** |

| | |
|---|---|
| PM2.5 | **0.00038320** |
| CO2 | **4.19552935** |
| CH4 | **0.00003930** |

Scenario Year: **2025**

All model years in the range 1981 to 2025

| (pounds/mile) | |
|---|---|
| CO | **0.00431086** |
| NOx | **0.00932573** |
| ROG | **0.00080206** |
| SOx | **0.00004018** |
| PM10 | **0.00048541** |
| PM2.5 | **0.00036326** |
| CO2 | **4.19512979** |
| CH4 | **0.00003697** |

| (pounds/mile) | |
|---|---|
| PM10 | **0.00034397** |
| PM2.5 | **0.00031664** |

Scenario Year: **2026**

All model years in the range 1982 to 2026

| (pounds/mile) | |
|---|---|
| CO | **0.00420297** |
| NOx | **0.00898990** |
| ROG | **0.00077178** |
| SOx | **0.00003946** |
| PM10 | **0.00046717** |
| PM2.5 | **0.00034564** |
| CO2 | **4.19349747** |
| CH4 | **0.00003630** |

| (pounds/mile) | |
|---|---|
| PM10 | **0.00032670** |
| PM2.5 | **0.00029830** |

Source:

http://www.aqmd.gov/ceqa/handbook/onroad/onroadEFHHDT07_26.xls

# Highest (Most Conservative) EMFAC2007 (version 2.3)
# Emission Factors for On-Road Passenger Vehicles & Delivery Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

**Vehicle Class:**

**Passenger Vehicles (<8500 pounds) & Delivery Trucks (>8500 pounds)**

The following emission factors were compiled by running the California Air Resources Board's EMFAC2007 (version 2.3) Burden Model, taking the weighted average of vehicle types and simplifying into two categories: **Passenger Vehicles & Delivery Trucks.**

These emission factors can be used to calculate on-road mobile source emissions for the vehicle categories listed in the tables below, by use of the following equation:

**Emissions (pounds per day) = N x TL x EF**

where N = number of trips, TL = trip length (miles/day), and EF = emission factor (pounds per mile)

This methodology replaces the old EMFAC emission factors in Tables A-9-5-J-1 through A-9-5-L in Appendix A9 of the current SCAQMD CEQA Handbook. All the emission factors account for the emissions from start, running and idling exhaust. In addition, the ROG emission factors include diurnal, hot soak, running and resting emissions, and the PM10 & PM2.5 emission factors include tire and brake wear.

Scenario Year: **2007**

All model years in the range 1965 to 2007

| Passenger Vehicles | |
|---|---|
| CO | **0.01155158** |
| NOx | **0.00121328** |
| ROG | **0.00118234** |
| SOx | **0.00001078** |
| PM10 | **0.00008447** |
| PM2.5 | **0.00005243** |
| CO2 | **1.10672236** |
| CH4 | **0.00010306** |

| Delivery Trucks | |
|---|---|
| CO | **0.02407553** |
| NOx | **0.02508445** |
| ROG | **0.00323145** |
| SOx | **0.00002626** |
| PM10 | **0.00091020** |
| PM2.5 | **0.00078884** |
| CO2 | **2.72245619** |
| CH4 | **0.00016030** |

Scenario Year: **2008**

All model years in the range 1965 to 2008

| Passenger Vehicles | |
|---|---|
| CO | **0.01054844** |
| NOx | **0.00110288** |
| ROG | **0.00107919** |
| SOx | **0.00001075** |
| PM10 | **0.00008505** |
| PM2.5 | **0.00005293** |
| CO2 | **1.09953226** |
| CH4 | **0.00009465** |

| Delivery Trucks | |
|---|---|
| CO | **0.02194915** |
| NOx | **0.02371258** |
| ROG | **0.00299270** |
| SOx | **0.00002565** |
| PM10 | **0.00085607** |
| PM2.5 | **0.00073933** |
| CO2 | **2.71943400** |
| CH4 | **0.00014769** |

Scenario Year: **2009**

All model years in the range 1965 to 2009

| Passenger Vehicles | |
|---|---|
| CO | **0.00968562** |
| NOx | **0.00100518** |
| ROG | **0.00099245** |
| SOx | **0.00001066** |
| PM10 | **0.00008601** |
| PM2.5 | **0.00005384** |
| CO2 | **1.09755398** |
| CH4 | **0.00008767** |

| Delivery Trucks | |
|---|---|
| CO | **0.02016075** |
| NOx | **0.02236636** |
| ROG | **0.00278899** |
| SOx | **0.00002679** |
| PM10 | **0.00080550** |
| PM2.5 | **0.00069228** |
| CO2 | **2.72330496** |
| CH4 | **0.00013655** |

Scenario Year: **2010**

All model years in the range 1966 to 2010

| Passenger Vehicles | |
|---|---|
| CO | **0.00826276** |
| NOx | **0.00091814** |
| ROG | **0.00091399** |
| SOx | **0.00001077** |
| PM10 | **0.00008698** |
| PM2.5 | **0.00005478** |
| CO2 | **1.09568235** |
| CH4 | **0.00008146** |

| Delivery Trucks | |
|---|---|
| CO | **0.01843765** |
| NOx | **0.02062460** |
| ROG | **0.00258958** |
| SOx | **0.00002701** |
| PM10 | **0.00075121** |
| PM2.5 | **0.00064233** |
| CO2 | **2.73222199** |
| CH4 | **0.00012576** |


# Highest (Most Conservative) EMFAC2007 (version 2.3)
# Emission Factors for On-Road Passenger Vehicles & Delivery Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, **Summer**)

## Vehicle Class:
## Passenger Vehicles (<8500 pounds) & Delivery Trucks (>8500 pounds)

Scenario Year: **2011**

All model years in the range 1967 to 2011

| Passenger Vehicles | |
|---|---|
| CO | 0.00826276 |
| NOx | 0.00084460 |
| ROG | 0.00085233 |
| SOx | 0.00001077 |
| PM10 | 0.00008879 |
| PM2.5 | 0.00005653 |
| CO2 | 1.10235154 |
| CH4 | 0.00007678 |

| Delivery Trucks | |
|---|---|
| CO | 0.01693242 |
| NOx | 0.01893366 |
| ROG | 0.00241868 |
| SOx | 0.00002728 |
| PM10 | 0.00070097 |
| PM2.5 | 0.00059682 |
| CO2 | 2.75180822 |
| CH4 | 0.00011655 |

Scenario Year: **2012**

All model years in the range 1968 to 2012

| Passenger Vehicles | |
|---|---|
| CO | 0.00765475 |
| NOx | 0.00077583 |
| ROG | 0.00079628 |
| SOx | 0.00001073 |
| PM10 | 0.00008979 |
| PM2.5 | 0.00005750 |
| CO2 | 1.10152540 |
| CH4 | 0.00007169 |

| Delivery Trucks | |
|---|---|
| CO | 0.01545741 |
| NOx | 0.01732423 |
| ROG | 0.00223776 |
| SOx | 0.00002667 |
| PM10 | 0.00064975 |
| PM2.5 | 0.00054954 |
| CO2 | 2.76628414 |
| CH4 | 0.00010668 |

Scenario Year: **2013**

All model years in the range 1969 to 2013

| Passenger Vehicles | |
|---|---|
| CO | 0.00709228 |
| NOx | 0.00071158 |
| ROG | 0.00074567 |
| SOx | 0.00001072 |
| PM10 | 0.00009067 |
| PM2.5 | 0.00005834 |
| CO2 | 1.10087435 |
| CH4 | 0.00006707 |

| Delivery Trucks | |
|---|---|
| CO | 0.01407778 |
| NOx | 0.01577311 |
| ROG | 0.00206295 |
| SOx | 0.00002682 |
| PM10 | 0.00059956 |
| PM2.5 | 0.00050174 |
| CO2 | 2.78163459 |
| CH4 | 0.00009703 |

Scenario Year: **2014**

All model years in the range 1970 to 2014

| Passenger Vehicles | |
|---|---|
| CO | 0.00660353 |
| NOx | 0.00065484 |
| ROG | 0.00070227 |
| SOx | 0.00001069 |
| PM10 | 0.00009185 |
| PM2.5 | 0.00005939 |
| CO2 | 1.10257205 |
| CH4 | 0.00006312 |

| Delivery Trucks | |
|---|---|
| CO | 0.01284321 |
| NOx | 0.01425162 |
| ROG | 0.00189649 |
| SOx | 0.00002754 |
| PM10 | 0.00054929 |
| PM2.5 | 0.00045519 |
| CO2 | 2.79845465 |
| CH4 | 0.00008798 |

Scenario Year: **2015**

All model years in the range 1971 to 2015

| Passenger Vehicles | |
|---|---|
| CO | 0.00614108 |
| NOx | 0.00060188 |
| ROG | 0.00066355 |
| SOx | 0.00001070 |
| PM10 | 0.00009259 |
| PM2.5 | 0.00006015 |
| CO2 | 1.10192837 |
| CH4 | 0.00005923 |

| Delivery Trucks | |
|---|---|
| CO | 0.01169445 |
| NOx | 0.01285026 |
| ROG | 0.00173890 |
| SOx | 0.00002741 |
| PM10 | 0.00050307 |
| PM2.5 | 0.00041268 |
| CO2 | 2.81247685 |
| CH4 | 0.00008076 |

Scenario Year: **2016**

All model years in the range 1972 to 2016

| Passenger Vehicles | |
|---|---|
| CO | 0.00575800 |
| NOx | 0.00055658 |
| ROG | 0.00063254 |
| SOx | 0.00001071 |
| PM10 | 0.00009392 |
| PM2.5 | 0.00006131 |
| CO2 | 1.10677664 |
| CH4 | 0.00005623 |

| Delivery Trucks | |
|---|---|
| CO | 0.01080542 |
| NOx | 0.01172881 |
| ROG | 0.00161521 |
| SOx | 0.00002767 |
| PM10 | 0.00046606 |
| PM2.5 | 0.00037868 |
| CO2 | 2.83134285 |
| CH4 | 0.00007355 |

# Highest (Most Conservative) EMFAC2007 (version 2.3)
# Emission Factors for On-Road Passenger Vehicles & Delivery Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, Summer)

## Vehicle Class:
## Passenger Vehicles (<8500 pounds) & Delivery Trucks (>8500 pounds)

Scenario Year: **2017**

Scenario Year: **2018**

All model years in the range 1973 to 2017

| Passenger Vehicles | |
|---|---|
| CO | 0.00537891 |
| NOx | 0.00051297 |
| ROG | 0.00060109 |
| SOx | 0.00001079 |
| PM10 | 0.00009446 |
| PM2.5 | 0.00006192 |
| CO2 | 1.10627489 |
| CH4 | 0.00005300 |

| Delivery Trucks | |
|---|---|
| CO | 0.00998101 |
| NOx | 0.01070034 |
| ROG | 0.00150242 |
| SOx | 0.00002723 |
| PM10 | 0.00043131 |
| PM2.5 | 0.00034605 |
| CO2 | 2.84005015 |
| CH4 | 0.00006663 |

All model years in the range 1974 to 2018

| Passenger Vehicles | |
|---|---|
| CO | 0.00502881 |
| NOx | 0.00047300 |
| ROG | 0.00057178 |
| SOx | 0.00001071 |
| PM10 | 0.00009494 |
| PM2.5 | 0.00006234 |
| CO2 | 1.10562643 |
| CH4 | 0.00005003 |

| Delivery Trucks | |
|---|---|
| CO | 0.00923234 |
| NOx | 0.00979416 |
| ROG | 0.00139856 |
| SOx | 0.00002749 |
| PM10 | 0.00040110 |
| PM2.5 | 0.00031792 |
| CO2 | 2.84646835 |
| CH4 | 0.00006203 |

Scenario Year: **2019**

All model years in the range 1975 to 2019

| Passenger Vehicles | |
|---|---|
| CO | 0.00471820 |
| NOx | 0.00043716 |
| ROG | 0.00054654 |
| SOx | 0.00001072 |
| PM10 | 0.00009523 |
| PM2.5 | 0.00006259 |
| CO2 | 1.10496100 |
| CH4 | 0.00004743 |

| Delivery Trucks | |
|---|---|
| CO | 0.00857192 |
| NOx | 0.00900205 |
| ROG | 0.00130563 |
| SOx | 0.00002706 |
| PM10 | 0.00037393 |
| PM2.5 | 0.00029276 |
| CO2 | 2.85060182 |
| CH4 | 0.00005619 |

Scenario Year: **2020**

All model years in the range 1976 to 2020

| Passenger Vehicles | |
|---|---|
| CO | 0.00444247 |
| NOx | 0.00040506 |
| ROG | 0.00052463 |
| SOx | 0.00001073 |
| PM10 | 0.00009550 |
| PM2.5 | 0.00006279 |
| CO2 | 1.10456157 |
| CH4 | 0.00004495 |

| Delivery Trucks | |
|---|---|
| CO | 0.00799617 |
| NOx | 0.00831802 |
| ROG | 0.00122382 |
| SOx | 0.00002733 |
| PM10 | 0.00035054 |
| PM2.5 | 0.00027128 |
| CO2 | 2.85148109 |
| CH4 | 0.00005330 |

Scenario Year: **2021**

All model years in the range 1977 to 2021

| Passenger Vehicles | |
|---|---|
| CO | 0.00421218 |
| NOx | 0.00037757 |
| ROG | 0.00050573 |
| SOx | 0.00001073 |
| PM10 | 0.00009640 |
| PM2.5 | 0.00006364 |
| CO2 | 1.11009559 |
| CH4 | 0.00004322 |

| Delivery Trucks | |
|---|---|
| CO | 0.00748303 |
| NOx | 0.00773500 |
| ROG | 0.00115568 |
| SOx | 0.00002755 |
| PM10 | 0.00033125 |
| PM2.5 | 0.00025331 |
| CO2 | 2.86434187 |
| CH4 | 0.00004905 |

Scenario Year: **2022**

All model years in the range 1978 to 2022

| Passenger Vehicles | |
|---|---|
| CO | 0.00397866 |
| NOx | 0.00035150 |
| ROG | 0.00048658 |
| SOx | 0.00001072 |
| PM10 | 0.00009661 |
| PM2.5 | 0.00006389 |
| CO2 | 1.11019931 |
| CH4 | 0.00004121 |

| Delivery Trucks | |
|---|---|
| CO | 0.00699290 |
| NOx | 0.00722470 |
| ROG | 0.00108569 |
| SOx | 0.00002774 |
| PM10 | 0.00031501 |
| PM2.5 | 0.00023906 |
| CO2 | 2.87006769 |
| CH4 | 0.00004557 |

## Highest (Most Conservative) EMFAC2007 (version 2.3)
## Emission Factors for On-Road Passenger Vehicles & Delivery Trucks

Projects in the SCAQMD (Scenario Years 2007 - 2026)

Derived from Peak Emissions Inventory (**Winter**, **Annual**, Summer)

### Vehicle Class:
### Passenger Vehicles (<8500 pounds) & Delivery Trucks (>8500 pounds)

Scenario Year: **2023**

All model years in the range 1979 to 2023

| Passenger Vehicles | |
|---|---|
| CO | 0.00377527 |
| NOx | 0.00032851 |
| ROG | 0.00046900 |
| SOx | 0.00001070 |

| Delivery Trucks | |
|---|---|
| CO | 0.00658123 |
| NOx | 0.00679147 |
| ROG | 0.00102852 |
| SOx | 0.00002790 |

Scenario Year: **2024**

All model years in the range 1980 to 2024

| Passenger Vehicles | |
|---|---|
| CO | 0.00358611 |
| NOx | 0.00030721 |
| ROG | 0.00045136 |
| SOx | 0.00001080 |

| Delivery Trucks | |
|---|---|
| CO | 0.00625076 |
| NOx | 0.00647083 |
| ROG | 0.00096578 |
| SOx | 0.00002807 |

| | |
|---|---|
| PM10 | **0.00009676** |
| PM2.5 | **0.00006405** |
| CO2 | 1.11023373 |
| CH4 | 0.00003951 |

| | |
|---|---|
| PM10 | **0.00030109** |
| PM2.5 | **0.00022582** |
| CO2 | 2.87466338 |
| CH4 | **0.00004218** |

| | |
|---|---|
| PM10 | **0.00009676** |
| PM2.5 | **0.00006410** |
| CO2 | 1.11061572 |
| CH4 | 0.00003781 |

| | |
|---|---|
| PM10 | **0.00029407** |
| PM2.5 | **0.00021880** |
| CO2 | 2.88010717 |
| CH4 | **0.00004019** |

Scenario Year: **2025**

All model years in the range 1981 to 2025

| **Passenger Vehicles** | |
|---|---|
| CO | 0.00342738 |
| NOx | **0.00028846** |
| ROG | **0.00043545** |
| SOx | 0.00001070 |
| PM10 | **0.00009679** |
| PM2.5 | **0.00006418** |
| CO2 | 1.11078571 |
| CH4 | 0.00003641 |

| **Delivery Trucks** | |
|---|---|
| CO | **0.00595363** |
| NOx | **0.00615945** |
| ROG | **0.00092178** |
| SOx | **0.00002761** |
| PM10 | **0.00028425** |
| PM2.5 | **0.00020958** |
| CO2 | 2.88143570 |
| CH4 | **0.00003765** |

Scenario Year: **2026**

All model years in the range 1982 to 2026

| **Passenger Vehicles** | |
|---|---|
| CO | 0.00328779 |
| NOx | **0.00027141** |
| ROG | **0.00042052** |
| SOx | 0.00001076 |
| PM10 | **0.00009687** |
| PM2.5 | **0.00006415** |
| CO2 | 1.11105829 |
| CH4 | 0.00003518 |

| **Delivery Trucks** | |
|---|---|
| CO | **0.00569435** |
| NOx | **0.00589869** |
| ROG | **0.00088403** |
| SOx | **0.00002716** |
| PM10 | **0.00027657** |
| PM2.5 | **0.00020187** |
| CO2 | 2.88298299 |
| CH4 | **0.00003581** |

Source:

http://www.aqmd.gov/ceqa/handbook/onroad/onroadEF07_26.xls

# PUBLIC COMMENTS TO NOTICE OF PREPARATION AND INITIAL STUDY

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# CITY OF INGLEWOOD

Planning and Building Department

Inglewood
All-America City
2009

April 16, 2012

Mr. Gregory J. Shoop, Project Coordinator ***(sent via email)***
City of Los Angeles, Department of City Planning
200 N. Spring Street, Room 621
Los Angeles, CA 90012
Fax: (213)978-1226
Email: greg.shoop@lacity.org

RE: Comments on the Initial Study and Notice of Preparation of an Environmental Impact Report for the Los Angeles International Airport Sign District (Case Nos. ENV-2011-1965-EIR, CPC-2011-1964-SN)

Mr. Shoop:

Thank you for the opportunity to review and comment on the Initial Study and Notice of Preparation of an Environmental Impact Report (EIR) for the Los Angeles International Airport (LAX) Sign District. The City of Inglewood would like to offer the following comment for your consideration:

**Description of the Surrounding Area (Page II-2)**
This section includes a description of both the area that surrounds the project area as well as a description of the area that surrounds LAX. The area located east of LAX is described as containing primarily commercial and industrial land uses. However, the predominant land use east of LAX, on the east side of Interstate 405, is residential. The City requests that this be clarified in the description of the surrounding area.

Should you have any questions regarding the above comment, please contact me at (310) 412-5230. We look forward to receiving updates on the status of this project and we appreciate the opportunity to provide input.

Sincerely,

Mindy Wilcox for
Senior Planner

Linda F. Tatum, AICP
Acting Community Development Director

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**NATIVE AMERICAN HERITAGE COMMISSION**
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

April 9, 2012

Mr. Greg Shoop, Project Planner
**City of Los Angeles City Planning Department**
200 North Spring Street, Room 621
Lso Angeles, CA 90012

Re: SCH#2012031055 CEQA Notice of Preparation (NOP); draft Environmental Impact Report (DEIR) for the **"ENV-2011-1965-EIR; Los Angeles International Airport (LAX) Sign District Project;"** located in the South Bay Coastal Area; City of Los Angeles; Los Angeles County, California

Dear Mr. Shoop:

The Native American Heritage Commission (NAHC) is the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources pursuant to California Public Resources Code §21070 and affirmed by the Third Appellate Court in the case of EPIC v. Johnson (1985: 170 Cal App. 3rd 604). The court held that the NAHC has jurisdiction and special expertise, as a state agency, over affected Native American resources, impacted by proposed projects including archaeological, places of religious significance to Native Americans and burial sites. The NAHC wishes to comment on the proposed project.

This letter includes state and federal statutes relating to Native American historic properties of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect.

The NAHC Sacred Lands File (SLF) search resulted as follows: **Native American cultural resources were not identified** within the project area identified. Also, the absence of archaeological resources does not preclude their existence. . California Public Resources Code §§5097.94 (a) and 5097.96 authorize the NAHC to establish a Sacred Land Inventory to record Native American sacred sites and burial sites. These records are exempt from the provisions of the California Public Records Act pursuant to. California Government Code §6254(r). The purpose of this code is to protect such sites from vandalism, theft and destruction. The NAHC "Sacred Sites,' as defined by the Native American Heritage Commission and the California

Legislature in California Public Resources Code §§5097.94(a) and 5097.96. Items in the NAHC Sacred Lands Inventory are confidential and exempt from the Public Records Act pursuant to California Government Code §6254 (r ).

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries of cultural resources or burial sites once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly urge that you make contact with the list of Native American Contacts on the list of Native American contacts, to see if your proposed project might impact Native American cultural resources and to obtain their recommendations concerning the proposed project. Special reference is made to the *Tribal Consultation* requirements of the California 2006 Senate Bill 1059: enabling legislation to the federal Energy Policy Act of 2005 (P.L. 109-58), mandates consultation with Native American tribes (both federally recognized and non federally recognized) where electrically transmission lines are proposed. This is codified in the California Public Resources Code, Chapter 4.3 and §25330 to Division 15.

Furthermore, pursuant to CA Public Resources Code § 5097.95, the NAHC requests that the Native American consulting parties be provided pertinent project information. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e). Pursuant to CA Public Resources Code §5097.95, the NAHC requests that pertinent project information be provided consulting tribal parties pursuant to CA Public Resources Code §5097.95. The NAHC recommends *avoidance* as defined by CEQA Guidelines §15370(a) to pursuing a project that would damage or destroy Native American cultural resources and Section 2183.2 that requires documentation, data recovery of cultural resources.

Consultation with tribes and interested Native American consulting parties, on the NAHC list, if the project is under federal jurisdiction, should be conducted in compliance with the requirements of federal NEPA and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (4)(f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation. The aforementioned Secretary of the Interior's *Standards* include recommendations for all 'lead agencies' to consider the historic context of proposed projects and to "research" the cultural landscape that might include the 'area of potential effect.'

Confidentiality of "historic properties of religious and cultural significance" should also be considered as protected by California Government Code §6254( r) and may also be protected under Section 304 of he NHPA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APEs and possibility threatened by proposed project activity.

Furthermore, Public Resources Code Section 5097.98, California Government Code §27491 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be

followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects.

If you have any questions about this response to your request, please do not hesitate to contact me at (916)653-6251.

Sincerely,

Dave Singleton
Program Analyst

Cc: State Clearinghouse

Attachment: Native American Contact List

**Native American Contacts**
Los Angeles County
April 9, 2012

LA City/County Native American Indian Comm
Ron Andrade, Director
3175 West 6th St, Rm. 403
Los Angeles , CA 90020
randrade@css.lacounty.gov
(213) 351-5324
(213) 386-3995 FAX

Gabrielino Tongva Nation
Sam Dunlap, Chairperson
P.O. Box 86908 Gabrielino Tongva
Los Angeles , CA 90086
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**This list is applicable for contacting local Native Americans with regard to cultural resources for the proposed SCH#2012031055; CEQA Notice of Preparation (NOP) draft Environmental Impact Report (DEIR) for the Los Angeles International Airport (LAX) Sign District Project, ENV-2011-1965-EIR; located at LAX; Los Angeles City/County, California.**

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# APPENDIX B

# LAX SIGN USE DISTRICT, SIGN LIGHTING SURVEY

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**Signage Analysis Report**

Contents

## 1. Executive Summary

This report studies and evaluates the existing field conditions to assess the impact of integrated static and digital signage lighting on the facades of terminal facilities, parking buildings, and jetways of Los Angeles International Airport (LAX), located in Los Angeles, California. The proposed Project consists of five signage types: Supergraphic, Digital Display, Column Wrap, Hanging, and Boarding Bridge signs.

Supergraphic signage is large scale off-site signage with an image printed on vinyl or similar material applied to a wall/façade. Supergraphic signage over 20'-0" tall at parking structure locations is proposed to be illuminated with Light Emitting Diodes (LEDs) or metal halide floodlights. Lighting Design Alliance (LDA) recommends using adjustable floodlight fixtures mounted at the top of the signage element to eliminate any chance of throwing light into the flight path. The use of cantilever arms, louvers, and glare shields will allow the fixture to be aimed back towards the supergraphic to illuminate the signage element exclusively and control illuminating roadway and pedestrian paths. The use of matte finishes on the vinyl signage will prevent glare from the light fixtures.

Supergraphic signage over 20'-0" tall at terminal facade locations above canopy locations are proposed to be illuminated with LED or metal halide floodlights mounted to the adjacent canopy. LDA recommends using adjustable floodlight fixtures mounted above the canopy with a locking knuckle element to eliminate any chance of throwing light into the flight path and precisely aim at the signage. The use of louvers, barn doors, and glare shields will allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively.

A digital display sign is a matrix of LEDs capable of displaying several digital messages/images in a rotation. These display panels are highly adaptable and can be programmed to display stationary advertisements, public art, or announcements. These media display panels integrate ambient light sensors to automatically reduce screen brightness depending on exterior light conditions. For example, the display would be at full brightness during a sunny day, but dimmed to appropriate intensities at night.

Compared to existing signage, which are typically up-lit or down-lit with metal halide floodlights, the proposed display is approximately twice as bright when reduced to 5% intensity, but is within same brightness range as some existing digital displays located within the surrounding area, See Appendix 1.D. At suitably dimmed levels, the proposed digital display will have a much lower visual presence than some of the brightest digital signs located in the surrounding area, See Appendix 1.T.

For the purposes of this study, LDA believes that light trespass, driver distraction and, glare are the important criterion. However, the applicant's intension to dim all digital displays to appropriate levels at night allows adaptation to contrast ratios to minimize glare, and light trespass are within acceptable limits.

Limiting the angles of view on the individual diode bulbs through precise aiming and the use of louvers will help to limit light trespass, direct the visual impact of the display to the appropriate driving audience, and direct light away from flight paths and highly focused driving tasks. When multiple digital display signs are visible to motorists, signs should change at the same time to limit driver distraction. From an environmental impact point of view, the amount of light cast by the display over a certain distance as measured in foot candles (FC) is much more relevant than the absolute brightness of a sign, and is the most consistent way of measuring and regulating digital displays, according to the Illuminating Engineers Society (IES) Recommendations. LDA's proposed sign intensity limit of 300 candelas per meter squared ($cd/m^2$) at night has the ultimate goal of limiting light trespass rather than only limiting sign brightness. The location of the display panels, distance, and viewing angles of the diodes limit the light into the adjacent neighborhoods to less than 0.3 FC, which would be unperceivable to the human eye.

Column wrap signs are digitally printed signage on a unique vinyl that adheres to existing columns. A hanging sign is a type of sign with individual channel letters and/or a prefabricated image that is suspended from an architectural feature or projection hanging sign. A passenger boarding bridge sign is a supergraphic sign that is applied to the exterior of the boarding bridges located in the Airside Sub-Area that connects passengers from the terminals to the aircraft. There is no proposed dedicated lighting for column wrap, hanging, or boarding bridge signs and this report focuses on illumination of super graphics and digital display signs.

This report analyzes the existing lighting conditions in adjacent areas relating to lighting and signage, and recommends mitigation measures to insure that potential impacts related to lighting future signage are reduced to a less than significant level.

**2. Definition of Terms Used in the Report**

Billboard

Any sign on one or more poles that:

-is four feet or greater in height as measured from the natural or finished grade

-is structurally separate from an existing building or other improvement on a lot

-is supported by an independent footing inside an existing building or other improvement on a lot extending through the roof of a building or structure

-is supporting a sign panel that is attached to the poles, posts, or columns (Proposed Los Angeles International Airport Sign District)

Brightness

Brightness is the perceptual response to luminance. It is our response to a source of light, with sources being categorized between bright and dim. (Section 4.8 of the IES Lighting Handbook)

Candela

Basic unit for measuring luminous intensity from a light source in a given direction. A common candle emits light with a luminous intensity of roughly one candela. If emission in some directions is blocked by an opaque barrier, the emission would still be approximately one candela in the direction that is not obscured.

Column Wrap Sign

A Supergraphic Sign, attached to the existing which wraps around the entire circular column on the LAX Central Terminal Arrivals level. (Proposed Los Angeles International Airport Sign District)

Digital Display

A sign face, building face, and/or any building or structural component that displays still images, scrolling images, moving images, or flashing images, including video and animation, through the use of grid lights, cathode ray projection, light emitting diode displays, plasma screens, liquid crystal displays, fiber optics, or other electronic media or technology that is either independent of or attached to, integrated into, or projected onto a building or structural component, and that may be changed remotely through electronic means. (Proposed Los Angeles International Airport Sign District)

Footcandle (FC)

An imperial unit of measurement, abbreviated as FC. The unit is defined as the amount of illumination the inside surface of an imaginary 1 foot radius sphere would be receiving if there were a uniform point source of one candela in the exact center of the sphere. The footcandle can be thought of as the amount of light that actually falls on a given surface. The footcandle is equal to one lumen per square foot. Footcandles are additive.

Face of Building

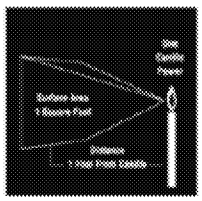
The general outer surface, not including cornices, bay windows or architectural projections, of any exterior wall of a building. (Section 14.4.2, LA Municipal Code)

Illuminance

The areal density of the luminous flux incident at a point on a surface .The unit of illumination is footcandle.

Lumen

A lumen is the basic unit of light, a measure of the perceived power of light. The lumen is defined in relation to the candela by 1 lumen = 1 candela x 1 steridian.



Luminance

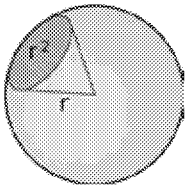
Is a photometric measure of the luminous intensity of a surface. The luminance indicates how much luminous power will be detected by an eye looking at the surface from a particular angle of view. It is an indicator of how bright the surface will appear. It is measured by candelas per meter squared (cd/$m^2$). (Section 12.18 of the IES Lighting Handbook)

Off-Site Sign
A sign that displays any message directing attention to a business, product, service, profession, commodity, activity, event, person, institution, or any other commercial message, which is generally conducted, sold, manufactured, produced, offered or occurs elsewhere than on the premises where the sign is located. (Section 14.4.2, LA Municipal Code)

Off-Site Sign Structure
A structure of any kind of character, erected, used or maintained for an off-site sign or signs, upon which any poster, bill, printing, painting, projected image or other advertisement may be placed. (Section 14.4.2, LA Municipal Code)

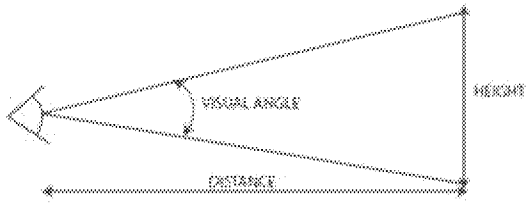
On-Site Sign
Signs which promote a business, use, facility, service, or product located on-site at LAX or airport-related. (Proposed Los Angeles International Airport Sign District)

Steridian
A description of two-dimensional angular spans in three-dimensional space, analogous to the way in which the radian describes angles in a plan.




Supergraphic Sign
A sign, consisting of an image projected onto a wall or printed on vinyl, mesh, or other material with or without written text, supported and attached to a wall by an adhesive and/or by using stranded cable and eye-bolts and/or other materials or methods. (Section 14.4.2, LA Municipal Code)

Visual Angle
The angle formed by two rays of light, or two straight lines drawn from the extreme points of an object to the center of the eye.




Wall Sign
Any sign attached to, painted on or erected against the wall of a building or structure, with the exposed face of the sign in a plane approximately parallel to the plane of the wall. (Page 4 of Article 4.4, LA Municipal Code)

**3. Project Description**

Los Angeles World Airports (LAWA) proposes to establish the Los Angeles International Airport (LAX) Sign District which will allow for the installation and erection of off-site signs within the Project site. The LAX Specific Plan allows for the erection, installation, or construction of new off-site, supergraphic and mural or the alteration, redesign, or replacement of off-site, supergraphic and mural signs within the Project Site Airside and Project Site Land-side Sub-Areas, pursuant to the establishment of a sign district set forth in Los Angeles Municipal Code (LAMC) Section 13.11.

**4. Environmental Setting**

a. Existing Conditions Within Project Site

LAX is the primary airport for the greater Los Angeles area located about 15 miles southwest of downtown Los Angeles on the coast. It is the busiest airport in California, third busiest in the United States, and in 2010 was the sixth busiest passenger airport in the world, moving more than 58M passengers and more than 1.8M tons of freight according to Airports Council International (ACI). The total area of the LAX project site includes 3,900 acres and is adjacent to the communities of Westchester, El Segundo, Lennox, and Inglewood. LAX has nine passenger terminals arranged in a U-shape with a split level layout to separate departures and arrivals. In addition, there are 2 million square feet of cargo facilities and a heliport.

b. Existing Conditions Within Surrounding Areas

Outside the project scope, the surrounding area includes buildings from one to seventeen floors of commercial office buildings, hotels, fast food, and cargo distribution warehouses. The immediate area surrounding the project site has a limited amount of signage, especially within the last block of Century Boulevard heading west and Sepulveda Boulevard heading south in to the project site. Just beyond the one block radius there is a dramatic increase in the density of signage driving east (away from LAX) and west (towards LAX). There is also floodlighting of facades, supergraphics, and a number of buildings with prominent signage. No new signs are proposed at the Park One Property, or along Sepulveda Blvd.

c. Survey of Signage Within Surrounding Areas

In order to measure diversity, brightness, and density, multiple visits were made to assess existing signage within the surrounding areas. All measurements were taken using a luminance meter, which measures in cd/m$^2$, from ground level which is the viewpoint of the pedestrian and automobile traffic. The survey was conducted along the primary project site entry corridors on Century Blvd. between the 405 Freeway and the project site entry heading East and West, and Imperial Hwy/105 Freeway and Lincoln Blvd. turn out, along Sepulveda Blvd. heading North and South. Note that the measurements were taken using a specific date and time and used a specific luminance meter. A different luminance meter may have a margin of error of +/- 5% difference and as images on static and digital signage are updated. Those different images produce different readings. While distance does not affect brightness, the viewing angle and the specific target can impact reading, so readings may vary.

On October 10, 2011 between 7:00 PM and 10:00 PM, a site visit was conducted to analyze signage types and measure luminance of existing signs and lighting in the areas adjacent to the project site. The weather was clear, and the sunset was at 6:24 PM. Some signs were photographed again on October 12, 2011 between 5:00 AM and 6:00 AM for visually clear images in reference documents, See Appendix 1.

On March 18, 2012 between 7:00 PM and 9:00 PM, a site visit was conducted to measure luminance of the existing Park One Signage to analyze existing signage types and measure luminance. The survey was conducted along the pathway surrounding the Park One parking lot. Some signage was photographed again on March 19, 2012 between 4:00 PM and 5:00 PM for visually clear images in reference documents, See Appendix 2.

d. Signage Types Within Surrounding Area
See Appendix 1 for additional data and images.

- **Typical Uplighted Signage:** A typical sign uplighted with metal halide floodlights measured between 2-145 cd/m$^2$. The brightness of the sign depends on the color of the advertisement, the wattage of the lamps, and the relative age of the lamps, maintenance, dirt depreciation, and lens quality in the roadway environment. See Appendix 1.S for additional data and images.

- **Typical Internally Illuminated Signage:** A typical sign internally illuminated with linear fluorescent lamps measured between 9-380 cd/m$^2$. The brightness of the sign depends on the image applied and the translucence of the plastic lens, density of lamps, maintenance, depreciation in the roadway environment, and the relative age and color temperature of the lamps. See Appendix 1.B for additional data and images.

- **LED Scrolling Ticker Digital Signage (Static Red):** The static color scrolling digital signage measured between 1300-1400 cd/m$^2$. The brightness of the sign depends on the lumen output of the LEDs and how many of those LEDs are on at any given moment to produce the scrolling text. See Appendix 1.T for additional data and images.

- **Digital Display Signage (Red, Green, and Blue):** The digital display signage measured between 40-200 cd/m$^2$. The brightness of the sign depends on the images on digital signage and colors produced by varying the LED intensities. As the images change, different images produce different readings. See Appendix 1.D for additional data and images.

- **Green Facade Floodlighting (Spectrum Building):** Various building facades along Century Blvd. are uplighted with metal halide floodlights and green color filters, measured between 1-92 cd/m². The brightness of the façade depends on the proximity of the fixture to the façade fixture optics, lamp wattage, color of lamp, façade color, and height of façade being lit. See Appendix 1.F.1 for additional data and images.

- **Half Size Illuminated Pylons:** The LAX Gateway pylons are internally illuminated using colored LEDs and measured between 9-12 cd/m². The brightness of the pylon facade depends on the color of the red, green, and blue (RGB) color changing LED floodlighting at any moment and the depreciation of the LEDs over time. See Appendix 1.C for additional data and images.

e. Survey of Existing Signage Within Project Site
See Appendix 4 for additional data and images.

In order to measure diversity, brightness, and density, multiple site visits were made to assess existing and proposed signage locations within the project site. Luminance measurements were taken using a luminance meter, which measures in cd/m², from ground level which is the viewpoint of the pedestrian and automobile traffic. Illuminance measurements were taken using a light meter, which measures in FC, from ground level which is the viewpoint of the pedestrian and automobile traffic. Note that the measurements were taken using a specific date and time and used a specific meter. A different meter may have a margin of error of +/- 5% difference and as signs are updated. Those different images produce different readings. While distance does not affect brightness, the viewing angle and the specific target can impact reading, so readings may vary.

On June 25, 2012 and June 26, 2012 between 10:30 PM and 4:30 AM, a site visit was conducted to analyze existing signage and measure luminance and illuminance of existing and proposed signage lighting within the project site. The survey was conducted along the primary project site loops at the departures and arrival levels. The weather was clear, and the sunset was at 5:43 PM and 5:44 PM respectively.

In total, the proposed signage would be located in approximately 5 percent of LAX (or approximately 203 acres of the 3,900 acre LAX).

f. Existing Signage Types Within Project Site

- **Typical Downlighted Overhead Directional Signage:** A typical sign bridging over traffic downlighted with metal halide floodlights measured between 2-517 cd/m². The brightness of the sign depends on the color of the exact measurement point, relative age of the lamps, maintenance, dirt depreciation, and lens quality in the roadway environment. See Appendix 4.A.1 for additional data and images.

- **Typical Uplighted Roadway-Adjacent Directional Signage:** A typical sign located to the left-hand side of traffic to designate parking and terminals uplighted with surface mount accents measured between 6-18 cd/m². The brightness of the sign depends on the color of the signage, the wattage of the lamps, and the relative age of the lamps, maintenance, dirt depreciation, and lens quality in the roadway environment. See Appendix 4.A.2 for additional data and images.

- **Encounter Building Accent Lighting :** The Encounter restaurant façade is uplit with colored LEDs and measured between 1-8 cd/m². The brightness of the facade depends on the color of the RGB floodlighting at any moment and the depreciation of the LEDs over time. See Appendix 4.F for additional data and images.

- **Full Size Illuminated Pylons:** The LAX Gateway pylons are internally illuminated using colored LEDs and measured between 9-15 cd/m². The brightness of the pylon facade depends on the color of the RGB floodlighting at any moment and the depreciation of the LEDs over time. See Appendix 4.C for additional data and images.

- **Terminal 4 American Flag: The large scale American Flag at Terminal 4 Façade** measured between 17-62 cd/m². The brightness of the flag depends on the relative age of the lamp, maintenance, dirt depreciation in the roadway environment, colors in the flag, and light fixture lens quality. See Appendix 4.D for additional data.

**5. Project Design Features**

a. Digital Signage

- When multiple digital signs are visible, signs change at the same time to limit driver distraction.
- Signage will display static images only.
- Dim signage to the 15%- 5% level at night with a maximum sign intensity limit of 300 candelas per meter squared ($cd/m^2$) to limit light trespass and glare.
- Dim lights slowly at dusk over a 45 min fade rate, controlled by an astronomical timeclock.
- Ambient light sensors integrated into signage to automatically reduce signage brightness depending on exterior light conditions.
- Contrast ratio of less than 30:1 to eliminate glare.
- Limit angles of view of individual diode bulbs through precise aiming downward and towards the desired viewer and eliminate light from the flight path.
- Use of a cubic louver system to limit light trespass and driver distraction during highly focused driving tasks.
- Limit Illuminance contribution of signage to 0.3 FC at 350'-0" from face of sign, per IESNA Light Trespass Recommendations.

b. Supergraphics

- Adjustable floodlight fixtures mounted at the top of the signage element to eliminate any chance of throwing light into the flight path.
- Cantilever lighting from parking structure to allow fixture to be aimed downward and backward to block views of the light source, eliminate light from the flight path, and prevent glare for motorists and pedestrians.
- Floodlights to have a locking knuckle to allow for precise aiming of fixtures.
- Matte finishes on the vinyl signage to prevent glare from fixtures.
- Louvers, barn doors, and glare shields to shield stray light and allow for precise aiming.
- Maximum vertical luminance of illuminated signage of 5-7 FC during the night.

c. Airside

- No signage lighting on airside

**6. Driver Distraction by Digital Signage**

This section presents the analysis of the lighting impact of proposed digital signage to the roadway as a driver. There are four major factors that will affect the perception of the sign. These factors have been used as a basis for evaluating the potential impacts of the design proposal:

- Size and shape of the object
- Location of the object in the field of view
- Stationary vs. Moving: If the object is moving, the direction of movement of the object relative to the driver's direction of travel becomes critical. Stationary objects are more difficult to detect.
- Contrast between the object and its background.

The site measurements and observations support the following analysis of the lighting data:

a. Size

The size and shape of the digital display is meant to be visible to travelers at terminals and approaching automobile traffic. The display would be no more distracting than conventional signage. When dimmed to the 15%- 5% level at night, the digital display would not add any significant light or glare to the street. The size of the display makes it difficult for pedestrians walking close to the building to see the whole display, but would add a modest amount of light to the ground immediately around the building, perhaps making the immediate sidewalk feel safer and brighter.

b. Location

The location of the sign in the field of view is similar to standard signage. The displays are located at eye level or above for drivers. Only drivers traveling around the traffic loop would be able to get full views of the displays. All other directions get oblique views of the display.

c. Motion CRI-8 seconds and CRIII-12 hours

Rapid changes in images can be distracting to drivers, and it is recommended to limit the refresh time so that a typical driver will only experience one static image during typical drive time in the field of view. In terms of the images being stationary or

moving, the intent of the proposal is that the digital signage perpendicular to motorists will be a combination of still images which refresh every 12 hours. As such the digital signage will not provide flashing image changes, and the transition from one advertisement to the next should be done at the lowest traffic time of the project site. However, the display is programmable and it is possible that under emergency conditions to provide real-time information to drivers and/or travels. In addition, by maintaining reduced brightness levels at night to below 300 cd/m², any distraction to drivers will be reduced. When multiple digital display signs are visible to motorists, signs should change at the same time to limit driver distraction.

d. Contrast

The contrast of the object or hazard is a function of the luminance difference between the object and its background. The digital display should not be a source of distraction for a driver. The proposed displays should not be operated at more than 300cd/m². A contrast ratio of less than 30:1 would not cause glare.

**7. Title 24 Limitations on Signage Energy Consumption**

Title 24 limits energy use for exterior signage in California. Title-24 2008 limits exterior, internally illuminated signs, and integral electronic displays to 12 watts/sq. ft.

| Title 24 Wattage limits affecting exterior internally illuminated signs nod integral electronic displays | | | | |
|---|---|---|---|---|
| | Watt/sq. ft at full white | Brightness at Full White (candelas/sq. meters) | Hours on per day | Total watt-hours per day per sq. ft. of sign |
| Daytime Usage (7am to 7pm) | 12 | 3500* | 12 | 144 |
| Nighttime Usage (7pm to 2am) | 5 | 1500* | 7 | 35 |
| Total watt-hours per day per sq. ft. of sign | | | | 179 |

*Title 24 only restricts energy usage and does not restrict brightness

**8. Environmental Impact**

Threshold of Significance

The Los Angeles California Environmental Quality Act (L.A. CEQA) Thresholds Guide states that a determination of significance relative to nighttime illumination shall be made on a case-by-case basis, considering the following factors:

- The change in ambient illumination levels as a result of the project sources; and
- The extent to which project lighting would spill off the project site and affect adjacent light sensitive areas.

**9. Methodology**

An analysis was prepared to determine the signage luminance of existing static and digital signage in the area surrounding the project site and provide existing ambient light levels at proposed signage locations within the project site. Luminance levels of all relevant signage between the 405 Freeway and LAX along Century Blvd. are recorded and signage density is visually represented, See Appendix 1. Luminance levels of signage at the Park One parking lot are recorded and signage density is visually represented, See Appendix 2. Luminance levels at proposed illuminated signage locations within the landside portion of the project site are recorded and Illuminance light levels at predetermined distances provide a clear representation of the existing lighting, See Appendix 4.

**10. Project Impact**

The system within the project site of signage and identity elements, digital and static, is intended to contribute to a dynamic experience along major pedestrian and motorway paths of the average traveler. These signage and identity elements are consistent with signage at other major airports nationally and internationally. The location of these signs does not pose a significant change to lighting patterns in the community areas adjacent to the project site with no impact on light-sensitive receptors, specifically residential communities in the surrounding area.

The existing ambient light levels within the landside project site area vary widely based on exact location of measurement in relation to existing light fixtures and maintenance of light fixtures. Existing light sources include high pressure sodium, linear fluorescent, LED, and metal halide. Fixture types include roadway fixtures, surface mount flood lights, backlit signage, downlights, signage spotlighting, façade uplighting. Luminance and Illuminance light levels at proposed signage locations are documented in Appendix 4. Some Illuminance measurements are artificially high as compared to the ambient because of existing roadway, pedestrian, soffit, or floodlights directly adjacent to the measurement location.

It is important to note that the 0.3 FC at 350 feet lighting level (the maximum condition) for digital signage, measured over ambient light levels, is used because brightness and its impact are relative to the ambient lighting in the surrounding area. For example, a bright sign in a brightly lit area would not cause glare impacts. The same bright sign in a dim or dark area would cause glare impacts. Discomfort glare is caused when the eye cannot adjust to high contrast fast enough and the retina of the eye is stressed. A contrast higher than 30:1 could potentially cause discomfort glare.

The proposed display will not cause glare during the day because the intensity of the sign will not contrast with the brightness of the sun. Typical daylight levels are between 6000 FC to 8000 FC, depending on cloud coverage. The additional 0.3 FC that the sign would generate would not be noticeable during the day. At night, however, light levels vary from 0.1 FC to 58.5 FC along the path of traffic. An additional 0.3 FC would be more important at night light levels, and therefore LDA focused the study during those conditions.

Departure Level Landside Below Terminal Canopy Supergraphics
No additional dedicated lighting is proposed at these locations.

Arrival Level Landside Terminal Supergraphics
No additional dedicated lighting is proposed at these locations.

Arrival Level Landside Column Wraps
No additional dedicated lighting is proposed at these locations.

Roadway at Skybridge Proposed Landside Digital Signage, 8 Locations
Dimming LED digital signage to 5-15% at night will allow tuning of the emitted light from the signage to be below the designated threshold of 0.3 FC above ambient, measured at 350'-0" from the face of the sign. See Appendix 4.B.1 for existing ambient light levels (FC) and luminance measurements (cd/m²).

Signage lighting would not spill off the project site to affect any adjacent light sensitive areas due to the location of the digital signage within the project site, orientation parallel to the terminals, directional LEDs with louvers, and distance to any light sensitive areas. Adjacent to Terminal 1, the commercial corridor leading into the project site includes digital signage and is not considered a light sensitive area.

See Appendix 4.B.2 for light levels inside skybridges.

Departure Level Landside Above Terminal 1 Canopy Supergraphic, 1 Locations
The supergraphic, facing toward the interior of the site, will be illuminated from the canopy using adjustable floodlight fixtures mounted above the canopy with a locking knuckle to precisely aim at the signage and eliminate any chance of throwing light into the flight path or create skyglow. See Appendix 4.G for existing ambient light levels (FC) and luminance measurements (cd/m²).

The use of louvers, barn doors, and glare shields will allow the fixture to be aimed towards the supergraphic to illuminate the signage element exclusively. Orientation of signage and project lighting shielding would not allow spill light off the project site to affect any light sensitive areas adjacent to the LAX property.

Departure/Arrival Landside Split Parking Structure Digital Signage, 4 Locations
Dimming LED digital signage to 5-15% at night will allow tuning of the emitted light from the signage to be below the designated threshold of 0.3 FC above ambient, measured at 350'-0" from the face of the sign. See Appendix 4.D for existing ambient light levels (FC) and luminance measurements (cd/m²).

Project lighting would not spill off the project site to affect any adjacent light sensitive areas due to the location of the digital signage within the project site, orientation parallel to the terminals, directional LEDs with louvers, and distance to any light sensitive areas adjacent to the LAX property.

Departure Level Only Landside Parking Structure Digital Signage, 16 Locations
Dimming LED digital signage to 5-15% at night will allow tuning of the emitted light from the signage to be below the designated threshold of 0.3 FC above ambient, measured at 350'-0" from the face of the sign. See Appendix 4.D for existing ambient light levels (FC) and luminance measurements (cd/m²).

Project lighting would not spill off the project site to affect any adjacent light sensitive areas due to the location of the digital signage within the project site, orientation parallel to the terminals, directional LEDs with louvers, and distance to any light sensitive areas adjacent to the LAX property.

Arrival Level Only Landside Parking Structure Supergraphic , 3 Locations
The supergraphic faces towards the interior corridor of the site and occur below an elevated roadway. Super graphic will be illuminated from the top level of the signage piece using adjustable floodlight fixtures with a locking knuckle to precisely aim at the signage. See Appendix 4.G for existing ambient light levels (FC) and luminance measurements (cd/m²).

Project lighting would not spill off the project site due to the location of the supergraphic within the project site below the elevated roadway, orientation parallel to the terminals, downlighting of light fixtures, and distance to any light sensitive areas adjacent to the LAX property.

Departure/Arrival Split Landside Parking Structure Supergraphic, 7 Locations
The supergraphic faces towards the interior corridor of the site and occurs partially below an elevated roadway. Supergraphics will be illuminated from the top level of the parking structure using adjustable floodlight fixtures with a locking knuckle to precisely aim at the signage. See Appendix 4.G for existing ambient light levels (FC) and luminance measurements (cd/m²).

Project lighting would not spill off the project site due to the location of the supergraphic within the project site, orientation parallel to the terminals, downlighting of light fixtures, and distance to any light sensitive areas adjacent to the LAX property.

Departure Level Only Landside Parking Structure Supergraphic, 2 Locations
The supergraphic faces towards the interior corridor of the site. Super graphic faces towards the terminals and will be illuminated from the top level of the parking structure using adjustable floodlight fixtures with a locking knuckle to precisely aim at the signage. See Appendix 4.G for existing ambient light levels (FC) and luminance measurements (cd/m2).

Project lighting would not spill off the project due to the location of the supergraphic within the project site, orientation parallel to the terminals, downlighting of light fixtures, and distance to any light sensitive areas adjacent to the LAX property.

Arrival Level Landside Parking Elevator Tower Supergraphic, 12 Locations
The supergraphic faces towards the interior corridor of the site and occur below an elevated roadway. See Appendix 4.G for existing ambient light levels (FC) and luminance measurements (cd/m2).

Project lighting would not spill off the project site to affect any adjacent light sensitive areas due to the location of the supergraphic within the project site, orientation parallel to the terminals, downlighting of light fixtures, and distance to any light sensitive areas adjacent to the LAX property.

Parking Structure 1 Landside Parking Lot Digital Signage, 1 Locations
Dimming LED digital signage to 5-15% at night will allow tuning of the emitted light from the signage to be below the designated threshold of 0.3 FC above ambient, measured at 350'-0" from the face of the sign. See Appendix 4.D for existing ambient light levels (FC) and luminance measurements (cd/m²).

Project lighting would not spill off the project site to affect any adjacent light sensitive areas due to the height of the signage in relation to the height of the elevated roadway, directional LEDs with louvers, and distance to any light sensitive areas.

Adjacent to Terminal 1, the commercial corridor leading into the project site includes digital signage and is not considered a light sensitive area adjacent to the LAX property.

Terminal Mount Landside Digital Signage, 3 Locations
Dimming LED digital signage to 5-15% at night will allow tuning of the emitted light from the signage to be below the designated threshold of 0.3 FC above ambient, measured at 350'-0" from the face of the sign. See Appendix 4.D for existing ambient light levels (FC) and luminance measurements (cd/m²).

Project lighting would not spill off the project site to affect any adjacent light sensitive areas due to the height of the signage in relation to the height of the elevated roadway and adjacent buildings, directional LEDs with louvers, and distance to any light sensitive areas.

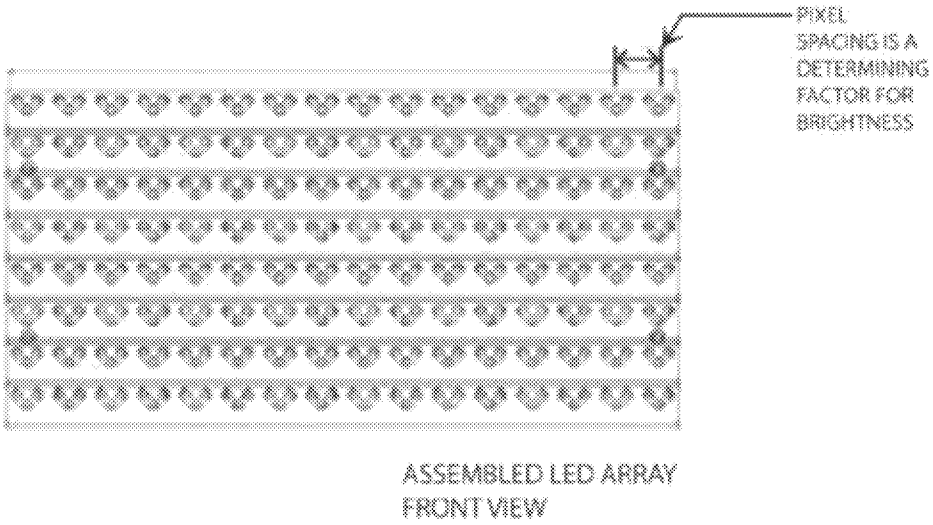
Adjacent to Terminal 1, the commercial corridor leading into the project site includes digital signage and is not considered a light sensitive area adjacent to the LAX property.

**11. Integral Electronic Display Directionality**

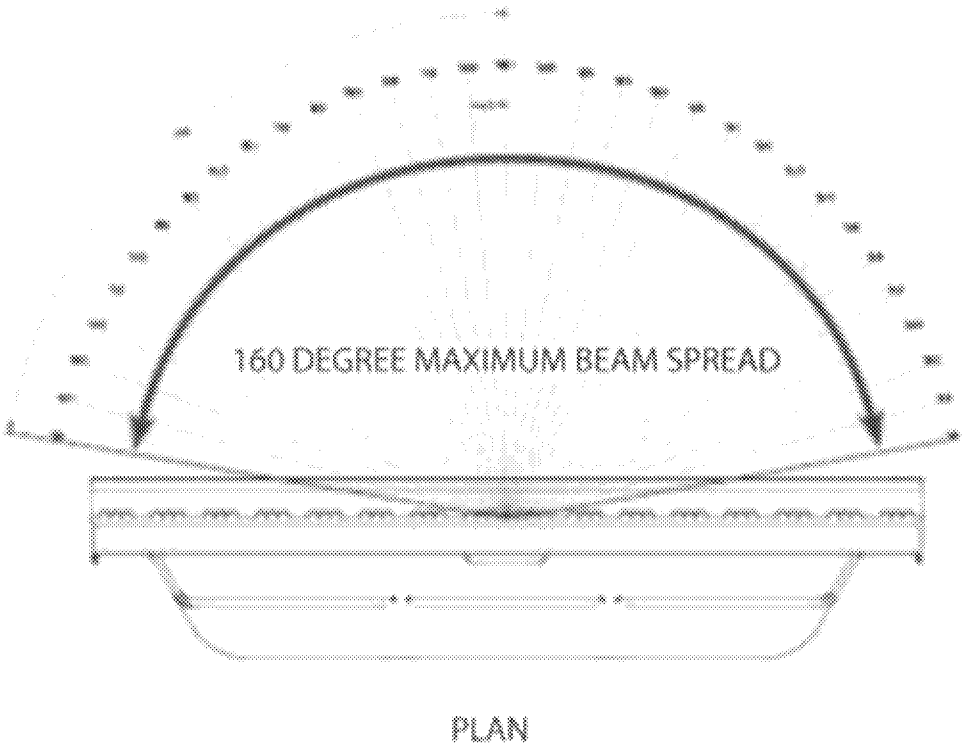
Integral Electronic Displays are typically created using LEDs, which have directionality and a beam spread. See Figure 7.1 for a diagram of a front view in elevation of a typical LED array in a digital signage design. See Figure 7.2 and Figure 7.3 for diagrams of a typical LED beam spread, 165 degrees wide and 65 degrees high, per diode. See Figure 7.4 for a plan view of a desired layout for the directionality of the LEDs when placed into the LAX site. The preferred layout is to have the diodes aimed

horizontally to the street view to limit any undesirable glare from other vantage points. The directionality of the diodes will allow the viewing angles to limited to areas within the project boundary and limit any spill light off the project site.

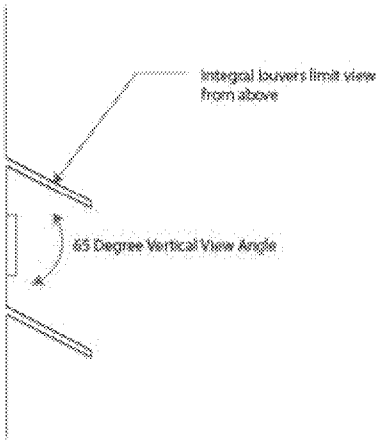
- **Figure 7.1**



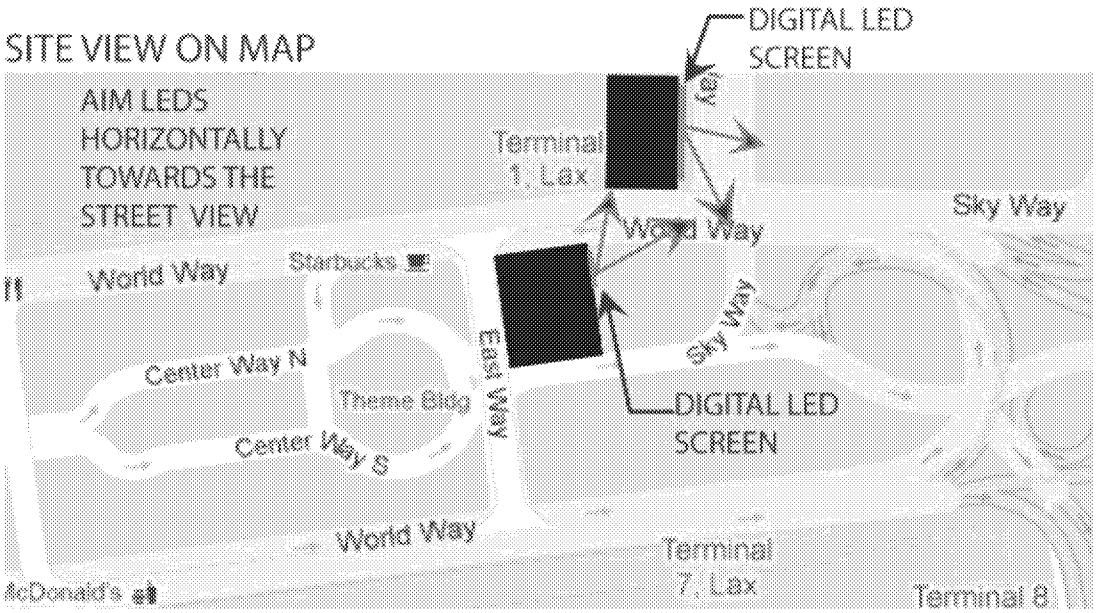

- **Figure 7.2**



- **Figure 7.3**




- **Figure 7.4**




**12. Conclusion**

The digital signage and supergraphic lighting as proposed will be precisely designed and integrated into the existing facades to make a positive visual contribution to the overall image of the project site and city, without significant impacts. Supergraphic metal halide or LED lighting will replace existing high pressure sodium floodlights and provide crisp white light to contribute to the perception of higher light levels, safety, and vertical brightness while contributing to an updated perception of the project site. By eliminated large box fixtures that produce glare mounted to the parking facades and replacing them with smaller fixtures that are properly aimed and shielded to illuminate the signage and away from pedestrian and driver eyes, impact regarding glare and views into fixtures will be less than significant.

LDA believes digital displays dimmed to the suggested criteria of 300 cd/m² maximum at night will minimize any light trespass from digital signage and fall within the guidelines proposed by the IESNA. The content shown on the display will be static, and refresh rates have been selected based on viewing angles so that there are not rapidly changing images to distract drivers. The glare contrast ratios for the project will be well below the 30:1 ratio limit that would create discomfort glare.

By following LDA's recommendations, the proposed digital media display is of equivalent or lower brightness as existing digital displays in the surrounding area, and is substantially lower in brightness when compared to other digital displays occurring throughout Los Angeles. The proposed digital displays are twice the intensity of typical signage; however, LED displays have a much more controlled beam spread and field of view, and therefore generally do not contribute much to glare, light trespass, and light pollution to the surrounding areas. Digital sign luminous intensities vary greatly over the Los Angeles area due to differences in operation and technology.

The proposed displays are highly controllable and include built-in photo sensors and time clock controls to dim the signage. The proposed sign type has the capability to be dimmed to any required level and is adjustable in the future should a change be required. The content is completely programmable. The proposed display should meet the IESNA recommendations for light trespass, and not add more than 0.3 FC to the ambient light levels 350'-0" away from the face of the digital sign. In the immediate vicinity of the project are several large traditional signage areas and two large digital displays.

The combination of the digital and static signage with properly designed lighting will improve the visual appearance of the project site without affecting any light sensitive areas adjacent to the LAX site.

**13. Appendix List**

a. Appendix 1
    i. Site map with signage locations along Century Blvd. between the 405 Freeway and the Project Site Entry
    ii. Signage data with images
b. Appendix 2
    i. Site map with signage locations within the Park One parking lot.
    ii. Signage data with images
c. Appendix 3
    i. Typical signage sections and elevations with lighting practices
d. Appendix 4
    i. Site map with proposed signage locations within landside area of the Project Site
    ii. Signage maps with data
e. Appendix 5
    i. Existing Regulations and Recommended Standards

**14. References**

**Digital Billboard Recommendations and Comparisons to Conventional Billboards,** Ian Lewin Ph.D., Lighting Sciences, Inc. http://www.polcouncil.org/polc2/DigitalBillboardsIanLewin.pdf

**Driving Performance and Digital Billboards**, Suzanne E. Lee, Melinda J. McElheny, Ronald Gibbons, Virginia Tech Transportation Institute.

**Los Angeles International Airport Sign District Regulations,** Department of City Planning

**Los Angeles Municipal Code**, Chapter IX, Article 3, Section 93.0117 of the LAMC

**Los Angeles Municipal Code**, Chapter IX, Article 4.4, Section 14.4.1, Section 14.4.4, Section 14.4.8, Section 14.4.10, Section 14.4.18, of the LAMC

**IESNA (Illuminating Engineering Society of North America) Recommended Practice,** page 1, 2, 5, of IESNA RP-19-01

**OAAA Recommended Brightness Guidelines,** http://www.oaaa.org/legislativeandregulatory/digital/brightnesscriteria.aspx
*These guidelines by the Outdoor Advertising Agency set forth criteria and measurement techniques for outdoor LED digital signage.*

**Safety Impacts of the Emerging Digital Display Technology for Outdoor Advertising Signs,** Jerry Wachtel CPE, The Veridian Group

**Sign Brightness, Measuring Sign Brightness,** Gregory Young, http://www.optec.com

**Technical Memorandum on Light Trespass: Research, Results, and Recommendations**, Prepared by the Obtrusive Light Subcommittee of the IESNA Roadway Lighting Committee, © 2000 The Lighting Authority ISBN: 978-0-87995-175-0

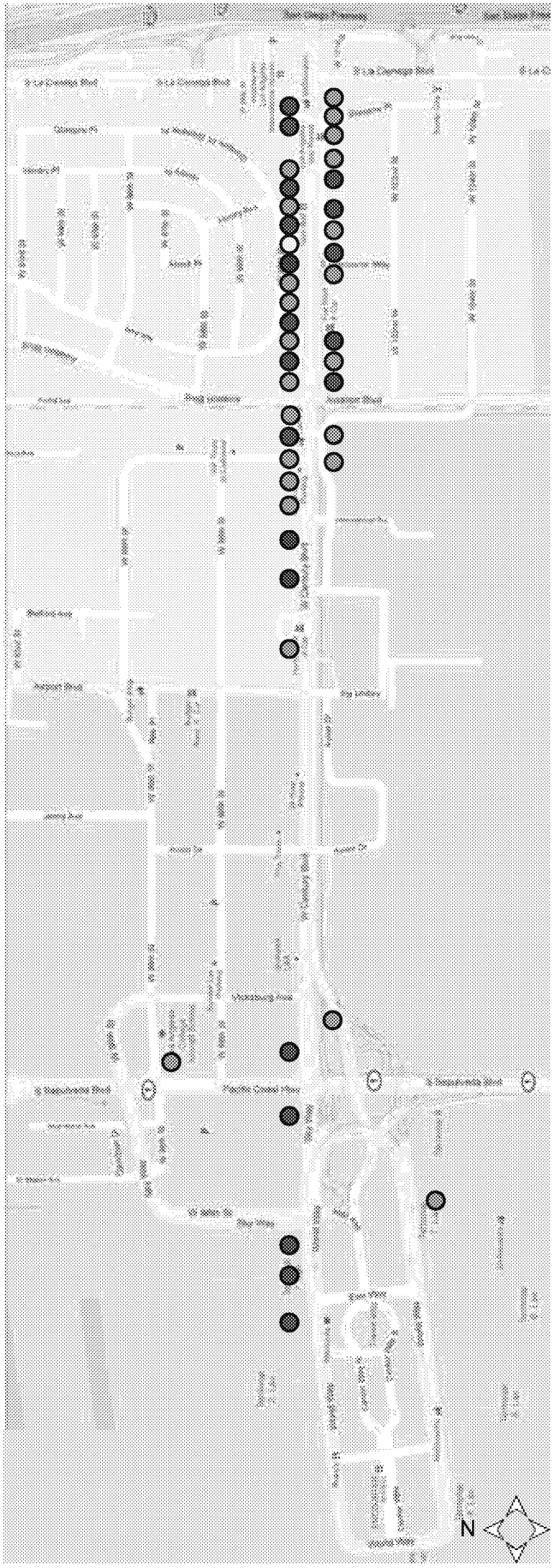
*This technical memorandum speaks to the subject of LED digital signage and how the light generated from LED digital signage affects light trespass. This also sets forth a method of measurement to determine light trespass.*

**The Use of Commercial Advertising on Large Scale Electronic Billboards for Highways and Their Relation to Driver Safety and Driver Distraction,** Jon M Lazarus, Oregon Department of Transportation

*This report sets forth recommendations for the Oregon Department of Transportation in regards to the use and benefits of outdoor LED digital signage.*

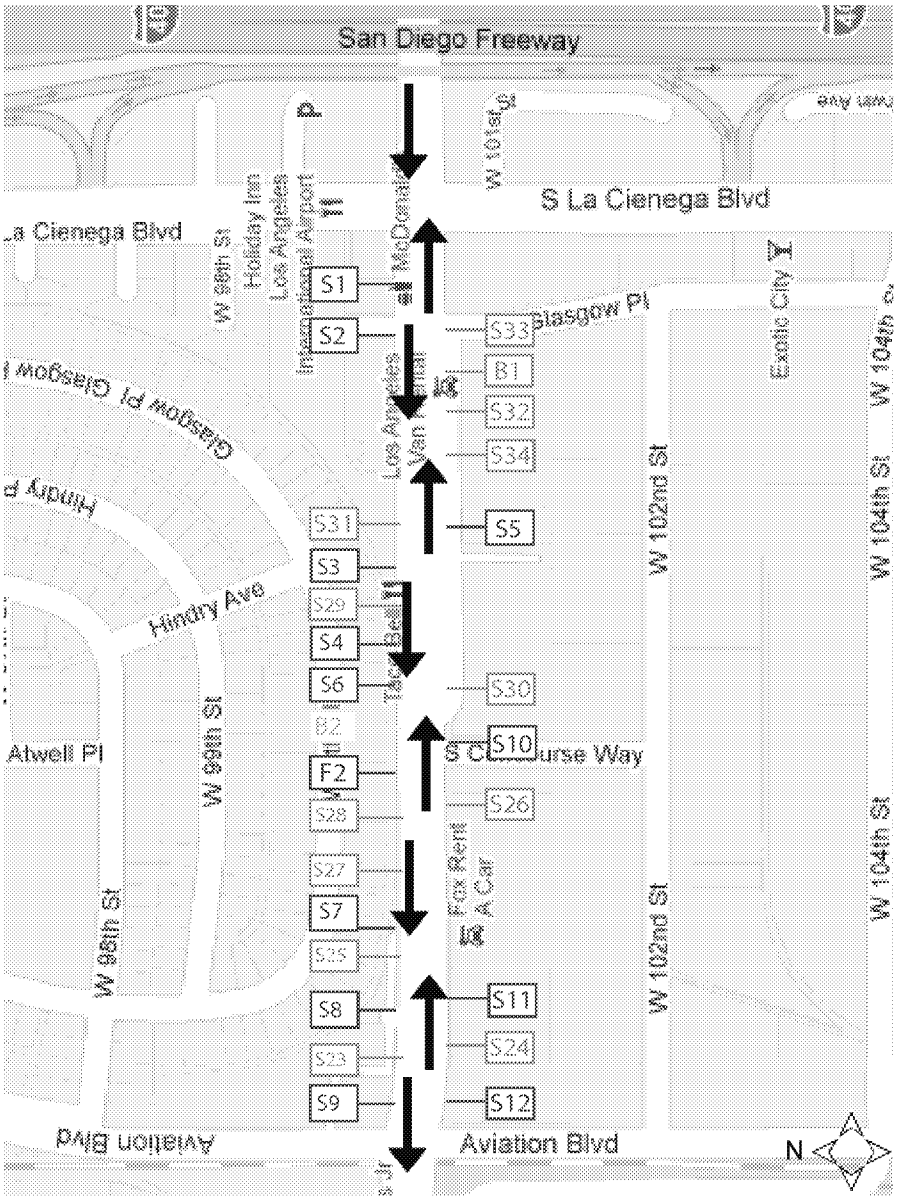
## SITE MAP:

EAST TO WEST SIGNAGE DENSITY



## SURROUNDING AREA:

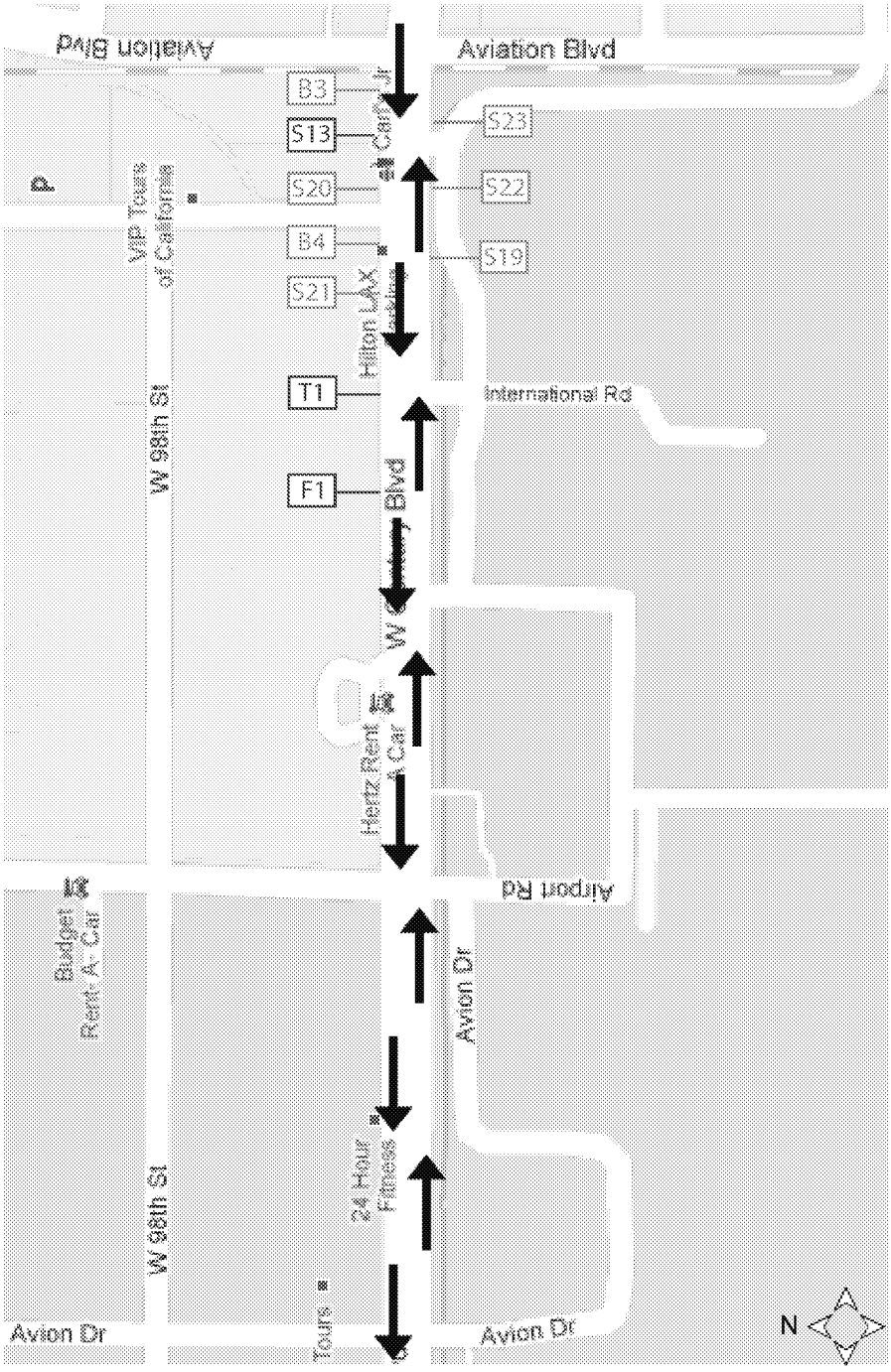
405 FREEWAY TO AVIATION BLVD.




| LEGEND | |
|---|---|
| B | BACKLIT SIGNAGE - VIEWED WEST & EAST |
| B | BACKLIT SIGNAGE - VIEWED DRIVING EAST |
| D | LED DIGITAL SIGNAGE |
| F | FACADE LIGHTING |
| G | GARAGE AMBIENT GLOW |
| S | SIGNAGE WITH FLOODLIGHTS - VIEWED DRIVING WEST |
| S | SIGNAGE WITH FLOODLIGHTS - VIEWED DRIVING EAST |
| T | LED TICKER SIGNAGE |

## SURROUNDING AREA:

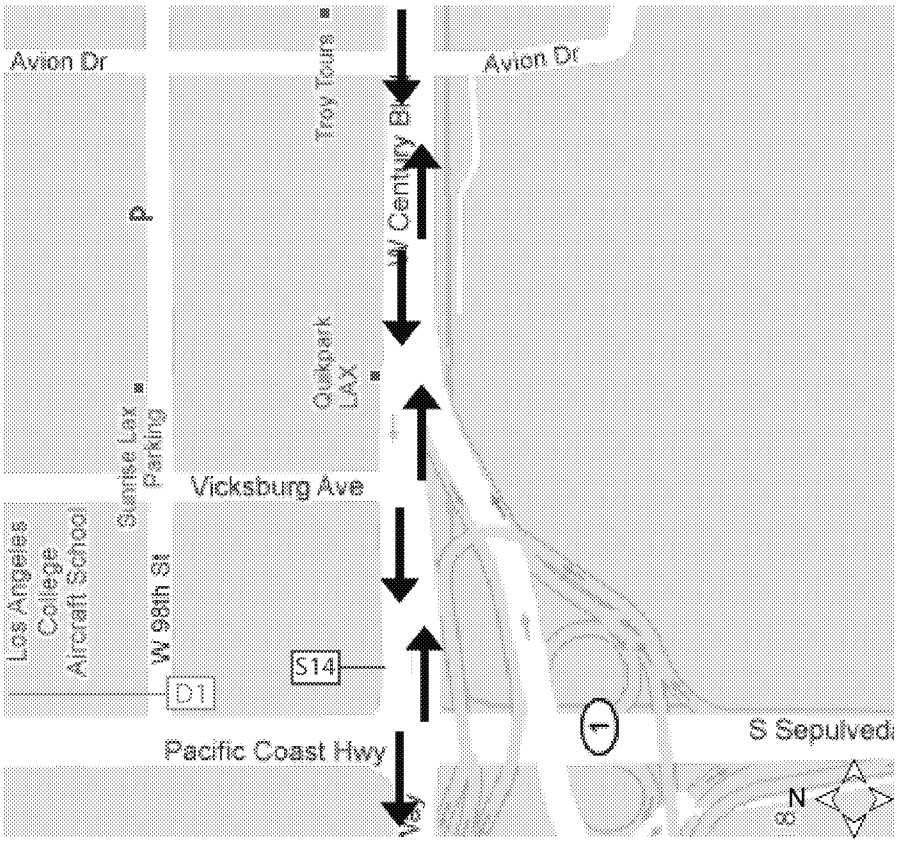
AVIATION BLVD. TO AVION DR.




| LEGEND | |
|---|---|
| B | BACKLIT SIGNAGE - VIEWED WEST & EAST |
| B | BACKLIT SIGNAGE - VIEWED DRIVING EAST |
| D | LED DIGITAL SIGNAGE |
| F | FACADE LIGHTING |
| G | GARAGE AMBIENT GLOW |
| S | SIGNAGE WITH FLOODLIGHTS - VIEWED DRIVING WEST |
| S | SIGNAGE WITH FLOODLIGHTS - VIEWED DRIVING EAST |
| T | LED TICKER SIGNAGE |

## SURROUNDING AREA:

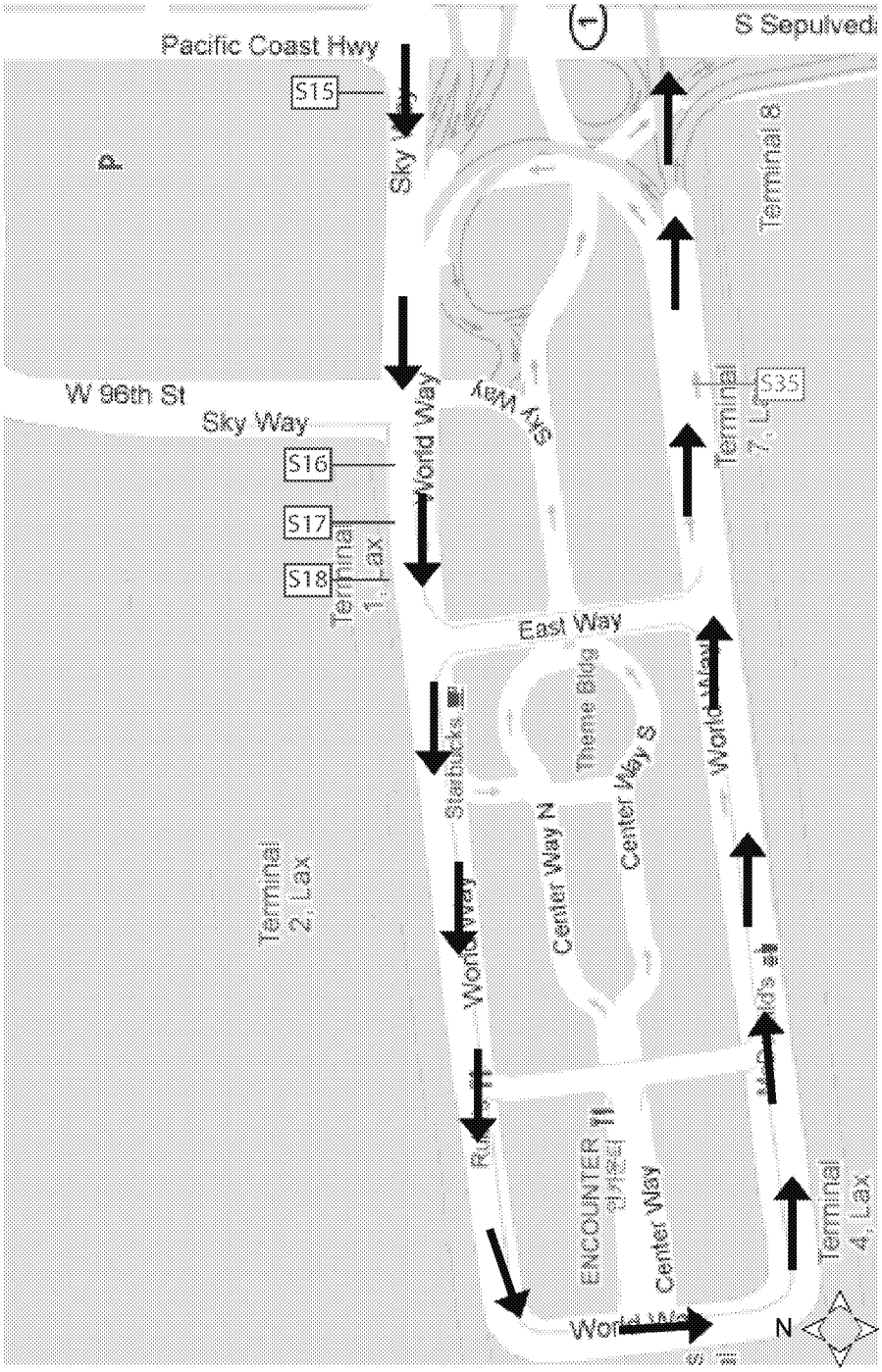
AVION DR. TO PACIFIC COAST HWY.




| LEGEND | |
|---|---|
| B | BACKLIT SIGNAGE - VIEWED WEST & EAST |
| B | BACKLIT SIGNAGE - VIEWED DRIVING EAST |
| D | LED DIGITAL SIGNAGE |
| F | FACADE LIGHTING |
| G | GARAGE AMBIENT GLOW |
| S | SIGNAGE WITH FLOODLIGHTS - VIEWED DRIVING WEST |
| S | SIGNAGE WITH FLOODLIGHTS - VIEWED DRIVING EAST |
| T | LED TICKER SIGNAGE |

## SURVEYED SIGNAGE WITHIN PROJECT SITE:

PACIFIC COAST HWY. TO WORLD WAY




| LEGEND | |
|---|---|
| B | BACKLIT SIGNAGE - VIEWED WEST & EAST |
| B | BACKLIT SIGNAGE - VIEWED DRIVING EAST |
| D | LED DIGITAL SIGNAGE |
| F | FACADE LIGHTING |
| G | GARAGE AMBIENT GLOW |
| S | SIGNAGE WITH FLOODLIGHTS - VIEWED DRIVING WEST |
| S | SIGNAGE WITH FLOODLIGHTS - VIEWED DRIVING EAST |
| T | LED TICKER SIGNAGE |

# APPENDIX 1.B: BACKLIT SIGNAGE



## B1 - AQUARIUM WORLD

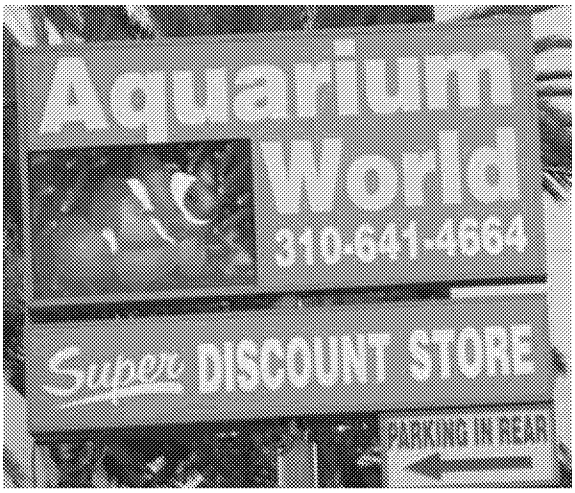



*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**89-130 cd/m²**

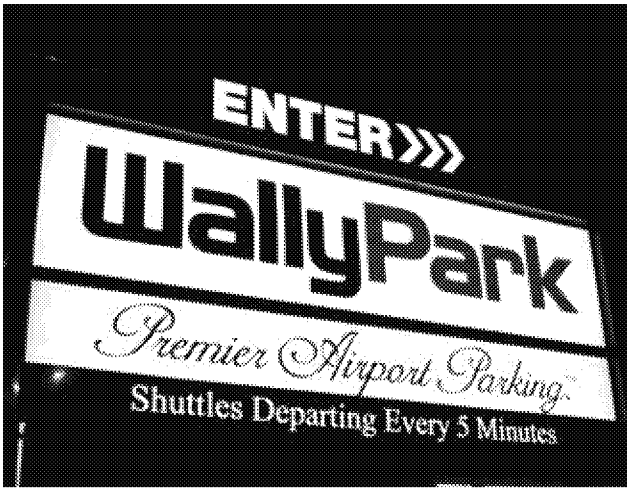
## B2 - NAVITAT


*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**75-240 cd/m²**

## B3 - WALLY PARK




**LUMINANCE RANGE:**

**300-380 cd/m²**

## B4 - THE PARKING SPOT

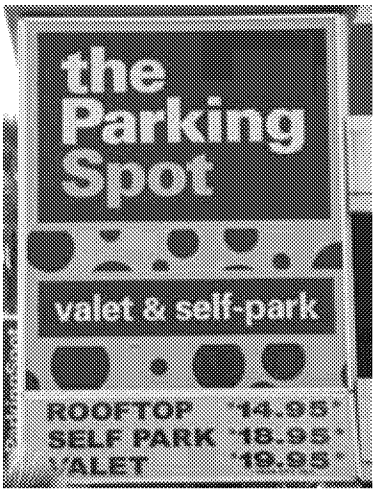



*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**98-320 cd/m²**

# APPENDIX 1.C: HALF HEIGHT ILLUMINATED PYLONS



## HALF SIZE ILLUMINATED PYLONS

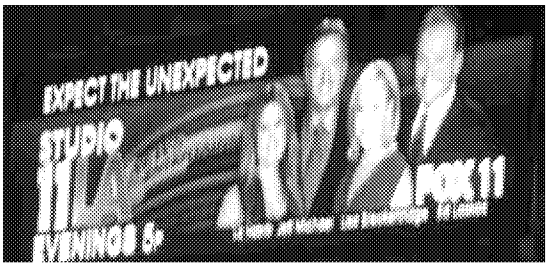
**LUMINANCE RANGE:**

**9-12 cd/m²**

# APPENDIX 1.D: LED DIGITAL SIGNAGE



D1a - STUDIO 11




LUMINANCE RANGE:

80-113 cd/m²

D1b - BLUE LABEL

LUMINANCE RANGE:

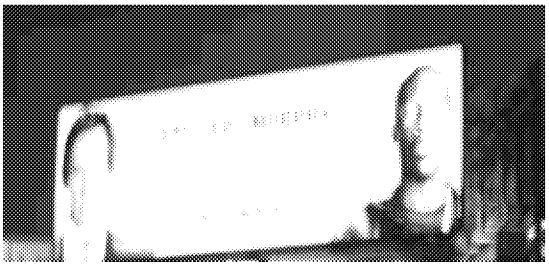
60-130 cd/m²

D1c - PARANORMAL ACTIVITY


LUMINANCE RANGE:

120-200 cd/m²

D1d - TOWER HEIST



LUMINANCE RANGE:

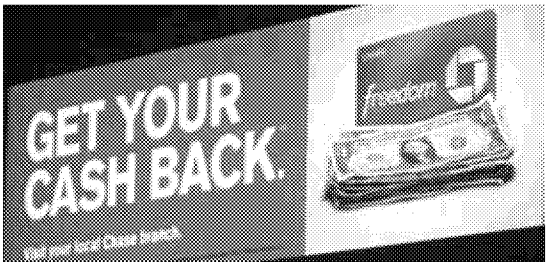
80-150 cd/m²

D1e - THE THING


LUMINANCE RANGE:

40-130 cd/m²

D1f - CHASE BANK




LUMINANCE RANGE:

80-150 cd/m²

# APPENDIX 1.F: FACADE LIGHTING



## F1 - GREEN FLOODLIT BUILDING

**LUMINANCE RANGE:**

**1-92 cd/m²**

## F2 - TACO BELL

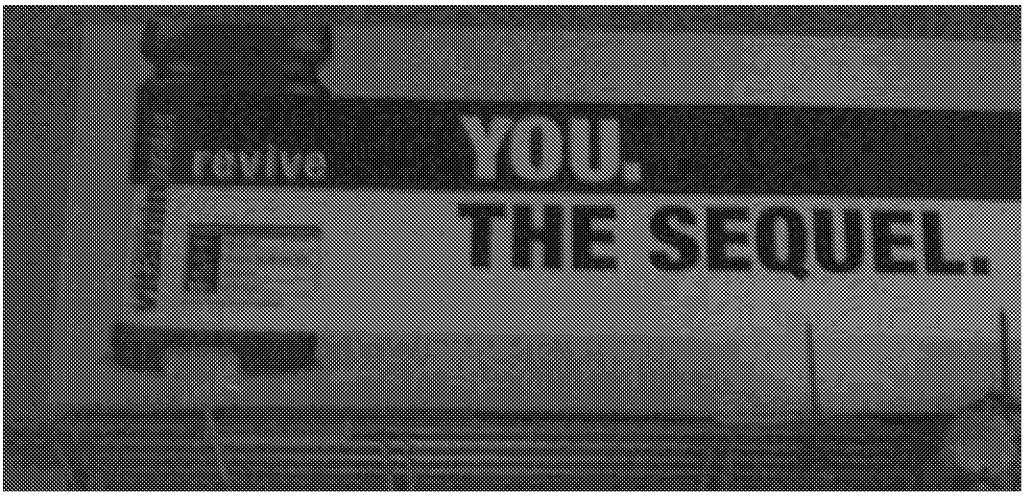
**LUMINANCE RANGE:**

**29-31 cd/m²**

# APPENDIX 1.S: SIGNAGE WITH FLOODLIGHTS



## S1 - VITAMIN WATER

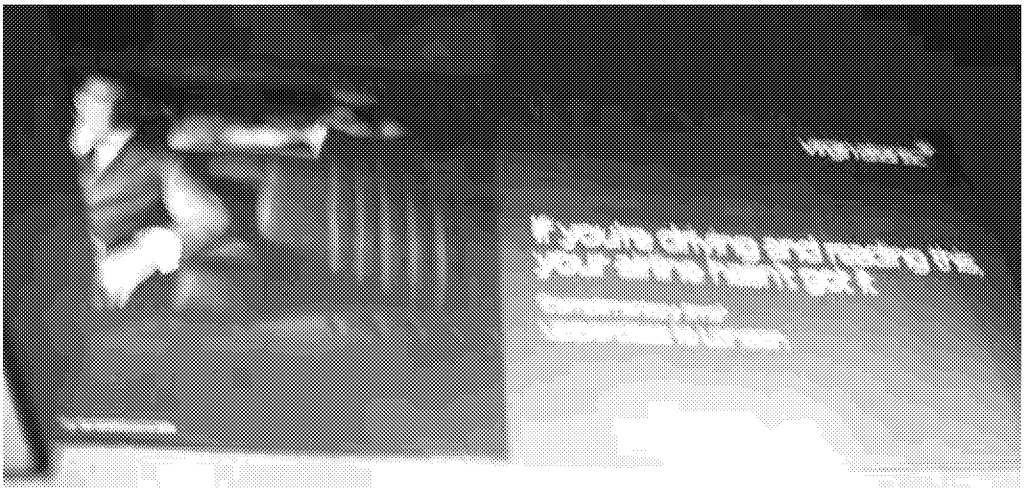



**LUMINANCE RANGE:**

**25-60 cd/m²**

*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

## S2 - VIRGIN ATLANTIC



**LUMINANCE RANGE:**

**2-40 cd/m²**

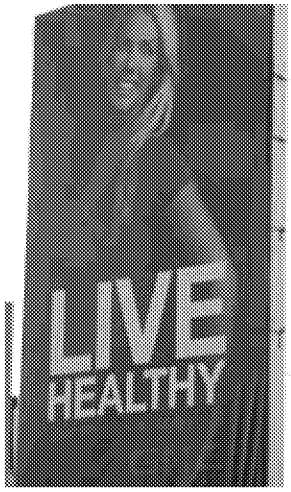
## S3 - WALLY PARK


**LUMINANCE RANGE:**

**3-19 cd/m²**

*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

## S4 - GMC




**LUMINANCE RANGE:**

**35-145 cd/m²**

*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

## S5 - PEPSI

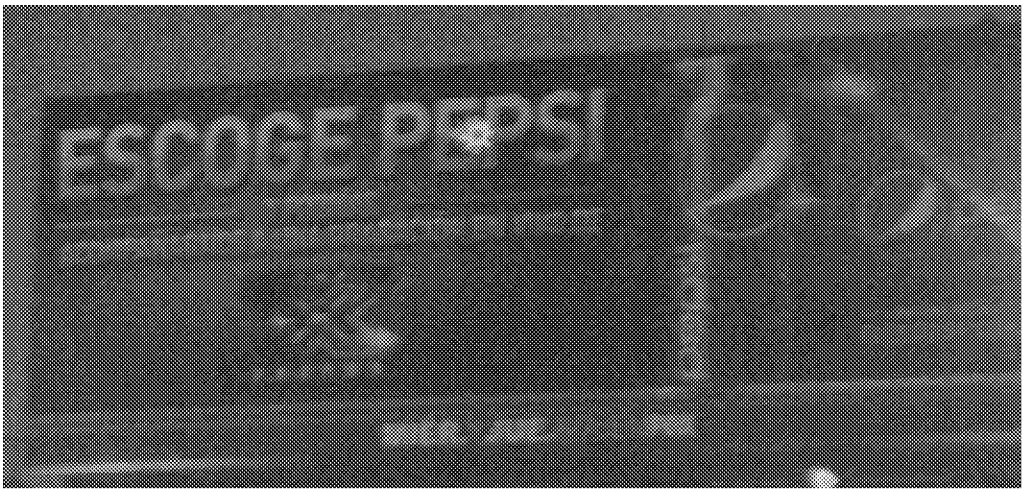



*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**8-40 cd/m²**

## S6 - GET MOTIVATED

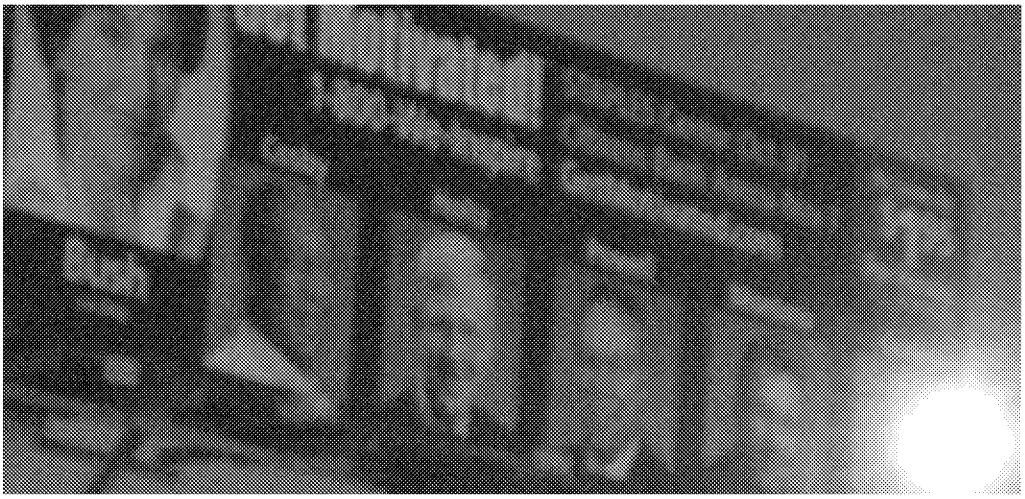
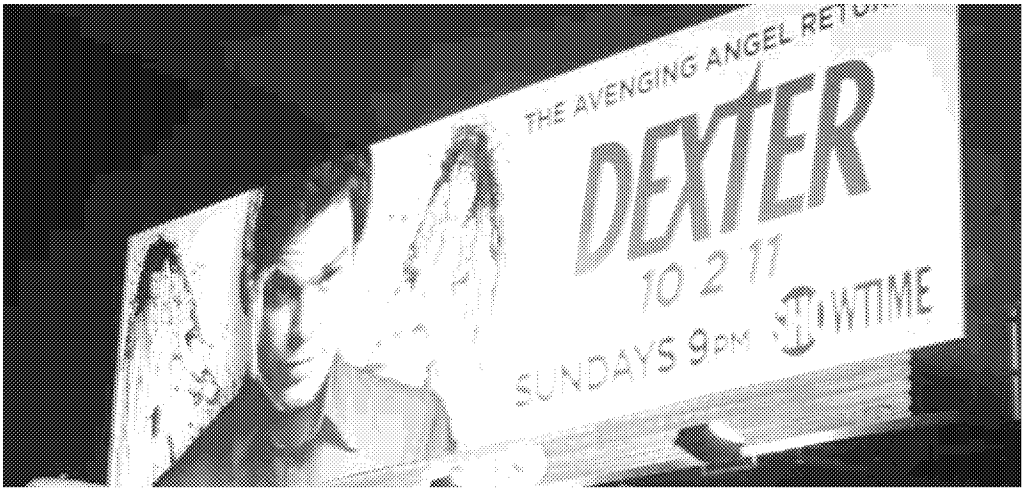


*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**6-35 cd/m²**

## S7 - DEXTER




**LUMINANCE RANGE:**

**27-50 cd/m²**

# APPENDIX 1.S: SIGNAGE WITH FLOODLIGHTS

## S8 - GUESS

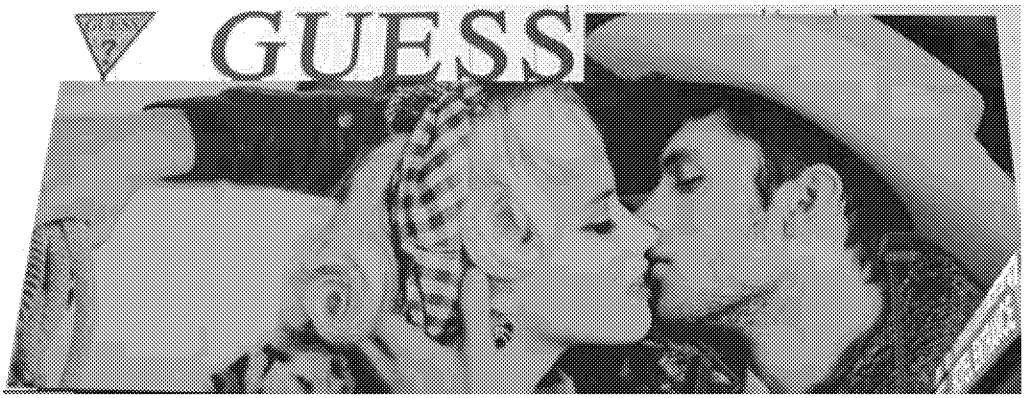



*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**2-9 cd/m²**

## S9 - ACTIVATE

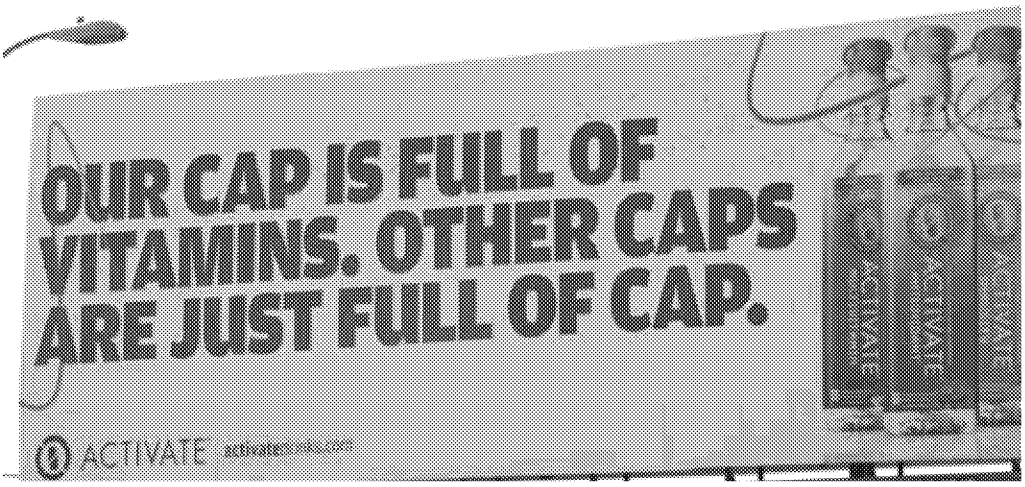



*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**52-140 cd/m²**

## S10 - TERRANEA

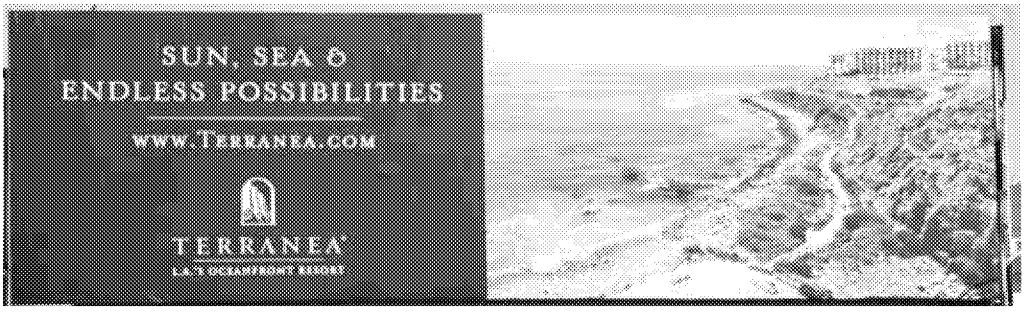



*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**10-40 cd/m²**

# APPENDIX 1.S: SIGNAGE WITH FLOODLIGHTS



## S11 - BACK DOOR CHANNEL

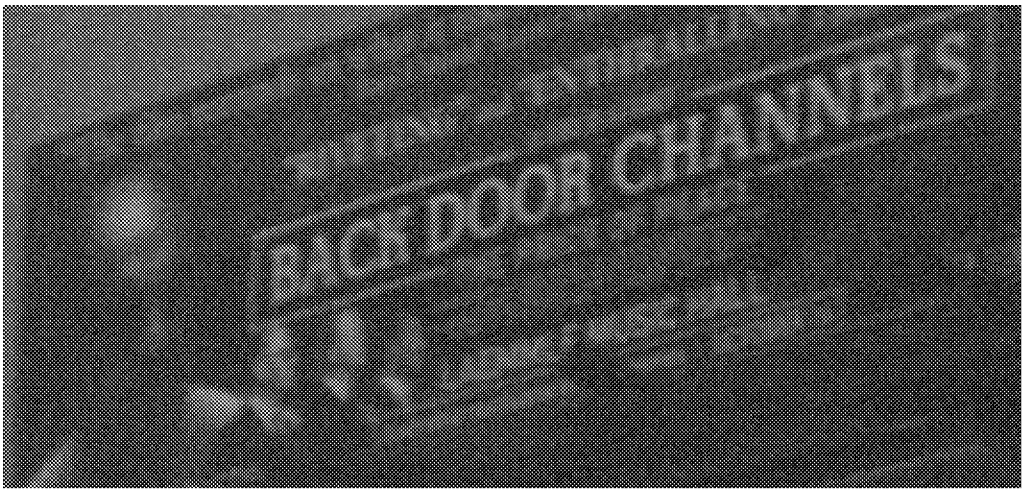
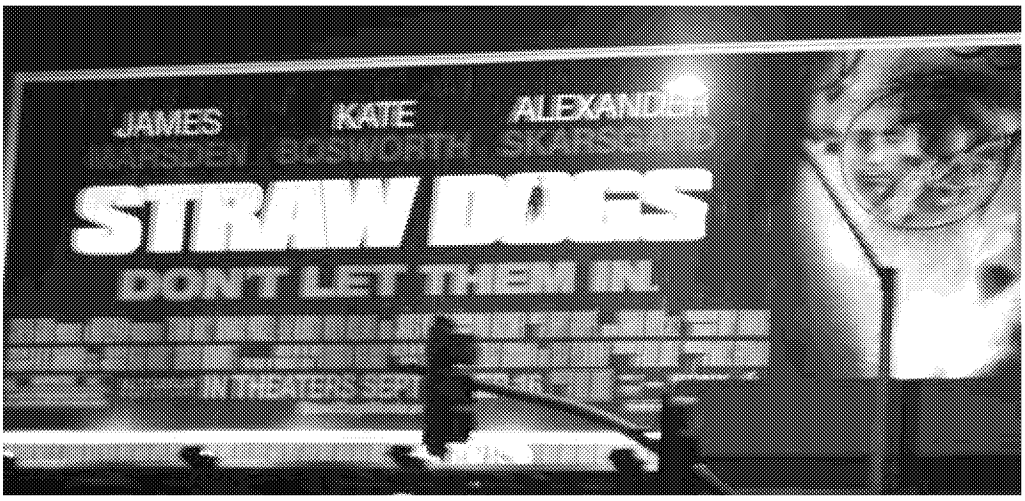



*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**8-30 cd/m²**

## S12 - STRAW DOGS




**LUMINANCE RANGE:**

**7-19 cd/m²**

## S13 - VERISON


*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

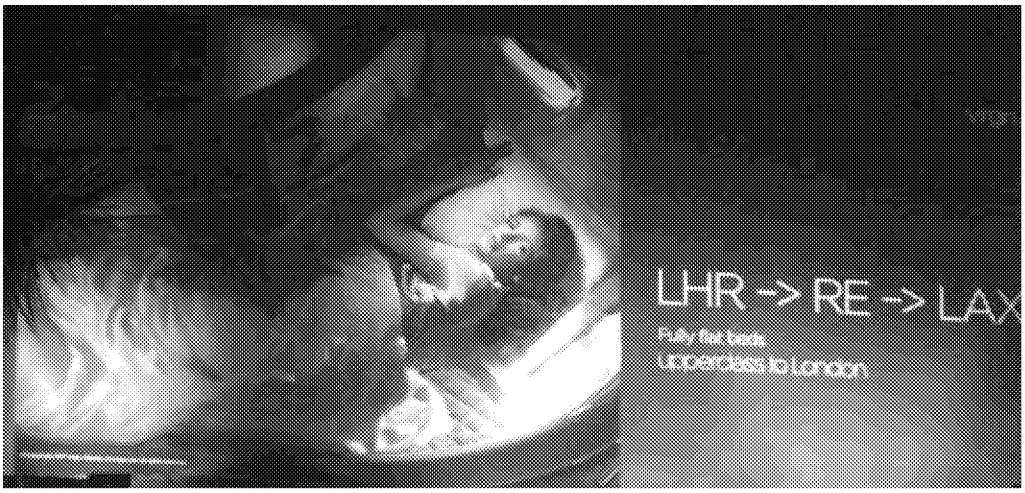
**LUMINANCE RANGE:**

**15-50 cd/m²**

# APPENDIX 1.S: SIGNAGE WITH FLOODLIGHTS



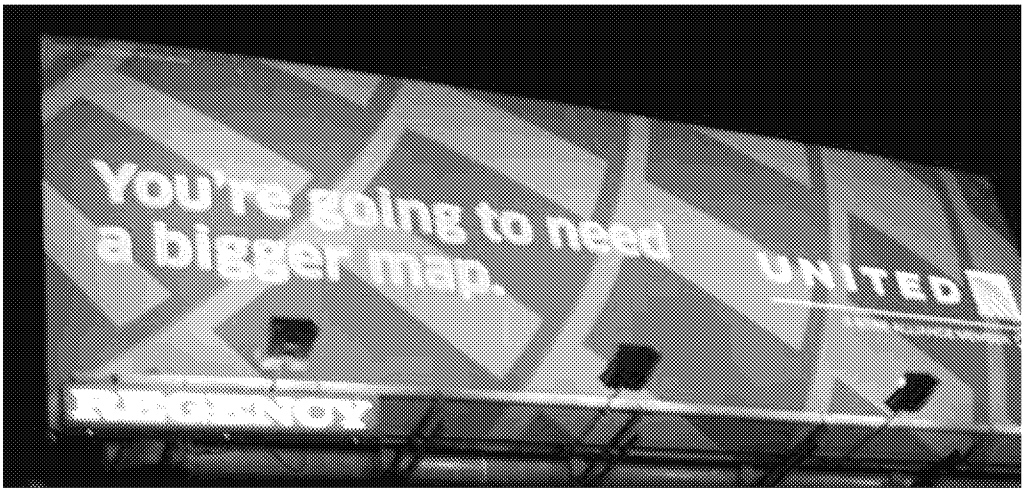
## S14 - VIRGIN ATLANTIC




**LUMINANCE RANGE:**

**2-40 cd/m²**

## S15 - UNITED




**LUMINANCE RANGE:**

**10-21 cd/m²**

## S16 - PARK AND FLY

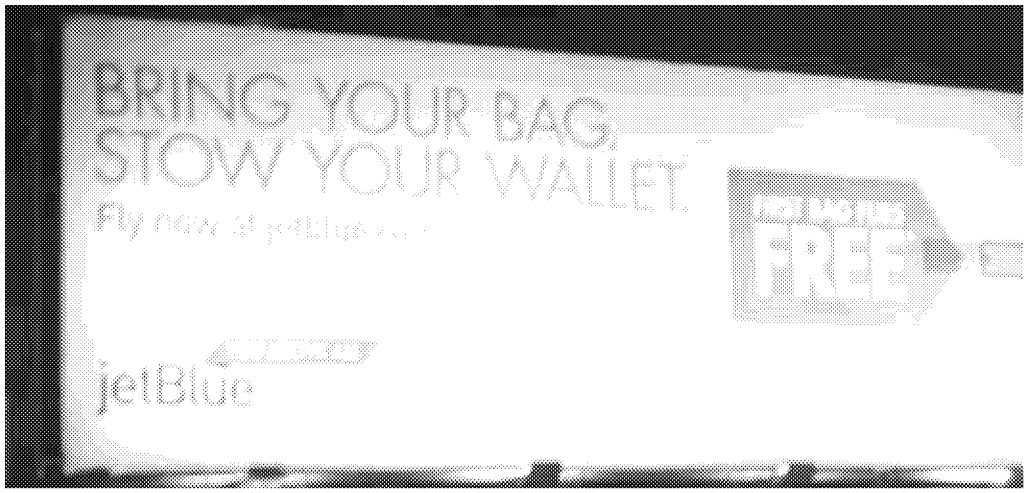

*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**18-60 cd/m²**

# APPENDIX 1.S: SIGNAGE WITH FLOODLIGHTS

## S17 - JET BLUE




**LUMINANCE RANGE:**

**50-90 cd/m²**

## S18 - FOOTLOOSE

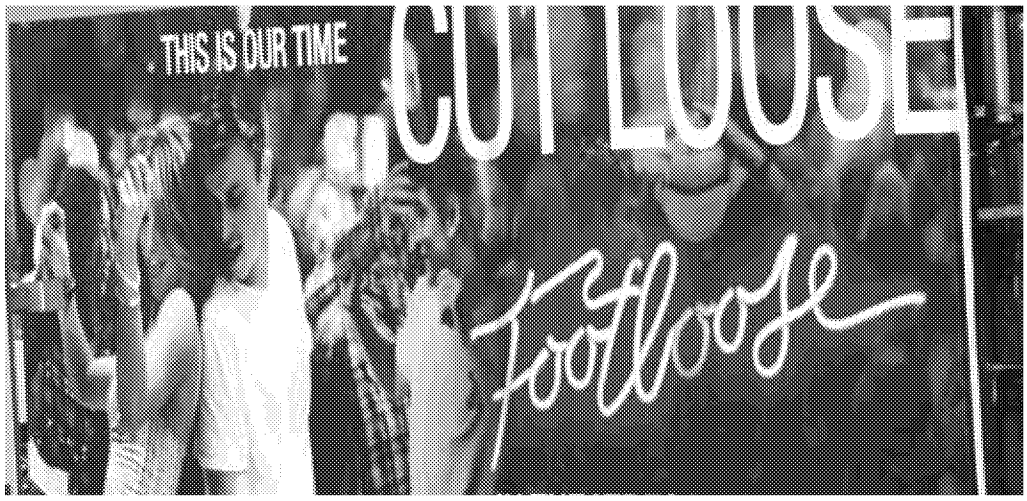



*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**10-27 cd/m²**

## S19 - NEED CASH NOW


*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

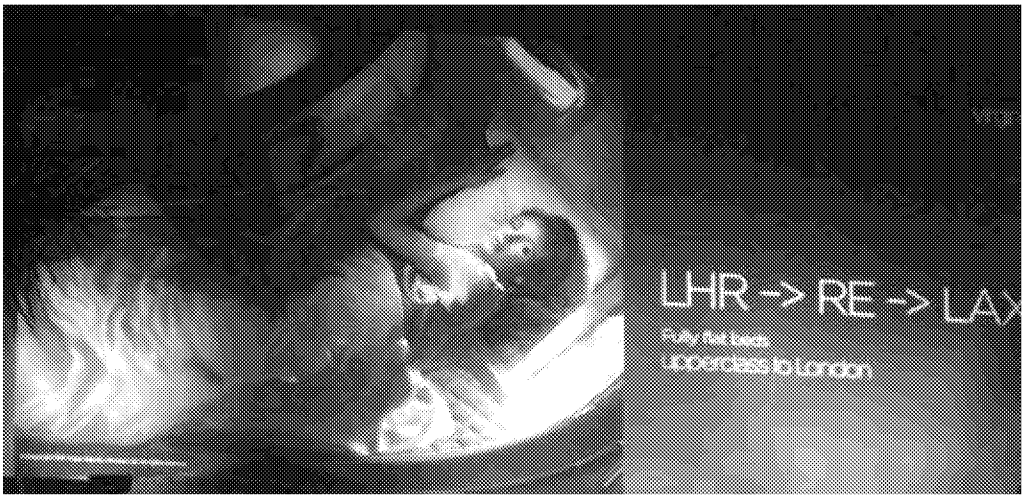
**6-20 cd/m²**

S20 - CALIFORNIA MILK


LUMINANCE RANGE:

34-86 cd/m²

S21 - VIRGIN ATLANTIC




LUMINANCE RANGE:

2-25 cd/m²

S22 - ANONYMOUS

LUMINANCE RANGE:

60-84 cd/m²

# APPENDIX 1.S: SIGNAGE WITH FLOODLIGHTS

## S23 - BARE ELEGANCE

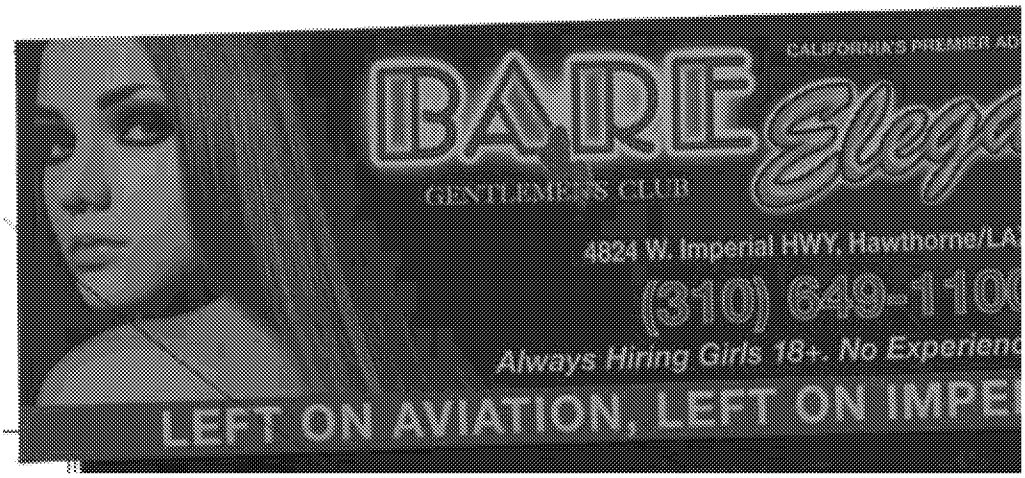



*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**8-14 cd/m²**

## S24 - HAUNTED HAYRIDE


**LUMINANCE RANGE:**

**12-23 cd/m²**

## S25 - HOMELAND

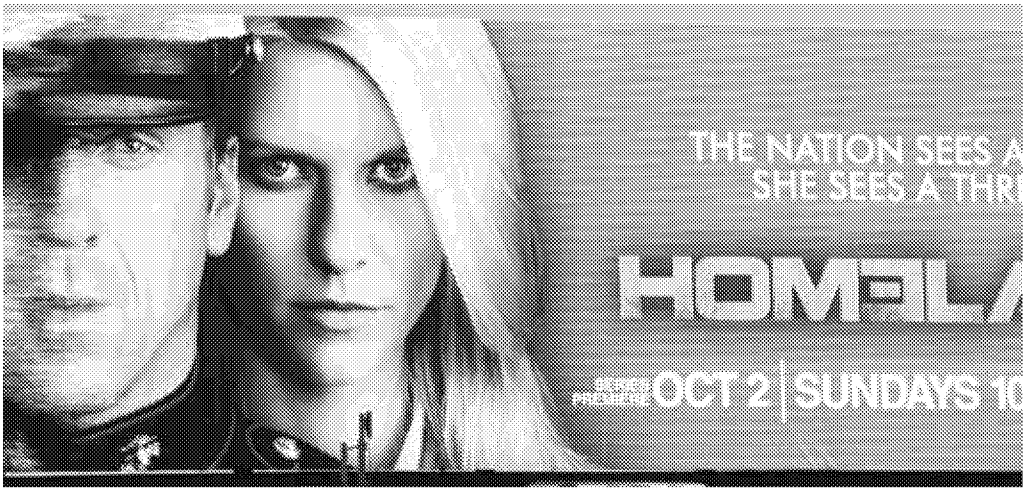


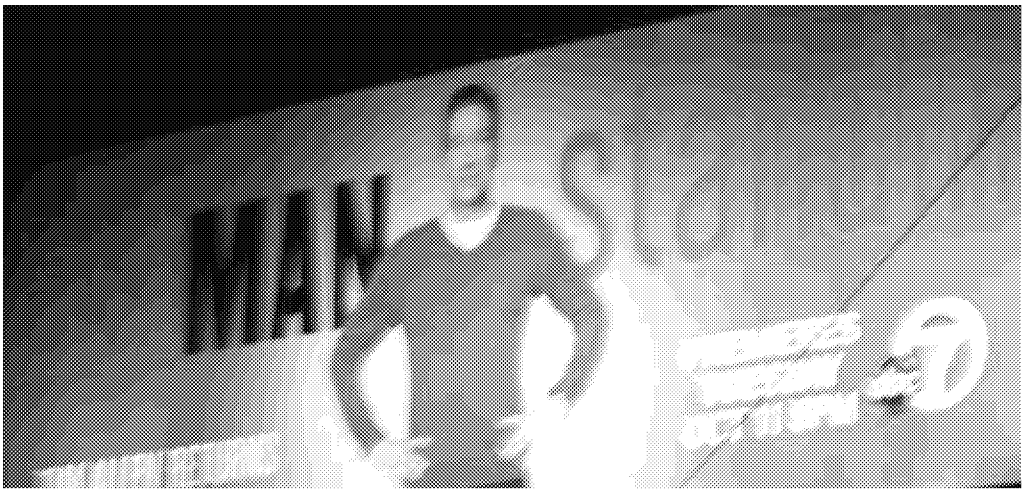

*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**7-19 cd/m²**

# APPENDIX 1.S: SIGNAGE WITH FLOODLIGHTS

## S26 - LAST MAN STANDING




**LUMINANCE RANGE:**

**19-29 cd/m²**

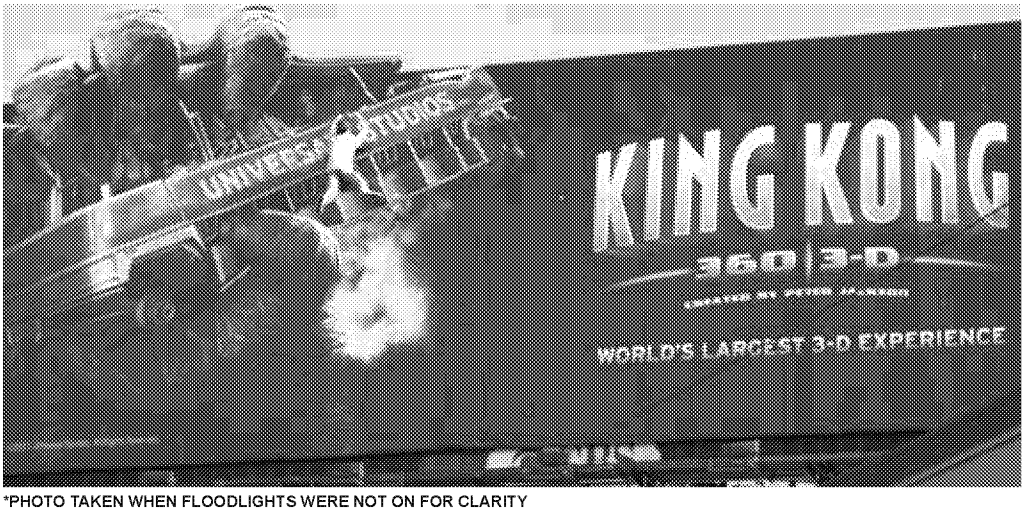
## S27 - ONCE


**LUMINANCE RANGE:**

**6-23 cd/m²**

*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

## S28 - KING KONG




**LUMINANCE RANGE:**

**2-16 cd/m²**

*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

## S29 - LAP BAND

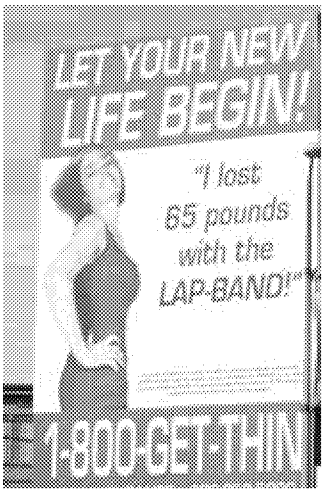
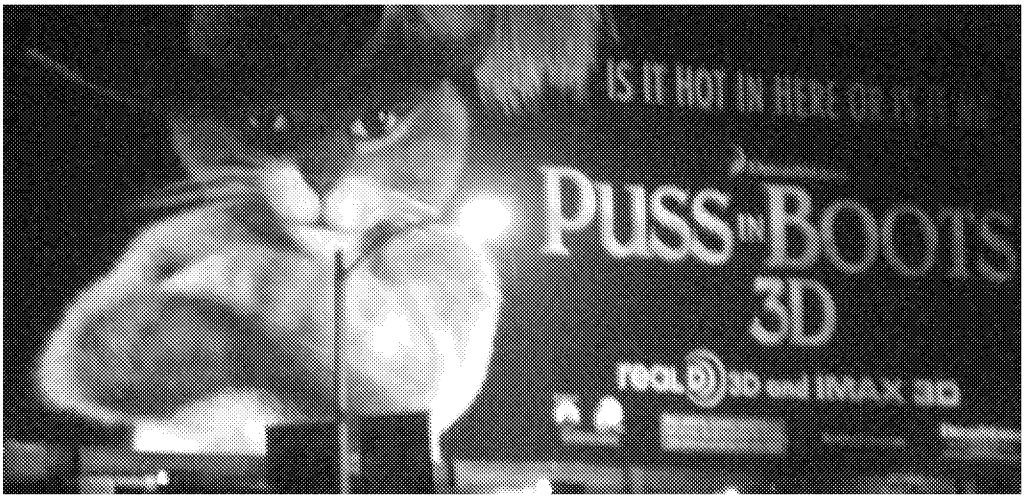



*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**22-38 cd/m²**

## S30 - PUSS IN BOOTS




**LUMINANCE RANGE:**

**13-46 cd/m²**

## S31 - IRIS


**LUMINANCE RANGE:**

**28-78 cd/m²**

## S32 - LAP BAND


**LUMINANCE RANGE:**

**19-54 cd/m²**

## S33 - LA KINGS


*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**1-6 cd/m²**

## S34 - GET MOTIVATED

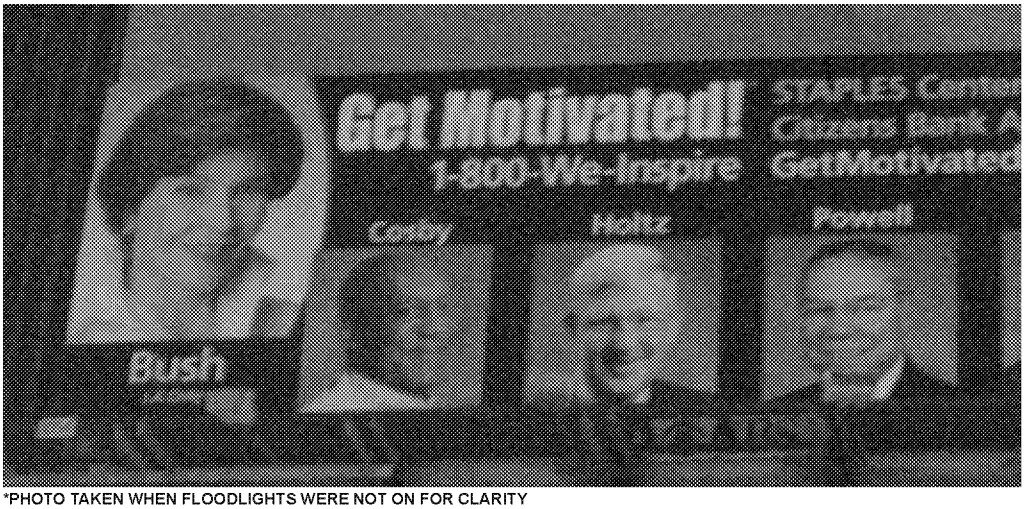



*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**

**23-48 cd/m²**

S35 - PANAM

**LUMINANCE RANGE:**

**14-46 cd/m²**

# APPENDIX 1.T: LED TICKER SIGNAGE



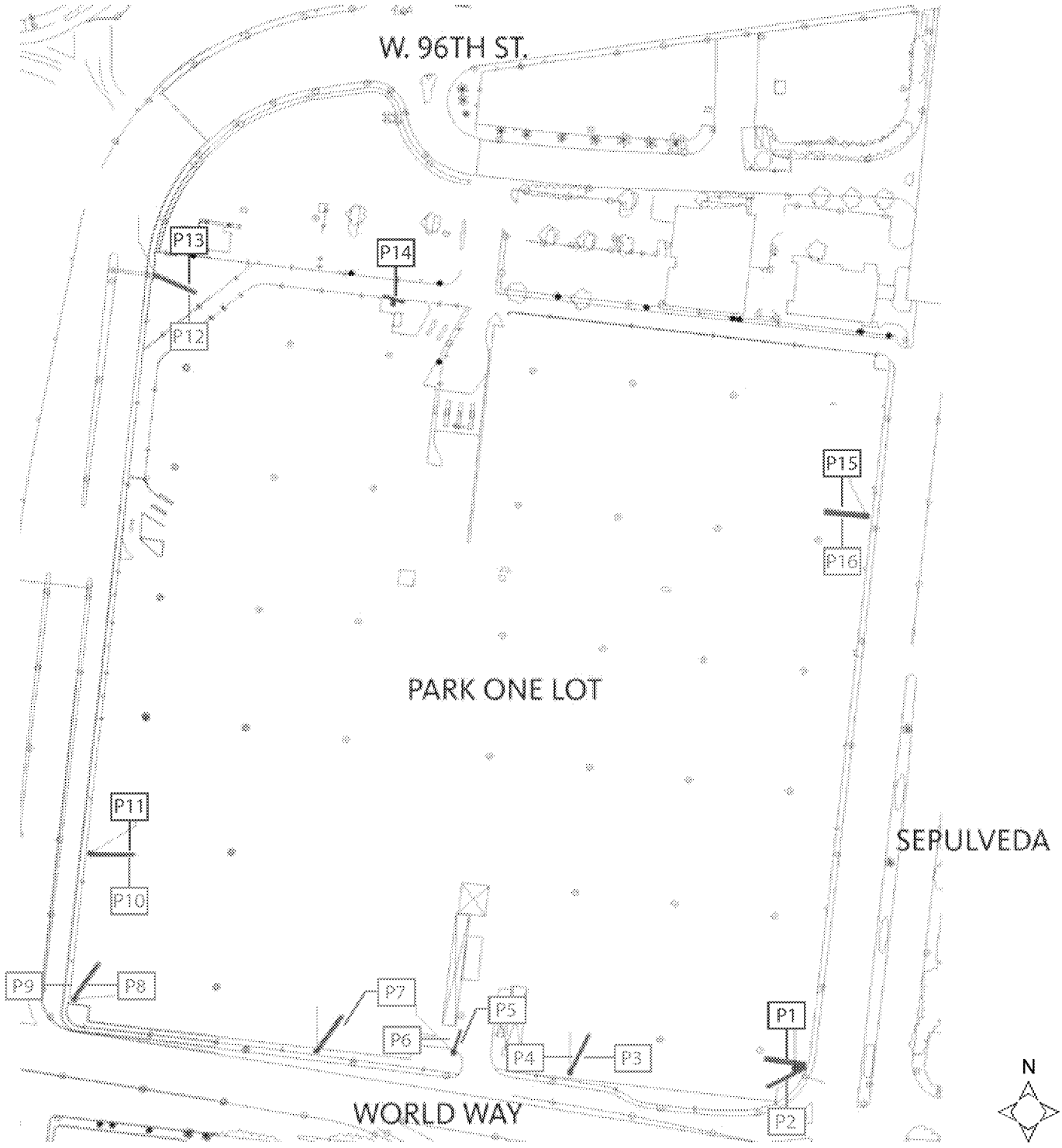
**T1 - WALLY PARK**


**LUMINANCE RANGE:**

**1300-1400 cd/m²**

## SURROUNDING AREA:

PARK ONE SIGNAGE




| LEGEND | |
|---|---|
| P | PARK ONE SIGNAGE - VIEWED DRIVING SOUTH |
| P | PARK ONE SIGNAGE - VIEWED DRIVING NORTH |
| P | PARK ONE SIGNAGE - VIEWED DRIVING WEST |
| P | PARK ONE SIGNAGE - VIEWED DRIVING EAST |

# APPENDIX 2.P: PARK ONE SIGNAGE



## P1 - SUVW

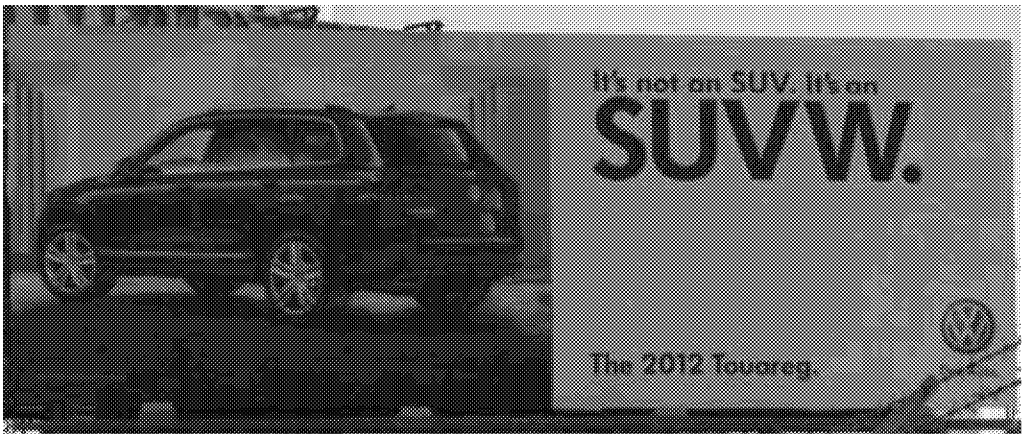



*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**
**bottom white: 111.5 cd/m²**
**top white: 21 cd/m²**

## P2 - VIRGIN AMERICA

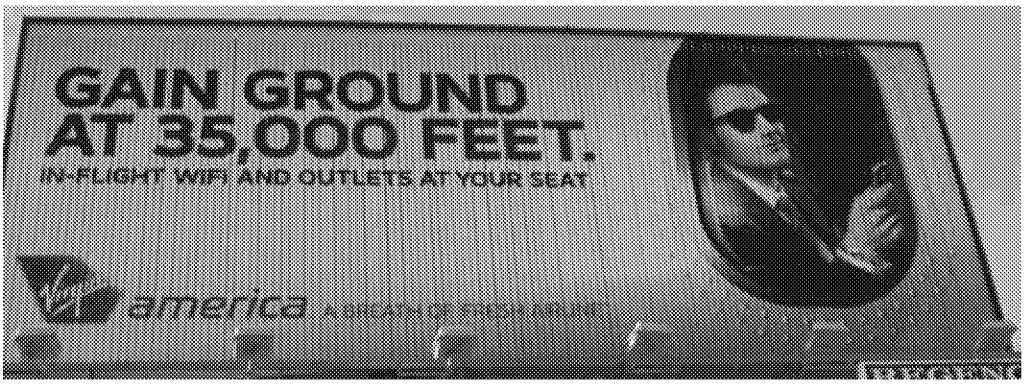



*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**
**top: 72 cd/m²**
**bottom: 23 cd/m²**

## P3 - JP MORGAN

*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**
**bottom: 55 cd/m²**
**top: 20.5 cd/m²**

# APPENDIX 2.P: PARK ONE SIGNAGE



## P4 - CMOH FOUNDATION


*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**
**bottom:**
**5.5 cd/m²**
**top:**
**3.8 cd/m²**

## P5 - PARK N FLY


*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**
**bottom:**
**37.5 cd/m²**
**top:**
**2.75 cd/m²**

## P6 - PARK N FLY


*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

**LUMINANCE RANGE:**
**bottom:**
**38 cd/m²**
**top:**
**4 cd/m²**

## P7 - BLANK

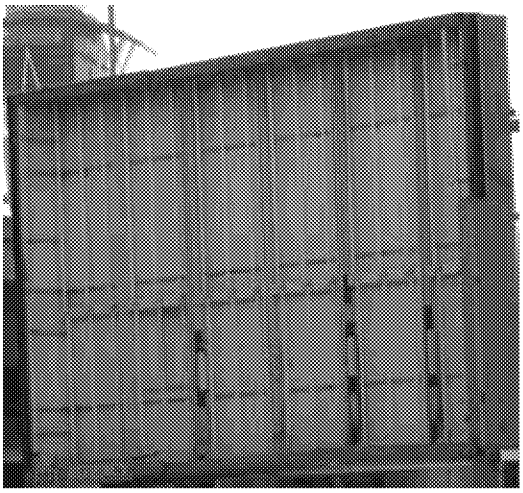


*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

## P8 - DELTA


**LUMINANCE RANGE:**
**bottom:**
**47 cd/m²**
**top:**
**14 cd/m²**

*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

## P9 - BLANK

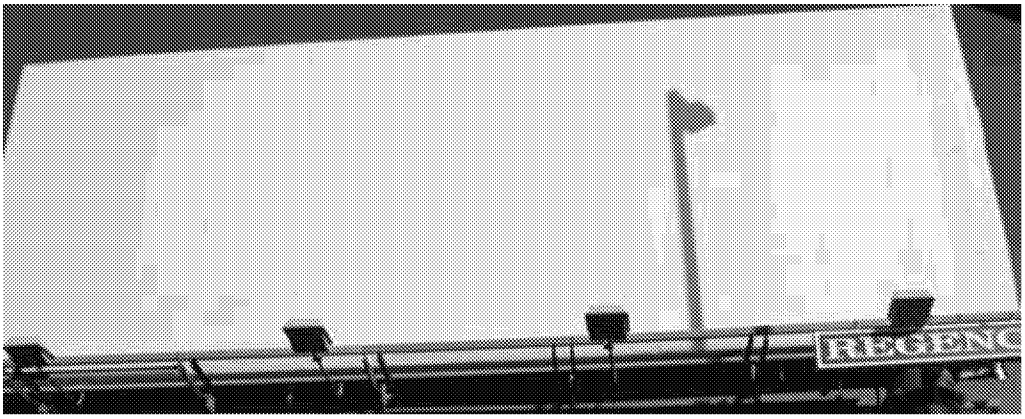
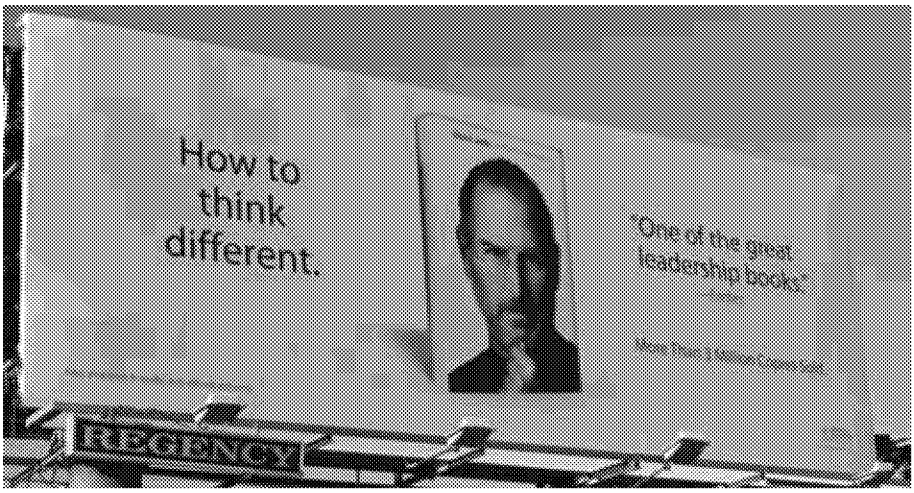


*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

## P10 - STEVE JOBS - HOW TO THINK DIFFERENT




**LUMINANCE RANGE:**
**bottom:**
**121 cd/m²**
**top:**
**21.8 cd/m²**

*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

## P11 - BLANK

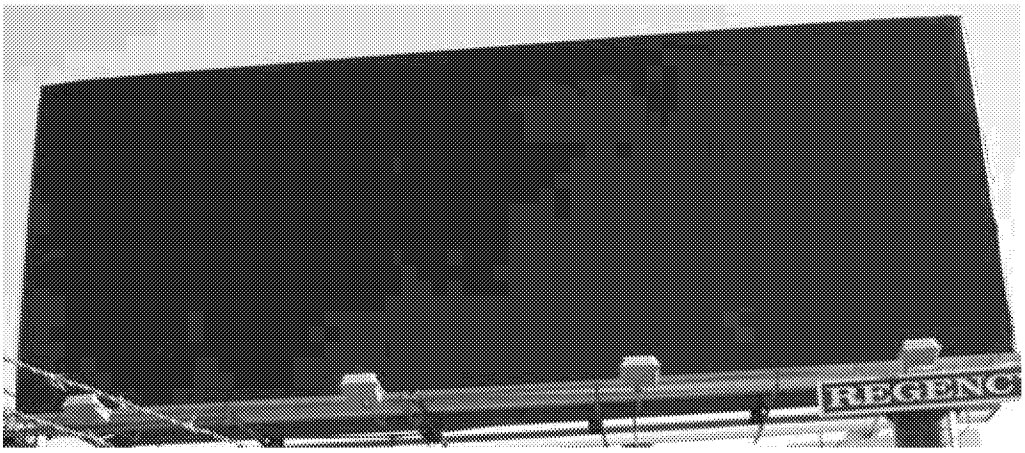



*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

## P12 - CMOH FOUNDATION


**LUMINANCE RANGE:**
**bottom:**
**9.2 cd/m²**
**top:**
**3 cd/m²**

*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

## P13 - BLANK

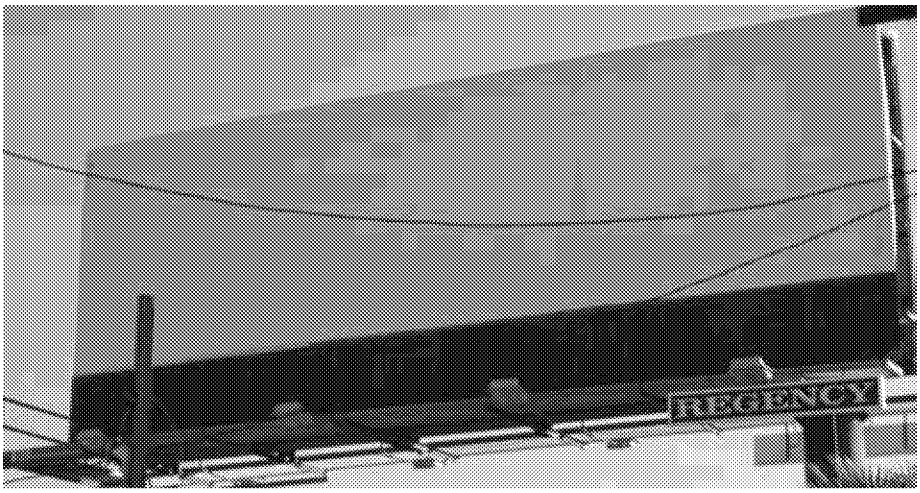


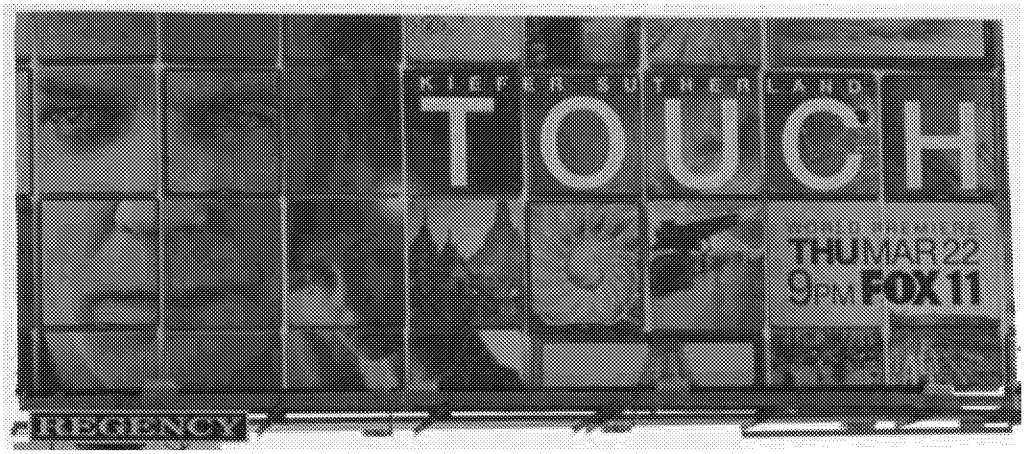

*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

## P14 - PARK N FLY


**LUMINANCE RANGE:**
**bottom:**
**32.6 cd/m²**
**top:**
**8 cd/m²**

*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

## P15 - TOUCH




**LUMINANCE RANGE:**
**bottom:**
**35 cd/m²**
**top:**
**4.7 cd/m²**

*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

## P16 - BLANK

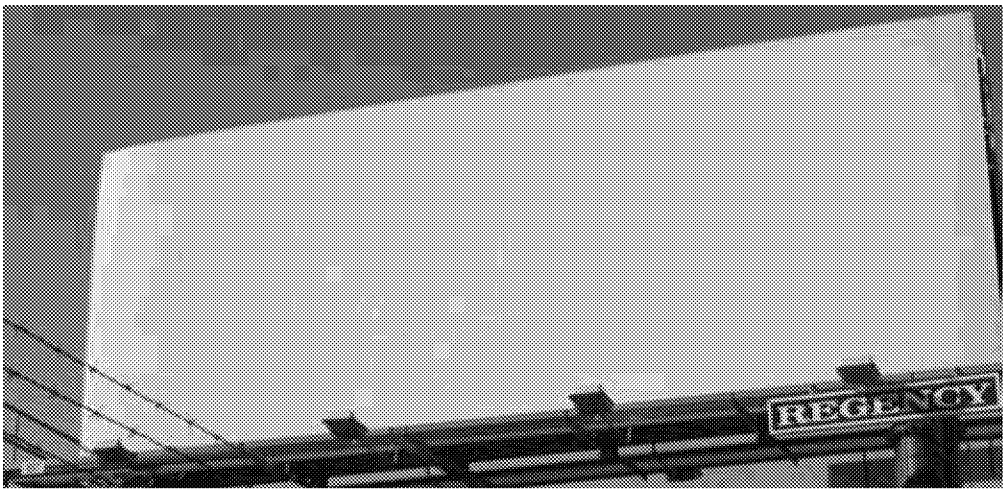
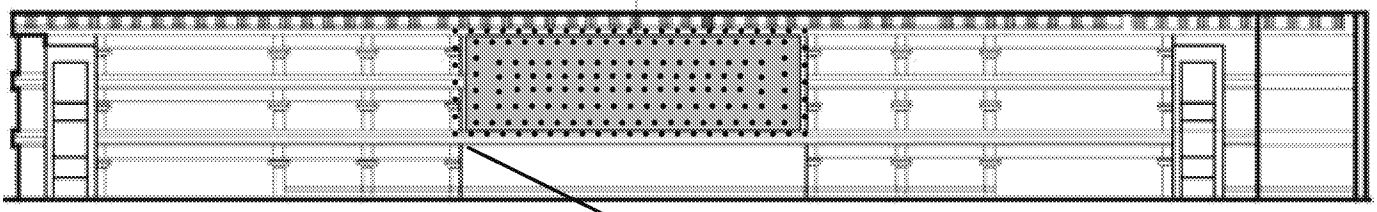



*PHOTO TAKEN WHEN FLOODLIGHTS WERE NOT ON FOR CLARITY

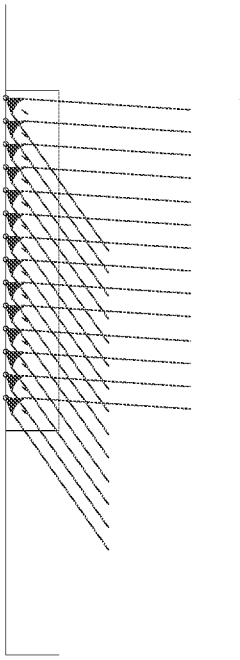
# APPENDIX 3.1: DIGITAL SIGNAGE TYPICAL DETAIL



PARKING STRUCTURE 1 - EAST ELEVATION:

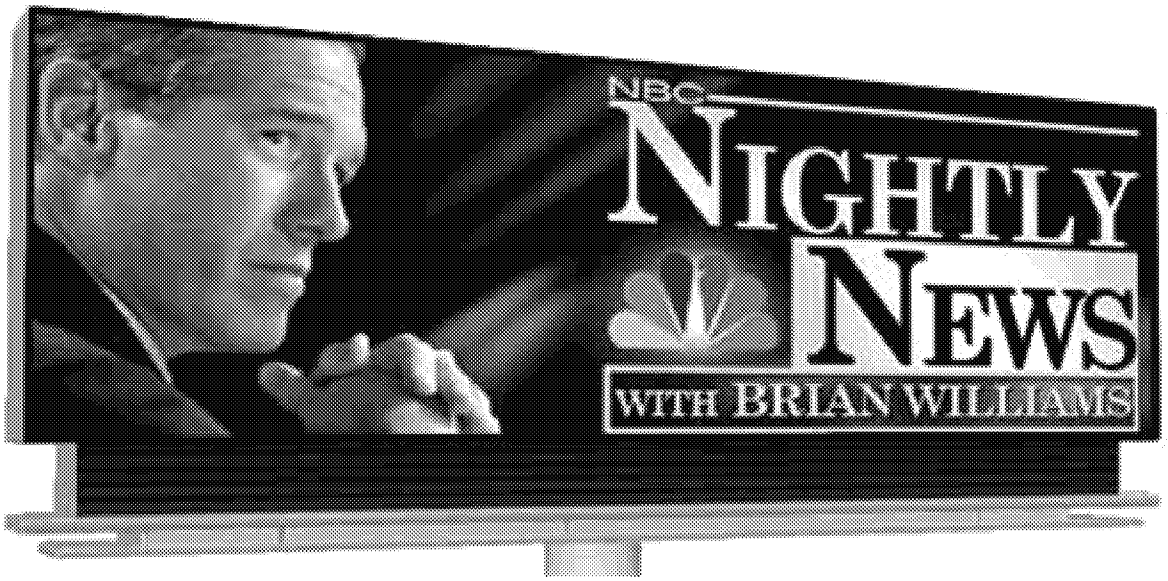


SIDE SECTION:

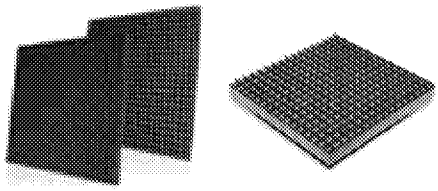



LEDS AIMED DOWNWARDS TO ELIMINATE VISIBILITY FROM THE FLIGHTPATH AND MAXIMIZE VIEWING ANGLES OF DESIRED AUDIENCE.

FIXTURE IMAGES:



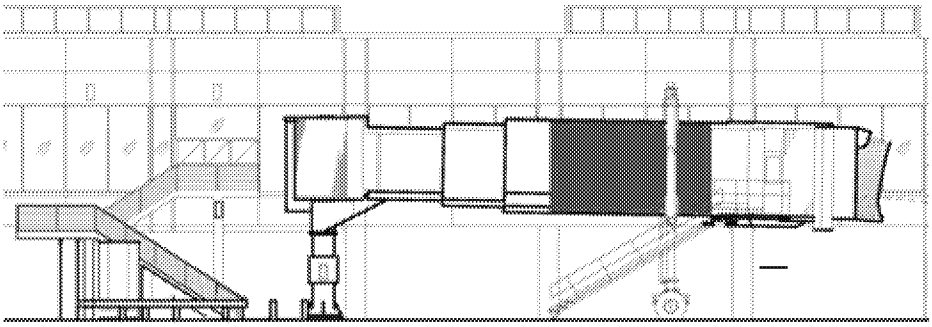

LED LAMP LIFE:



# APPENDIX 3.2: BOARDING BRIDGE TYPICAL DETAIL



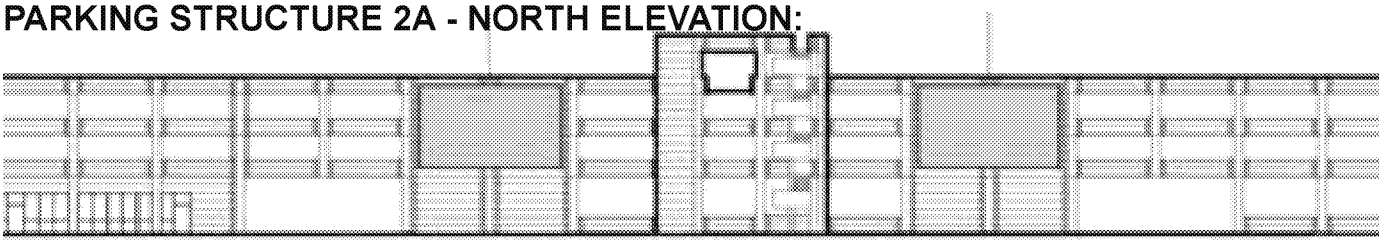
## TYPICAL BOARDING BRIDGE ELEVATION:



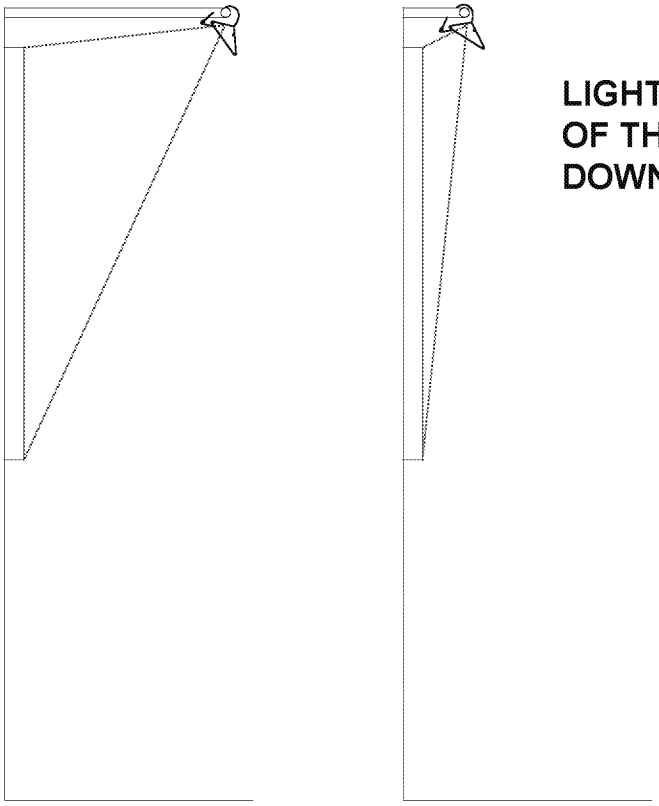
# APPENDIX 3.3: PARKING SIGNAGE TYPICAL DETAIL



## PARKING STRUCTURE 2A - NORTH ELEVATION:

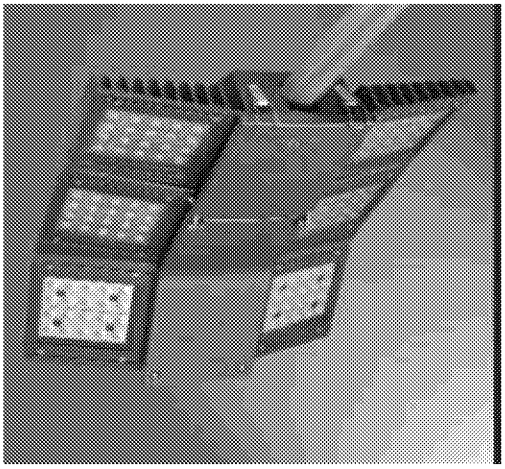


## SIDE SECTION B: FLOODLIGHTING SIGNAGE AIMED DOWNWARDS



LIGHT FIXTURE ARM MOUNTED TO THE SIDE OF THE BUILDING, ABOVE SIGNAGE, AIMED DOWNWARD.

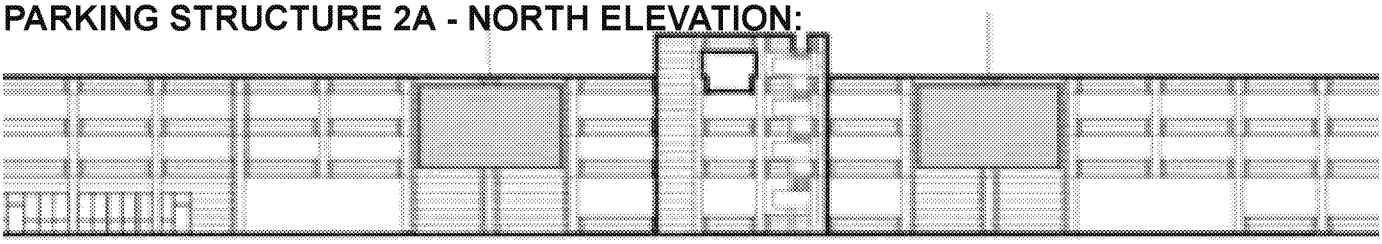
## FIXTURE IMAGES:



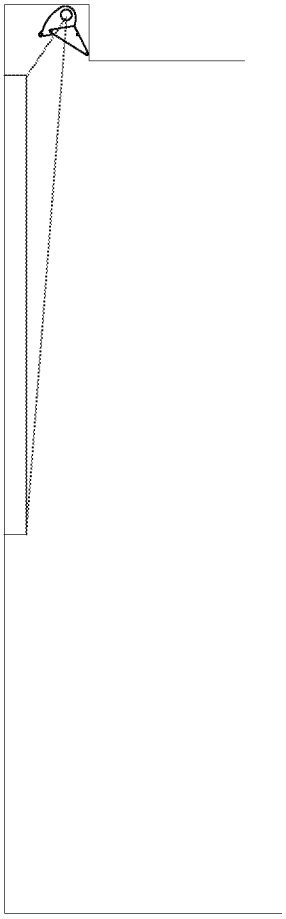
# APPENDIX 3.4: PARKING SIGNAGE TYPICAL DETAIL



## PARKING STRUCTURE 2A - NORTH ELEVATION:

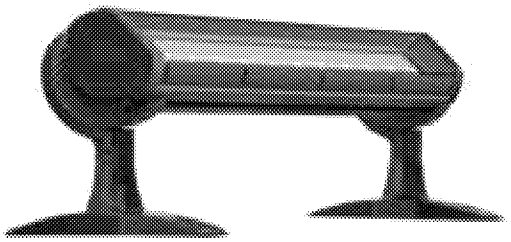


## SIDE SECTION C: GRAZING SIGNAGE FROM RECESSED SLOT



LINEAR FIXTURE RECESSED IN AN ARCHITECTURAL ENCLOSURE TO GRAZE DOWN SIGNAGE.

## FIXTURE IMAGES:



# APPENDIX 4.A.1: EXISTING TERMINAL SIGNAGE -DOWNLIT

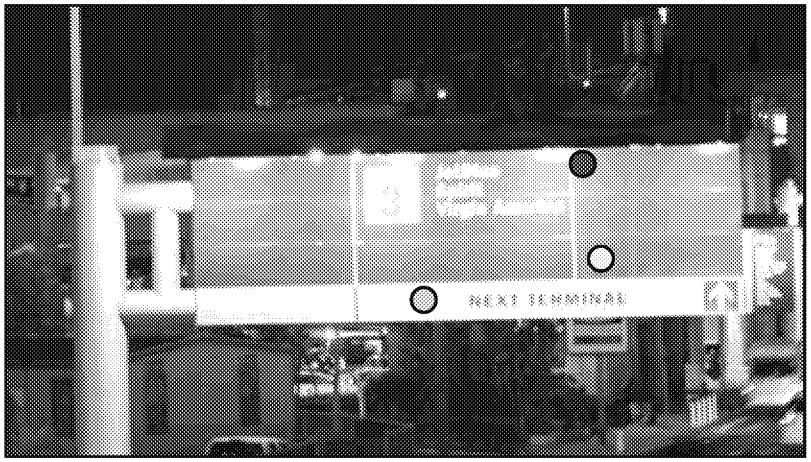


## TERMINAL 1 - N/A

## TERMINAL 2


| LUMINANCE (cd/m²) READING AT SURFACE | |
|---|---|
| AT LIGHT SOURCE REFLECTION | 517.60 cd/m² |
| AT GREY PORTION | 25.69 cd/m² |
| AT BLUE PORTION | 4.55 cd/m² |

## TERMINAL 3




| LUMINANCE (cd/m²) READING AT SURFACE | |
|---|---|
| AT LIGHT SOURCE REFLECTION | 381.00 cd/m² |
| AT GREY PORTION | 10.01 cd/m² |
| AT BLUE PORTION | 3.30 cd/m² |

# APPENDIX 4.A.1: EXISTING TERMINAL SIGNAGE -DOWNLIT



## TBIT


| LUMINANCE (cd/m²) READING AT SURFACE | |
|---|---|
| AT LIGHT SOURCE REFLECTION | 82.70 cd/m² |
| AT GREY PORTION | 21.39 cd/m² |
| AT BLUE PORTION | 5.65 cd/m² |

## TERMINAL 4


| LUMINANCE (cd/m²) READING AT SURFACE | |
|---|---|
| AT LIGHT SOURCE REFLECTION | 360.00 cd/m² |
| AT GREY PORTION | 26.30 cd/m² |
| AT BLUE PORTION | 3.80 cd/m² |

## TERMINAL 5


| LUMINANCE (cd/m²) READING AT SURFACE | |
|---|---|
| AT LIGHT SOURCE REFLECTION | 221.30 cd/m² |
| AT GREY PORTION | 13.80 cd/m² |
| AT BLUE PORTION | 3.74 cd/m² |

# APPENDIX 4.A.1: EXISTING TERMINAL SIGNAGE -DOWNLIT

## TERMINAL 6

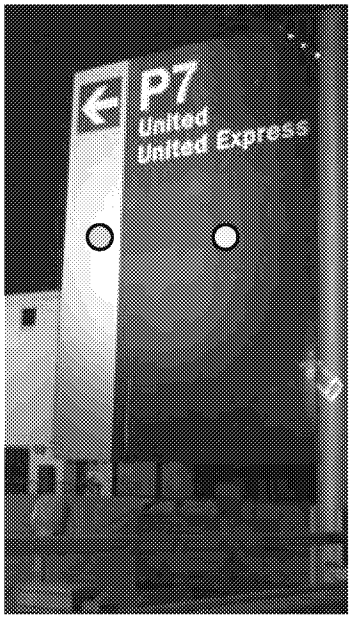

| LUMINANCE (cd/m²) READING AT SURFACE | |
|---|---|
| AT LIGHT SOURCE REFLECTION | 465.00 cd/m² |
| AT GREY PORTION | 15.20 cd/m² |
| AT BLUE PORTION | 4.23 cd/m² |

## TERMINAL 7


| LUMINANCE (cd/m²) READING AT SURFACE | |
|---|---|
| AT LIGHT SOURCE REFLECTION | 505.60 cd/m² |
| AT GREY PORTION | 37.00 cd/m² |
| AT BLUE PORTION | 8.90 cd/m² |

# APPENDIX 4.A.2: EXISTING TERMINAL SIGNAGE -UPLIT

PARKING
STRUCTURE 7

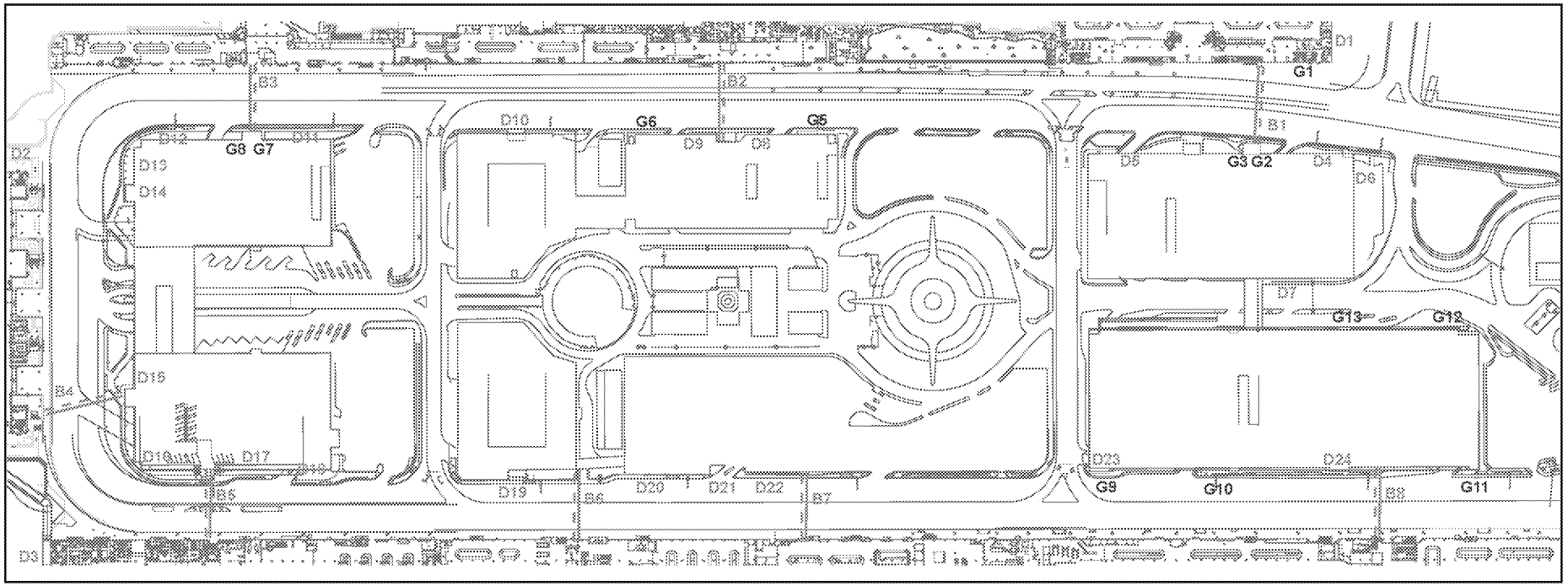



| LUMINANCE (cd/m²) READING AT SURFACE | |
|---|---|
| ◯ AT GREY PORTION | 18.00 cd/m² |
| ◯ AT BLUE PORTION | 6.00 cd/m² |

# APPENDIX 4: SITE MAP



## PROJECT SITE PROPOSED SIGNAGE LOCATION SURVEY

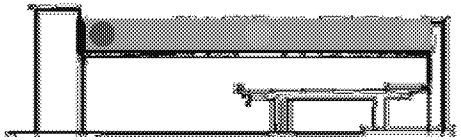



| LEGEND | |
|---|---|
| B | SKYBRIDGE SIGNAGE |
| D | DIGITAL SIGNAGE |
| G | SUPERGRAPHIC |

# APPENDIX 4.B.1: SKYBRIDGE FACADE EXISTING AMBIENT LIGHT LEVELS



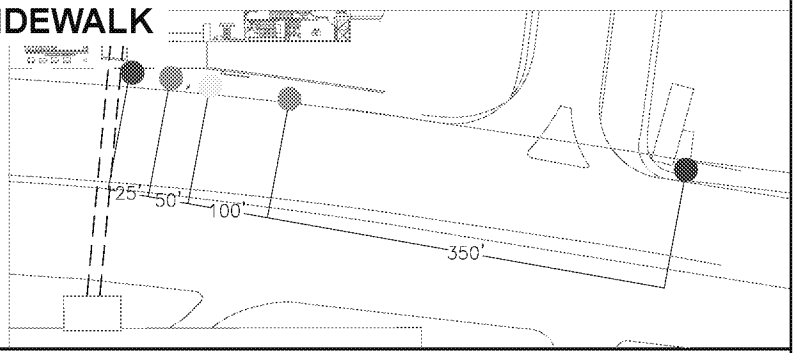
## B1 - TERMINAL 1 - LANDSIDE



| LUMINANCE (cd/m²) READING AT BRIDGE FACADE | |
|---|---|
| DEPARTURE SIDEWALK | 1.89 cd/m² |
| DEPARTURE CENTER ROAD | 2.37 cd/m² |
| ARRIVALS PARKING SIDE | 2.03 cd/m² |

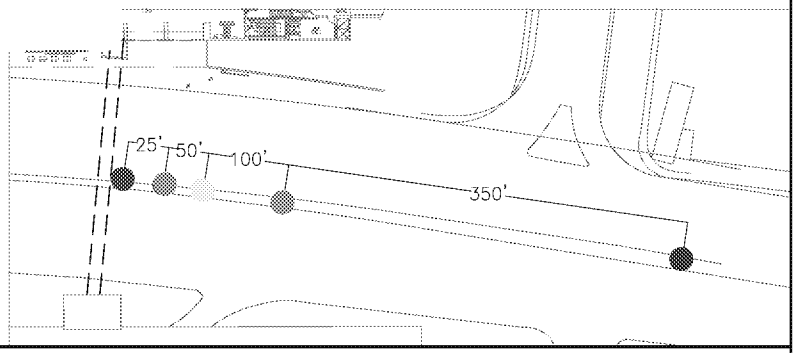
## B1 - TERMINAL 1 - DEPARTURE LEVEL SIDEWALK

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 6.05 FC |
| AT 25'-0" | 0.35 FC |
| AT 50'-0" | 0.70 FC |
| AT 100'-0" | 0.33 FC |
| AT 350'-0" | 1.19 FC |



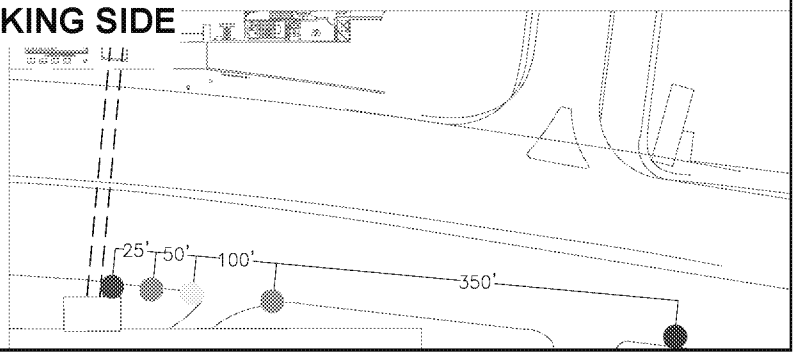

## B1 - TERMINAL 1 - ROADWAY CENTER

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.95 FC |
| AT 25'-0" | 0.85 FC |
| AT 50'-0" | 7.11 FC |
| AT 100'-0" | 1.53 FC |
| AT 350'-0" | 4.63 FC |




## B1 - TERMINAL 1 - ARRIVALS LEVEL PARKING SIDE

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.71 FC |
| AT 25'-0" | 7.54 FC |
| AT 50'-0" | 4.73 FC |
| AT 100'-0" | 3.88 FC |
| AT 350'-0" | 1.25 FC |

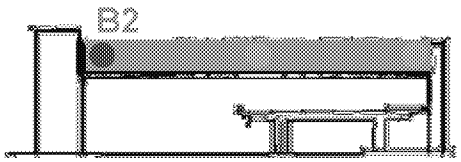



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.B.1: SKYBRIDGE FACADE EXISTING AMBIENT LIGHT LEVELS



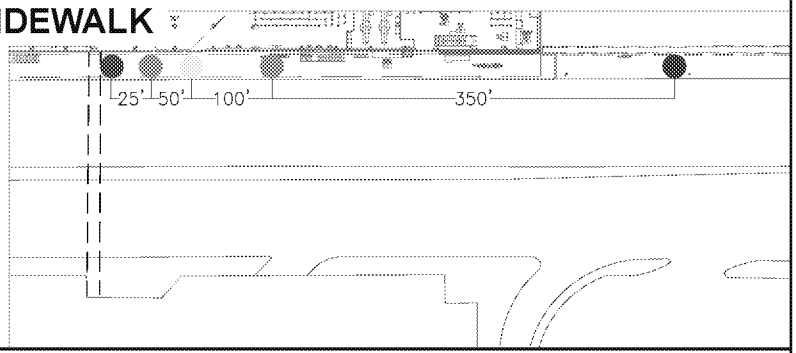
## B2 - TERMINAL 2 - LANDSIDE




| LUMINANCE (cd/m²) READING AT BRIDGE FACADE | |
|---|---|
| DEPARTURE SIDEWALK | 3.03 cd/m² |
| DEPARTURE CENTER ROAD | 3.73 cd/m² |
| ARRIVALS PARKING SIDE | 4.00 cd/m² |

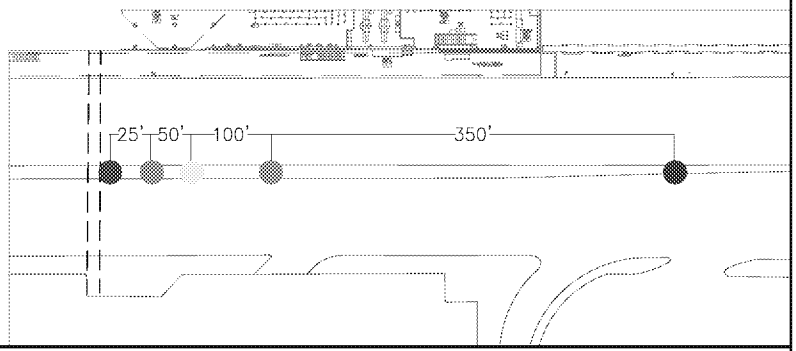
## B2 - TERMINAL 2 - DEPARTURE LEVEL SIDEWALK

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.97 FC |
| AT 25'-0" | 1.03 FC |
| AT 50'-0" | 0.89 FC |
| AT 100'-0" | 0.75 FC |
| AT 350'-0" | 0.41 FC |



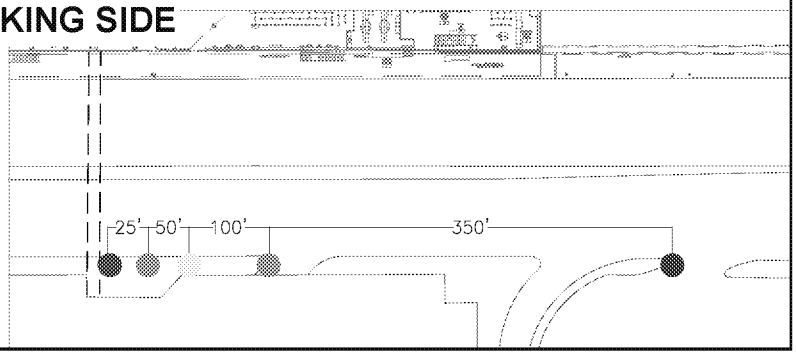

## B2 - TERMINAL 2 - ROADWAY CENTER

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.33 FC |
| AT 25'-0" | 0.88 FC |
| AT 50'-0" | 9.50 FC |
| AT 100'-0" | 1.11 FC |
| AT 350'-0" | 3.42 FC |




## B2 - TERMINAL 2 - ARRIVALS LEVEL PARKING SIDE

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.14 FC |
| AT 25'-0" | 0.91 FC |
| AT 50'-0" | 0.41 FC |
| AT 100'-0" | 1.72 FC |
| AT 350'-0" | 1.26 FC |

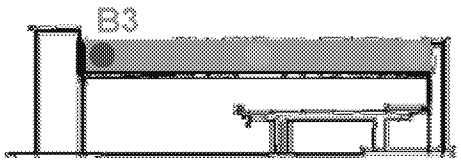



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.B.1: SKYBRIDGE FACADE EXISTING AMBIENT LIGHT LEVELS



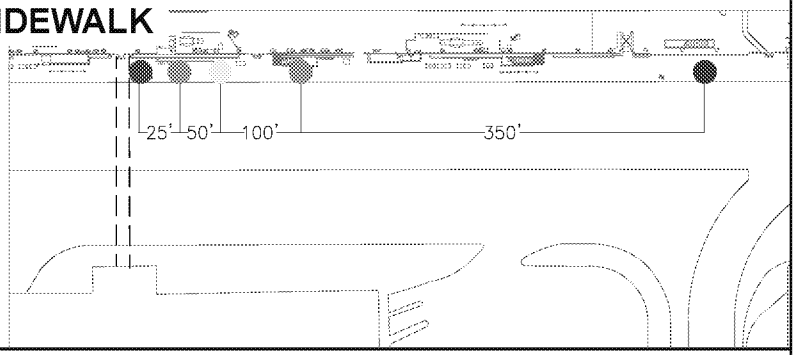
## B3 - TERMINAL 3 - LANDSIDE




| LUMINANCE (cd/m²) READING AT BRIDGE FACADE | |
|---|---|
| DEPARTURE SIDEWALK | 1.66 cd/m² |
| DEPARTURE CENTER ROAD | 1.02 cd/m² |
| ARRIVALS PARKING SIDE | 2.41 cd/m² |

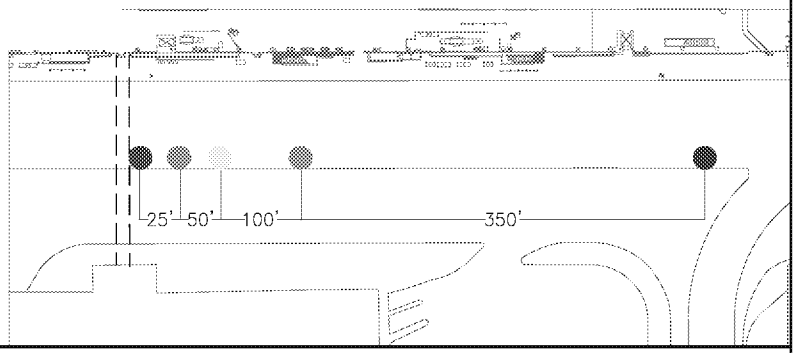
## B3 - TERMINAL 3 - DEPARTURE LEVEL SIDEWALK

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.77 FC |
| AT 25'-0" | 0.74 FC |
| AT 50'-0" | 0.62 FC |
| AT 100'-0" | 0.67 FC |
| AT 350'-0" | 0.21 FC |



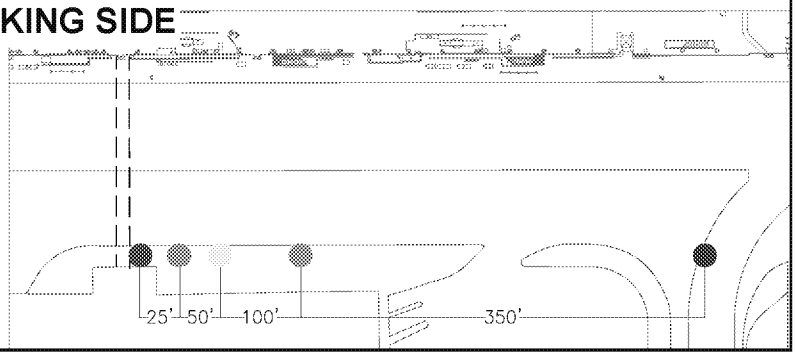

## B3 - TERMINAL 3 - ROADWAY CENTER

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.24 FC |
| AT 25'-0" | 3.25 FC |
| AT 50'-0" | 3.84 FC |
| AT 100'-0" | 0.83 FC |
| AT 350'-0" | 3.55 FC |




## B3 - TERMINAL 3 - ARRIVALS LEVEL PARKING SIDE

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.47 FC |
| AT 25'-0" | 1.26 FC |
| AT 50'-0" | 0.76 FC |
| AT 100'-0" | 0.98 FC |
| AT 350'-0" | 0.75 FC |

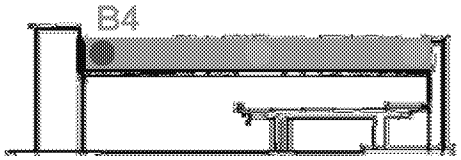



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.B.1: SKYBRIDGE FACADE EXISTING AMBIENT LIGHT LEVELS



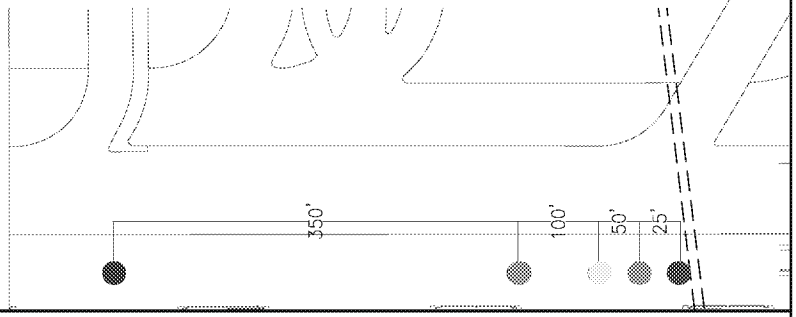
## B4 - TOM BRADLEY INTERNATIONAL TERMINAL - LANDSIDE




| LUMINANCE (cd/m²) READING AT BRIDGE FACADE | |
|---|---|
| DEPARTURE SIDEWALK | 4.00 cd/m² |
| DEPARTURE CENTER ROAD | 4.20 cd/m² |
| ARRIVALS PARKING SIDE | 10.00 cd/m² |

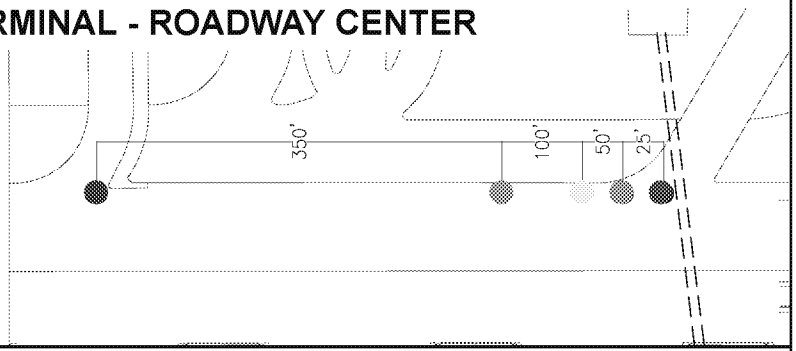
## B4 - TOM BRADLEY INTERNATIONAL TERMINAL - DEPARTURE LEVEL SIDEWALK

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 6.75 FC |
| AT 25'-0" | 0.80 FC |
| AT 50'-0" | 4.90 FC |
| AT 100'-0" | 2.00 FC |
| AT 350'-0" | 4.00 FC |



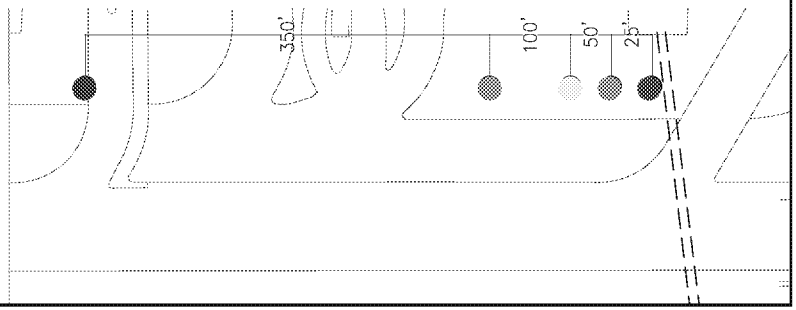

## B4 - TOM BRADLEY INTERNATIONAL TERMINAL - ROADWAY CENTER

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.85 FC |
| AT 25'-0" | 14.60 FC |
| AT 50'-0" | 6.50 FC |
| AT 100'-0" | 2.60 FC |
| AT 350'-0" | 2.50 FC |




## B4 - TOM BRADLEY INTERNATIONAL TERMINAL - ARRIVALS LEVEL PARKING SIDE

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.85 FC |
| AT 25'-0" | 2.60 FC |
| AT 50'-0" | 0.80 FC |
| AT 100'-0" | 0.90 FC |
| AT 350'-0" | 5.65 FC |

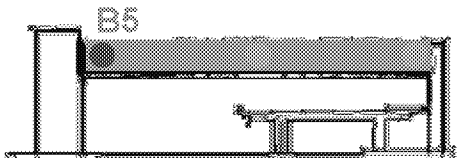



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.B.1: SKYBRIDGE FACADE EXISTING AMBIENT LIGHT LEVELS



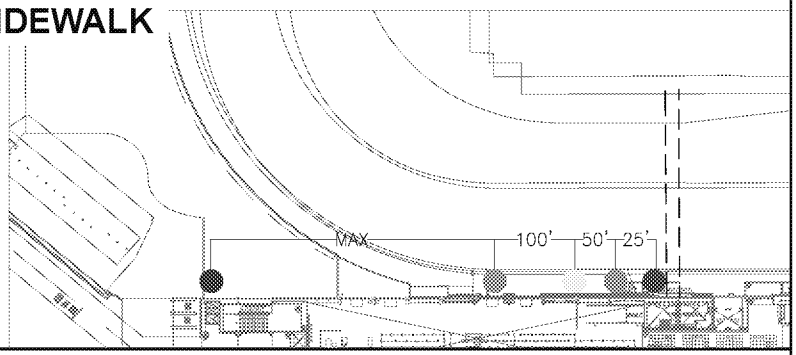
## B5 - TERMINAL 4 - LANDSIDE




| LUMINANCE (cd/m²) READING AT BRIDGE FACADE | |
|---|---|
| DEPARTURE SIDEWALK | 2.20 cd/m² |
| DEPARTURE CENTER ROAD | 3.30 cd/m² |
| ARRIVALS PARKING SIDE | 1.53 cd/m² |

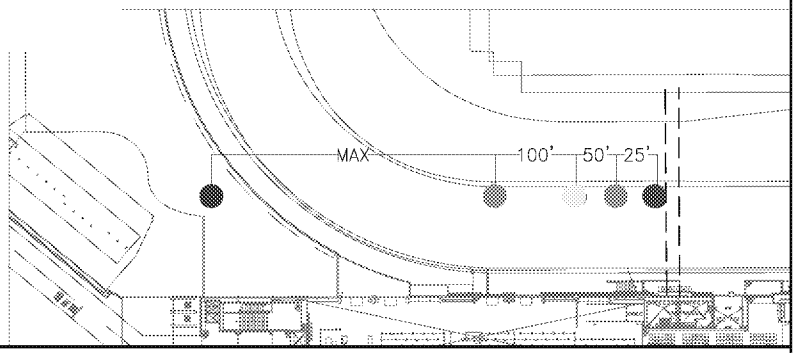
## B5 - TERMINAL 4 - DEPARTURE LEVEL SIDEWALK

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 44.00 FC |
| AT 25'-0" | 58.50 FC |
| AT 50'-0" | 2.70 FC |
| AT 100'-0" | 3.30 FC |
| AT MAX | 32.10 FC |



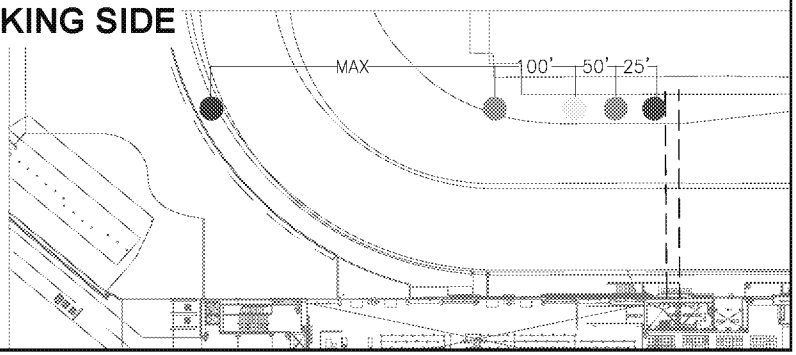

## B5 - TERMINAL 4 - ROADWAY CENTER

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.90 FC |
| AT 25'-0" | 16.60 FC |
| AT 50'-0" | 2.20 FC |
| AT 100'-0" | 2.80 FC |
| AT MAX | 2.80 FC |




## B5 - TERMINAL 4 - ARRIVALS LEVEL PARKING SIDE

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 2.55 FC |
| AT 25'-0" | 1.13 FC |
| AT 50'-0" | 1.08 FC |
| AT 100'-0" | 1.10 FC |
| AT MAX | 1.11 FC |

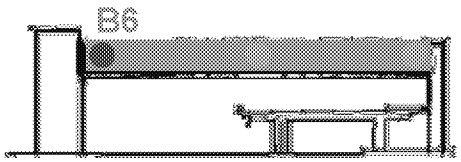



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.B.1: SKYBRIDGE FACADE EXISTING AMBIENT LIGHT LEVELS



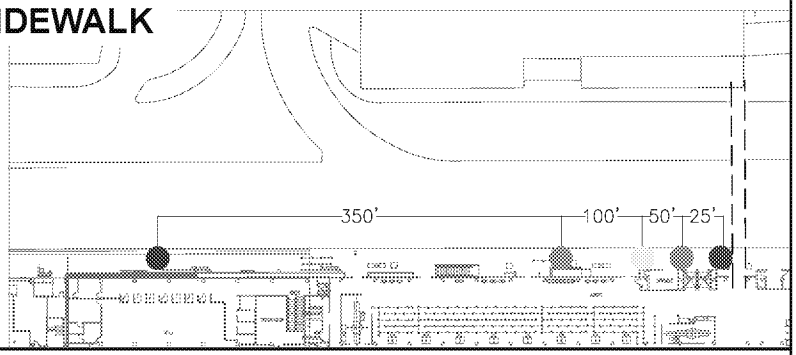
## B6 - TERMINAL 5 - LANDSIDE




| LUMINANCE (cd/m²) READING AT BRIDGE FACADE | |
|---|---|
| DEPARTURE SIDEWALK | 1.90 cd/m² |
| DEPARTURE CENTER ROAD | 2.50 cd/m² |
| ARRIVALS PARKING SIDE | 1.79 cd/m² |

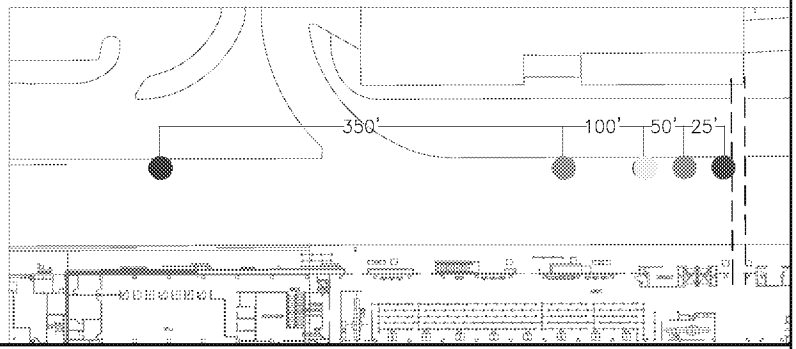
## B6 - TERMINAL 5 - DEPARTURE LEVEL SIDEWALK

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 50.00 FC |
| AT 25'-0" | 48.70 FC |
| AT 50'-0" | 3.70 FC |
| AT 100'-0" | 3.15 FC |
| AT 350'-0" | 7.50 FC |



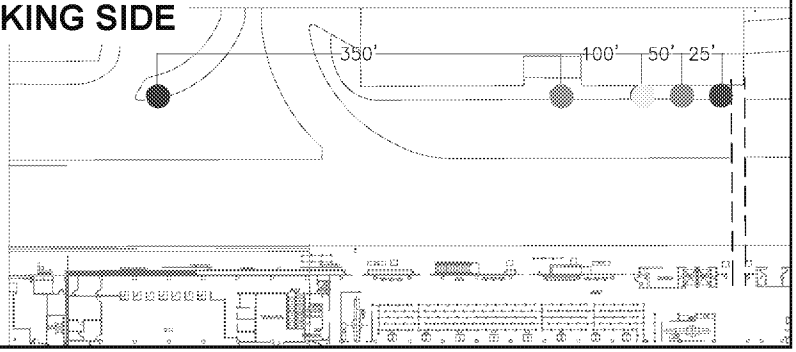

## B6 - TERMINAL 5 - ROADWAY CENTER

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 8.50 FC |
| AT 25'-0" | 1.95 FC |
| AT 50'-0" | 4.75 FC |
| AT 100'-0" | 2.60 FC |
| AT 350'-0" | 0.35 FC |




## B6 - TERMINAL 5 - ARRIVALS LEVEL PARKING SIDE

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.75 FC |
| AT 25'-0" | 0.80 FC |
| AT 50'-0" | 0.40 FC |
| AT 100'-0" | 0.70 FC |
| AT 350'-0" | 0.85 FC |

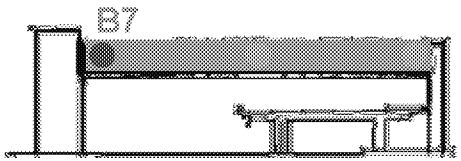



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.B.1: SKYBRIDGE FACADE EXISTING AMBIENT LIGHT LEVELS



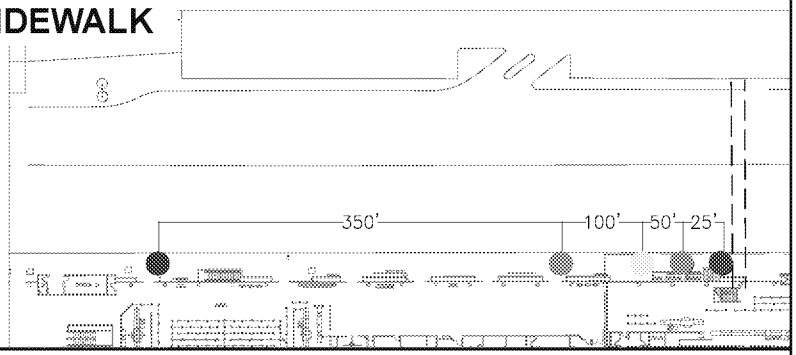
## B7 - TERMINAL 6 - LANDSIDE




| LUMINANCE (cd/m²) READING AT BRIDGE FACADE | |
|---|---|
| DEPARTURE SIDEWALK | 1.60 cd/m² |
| DEPARTURE CENTER ROAD | 2.15 cd/m² |
| ARRIVALS PARKING SIDE | 3.40 cd/m² |

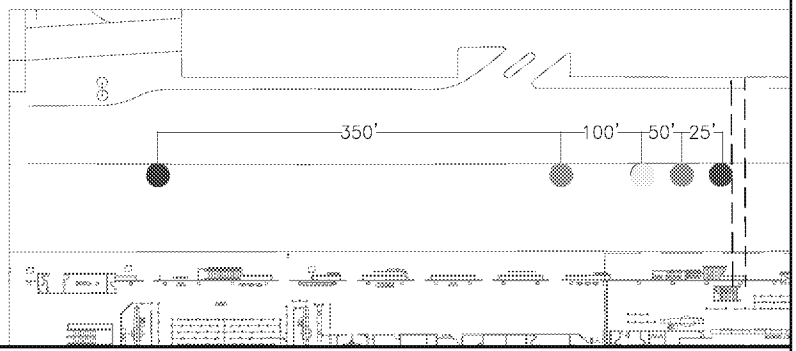
## B7 - TERMINAL 6 - DEPARTURE LEVEL SIDEWALK

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 4.15 FC |
| AT 25'-0" | 5.75 FC |
| AT 50'-0" | 3.40 FC |
| AT 100'-0" | 5.70 FC |
| AT 350'-0" | 4.70 FC |



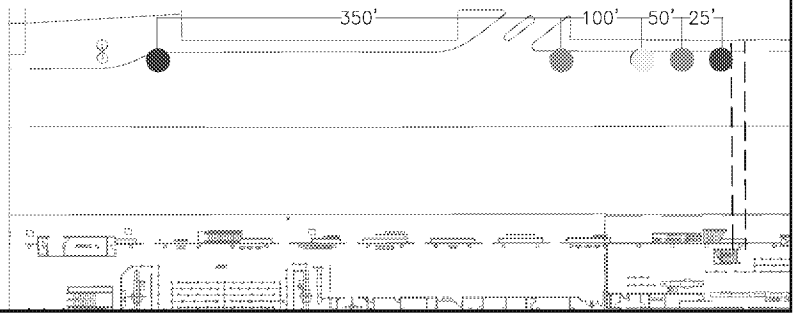

## B7 - TERMINAL 6 - ROADWAY CENTER

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.40 FC |
| AT 25'-0" | 3.80 FC |
| AT 50'-0" | 12.02 FC |
| AT 100'-0" | 0.30 FC |
| AT 350'-0" | 3.00 FC |




## B7 - TERMINAL 6 - ARRIVALS LEVEL PARKING SIDE

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.10 FC |
| AT 25'-0" | 7.00 FC |
| AT 50'-0" | 1.40 FC |
| AT 100'-0" | 0.70 FC |
| AT 350'-0" | 1.10 FC |

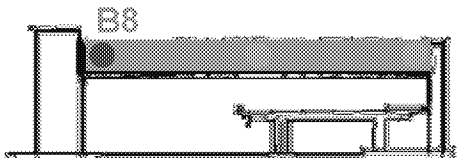



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.B.1: SKYBRIDGE FACADE EXISTING AMBIENT LIGHT LEVELS



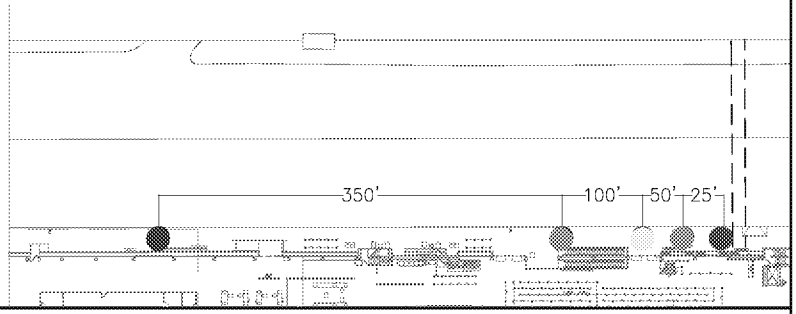
## B8 - TERMINAL 7 - LANDSIDE




| LUMINANCE (cd/m²) READING AT BRIDGE FACADE | |
|---|---|
| DEPARTURE SIDEWALK | 2.30 cd/m² |
| DEPARTURE CENTER ROAD | 4.90 cd/m² |
| ARRIVALS PARKING SIDE | 5.00 cd/m² |

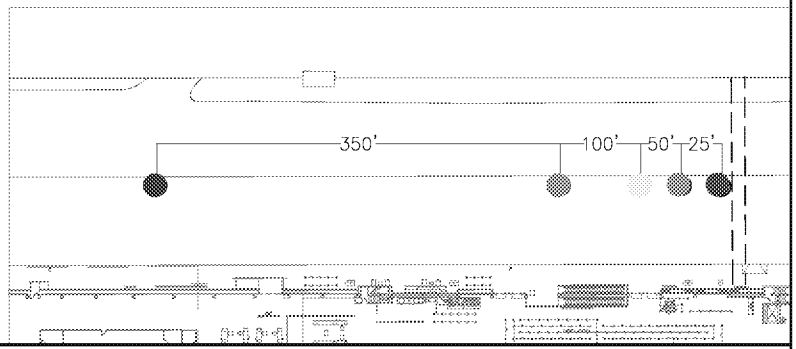
## B8 - TERMINAL 7 - DEPARTURE LEVEL SIDEWALK

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 16.70 FC |
| AT 25'-0" | 20.80 FC |
| AT 50'-0" | 10.90 FC |
| AT 100'-0" | 18.35 FC |
| AT 350'-0" | 10.70 FC |



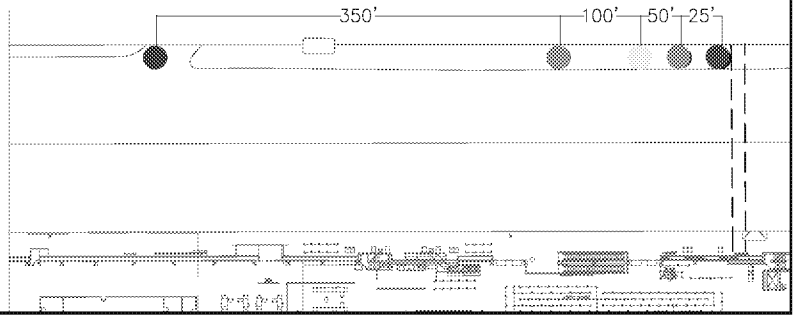

## B8 - TERMINAL 7 - ROADWAY CENTER

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.25 FC |
| AT 25'-0" | 12.50 FC |
| AT 50'-0" | 4.40 FC |
| AT 100'-0" | .85 FC |
| AT 350'-0" | 15.00 FC |




## B8 - TERMINAL 7 - ARRIVALS LEVEL PARKING SIDE

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.10 FC |
| AT 25'-0" | 1.25 FC |
| AT 50'-0" | 1.39 FC |
| AT 100'-0" | 0.90 FC |
| AT 350'-0" | 0.75 FC |

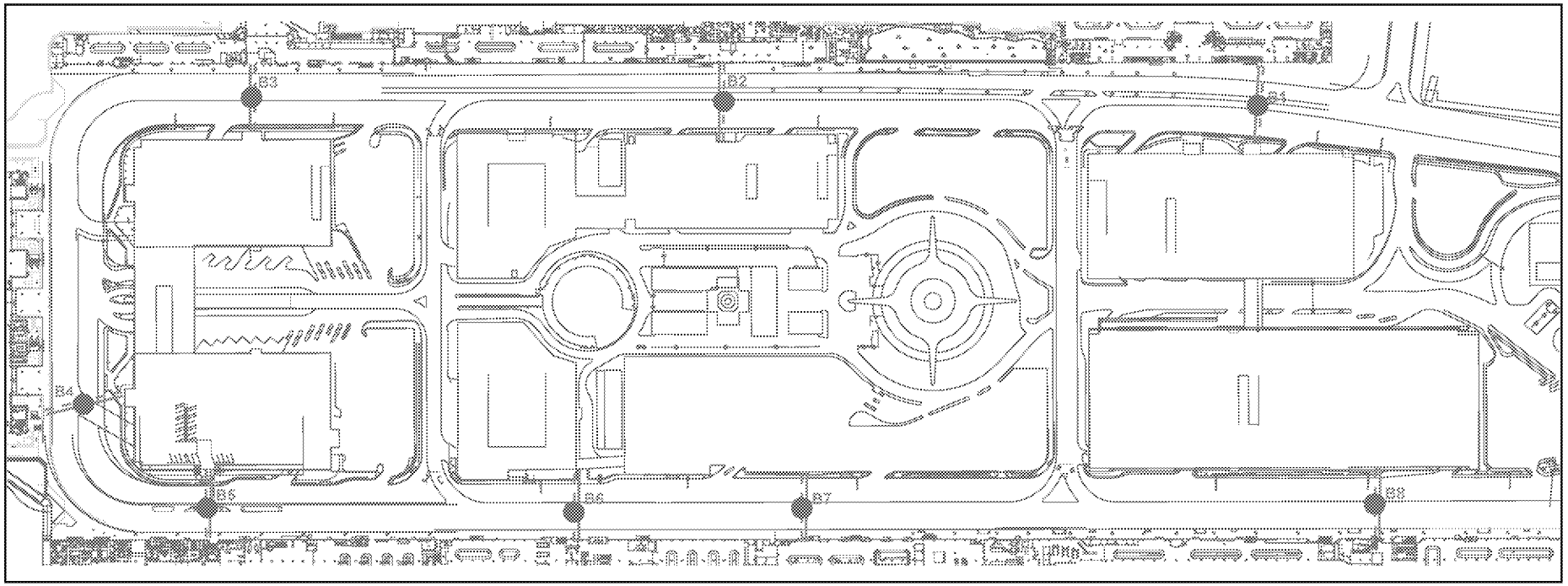



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.B.2: INSIDE SKYBRIDGE EXISTING AMBIENT LIGHT LEVELS



## FOOTCANDLE (FC) READINGS INSIDE SKYBRIDGE LOCATIONS




| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| B1 | 7.44 FC |
| B2 | 39.40 FC |
| B3 | 2.65 FC |
| B4 | 3.93 FC |
| B5 | 4.8 FC |
| B6 | 11.70 FC |
| B7 | 2.10 FC |
| B8 | 5.15 FC |

*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.C: EXISTING FULL HEIGHT INTERNALLY ILLUMINATED PYLONS



## FULL SIZE ILLUMINATED PYLONS

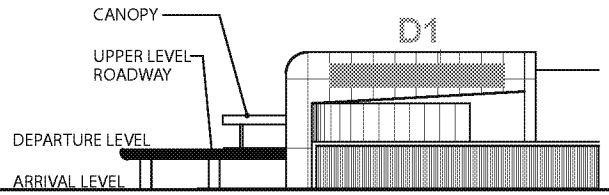
**LUMINANCE RANGE:**

**9-15 cd/m²**

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



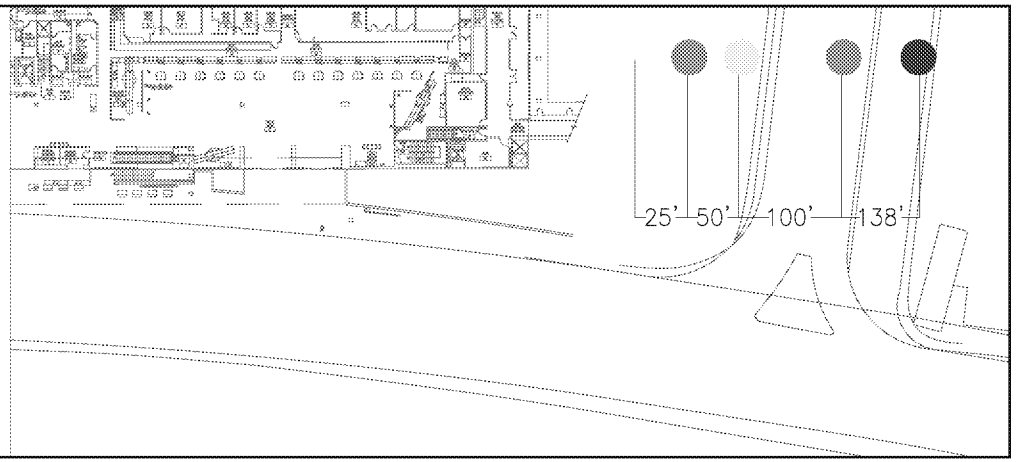
## D1 - TERMINAL 1 - LANDSIDE




| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 0.72 cd/m² |
| ARRIVALS LEVEL | N/A |

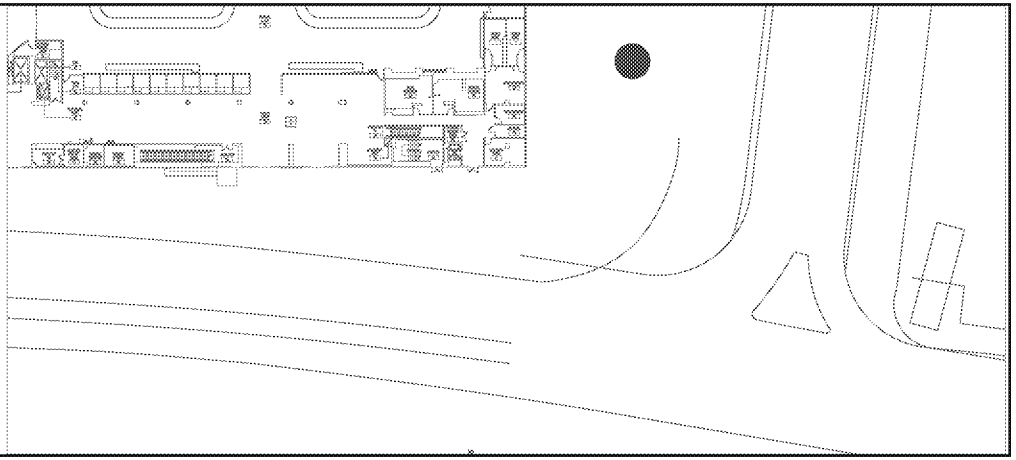
**PROPOSED SIGNAGE LOCATION**
TERMINAL 1 - EAST ELEVATION

## D1 - TERMINAL 1 - DEPARTURES LEVEL




| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | 1.13 FC |
| AT 50'-0" | 5.81 FC |
| AT 100'-0" | 1.41 FC |
| AT 138'-0" | 0.75 FC |

## D1 - TERMINAL 1 - ARRIVALS LEVEL



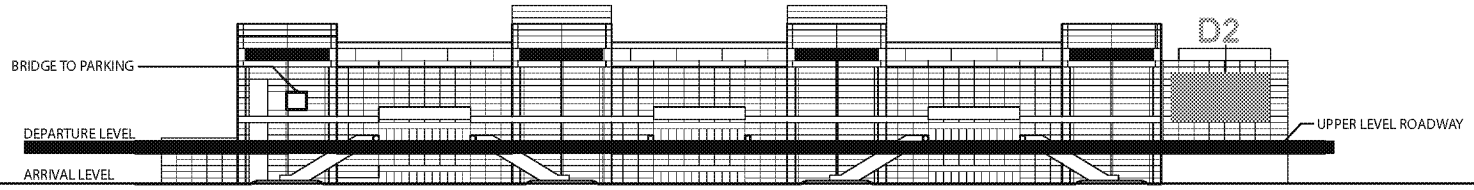
| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 2.64 FC |
| AT 25'-0" | N/A |
| AT 50'-0" | N/A |
| AT 100'-0" | N/A |
| AT 138'-0" | N/A |

*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D2 - TOM BRADLEY INTERNATIONAL TERMINAL - LANDSIDE

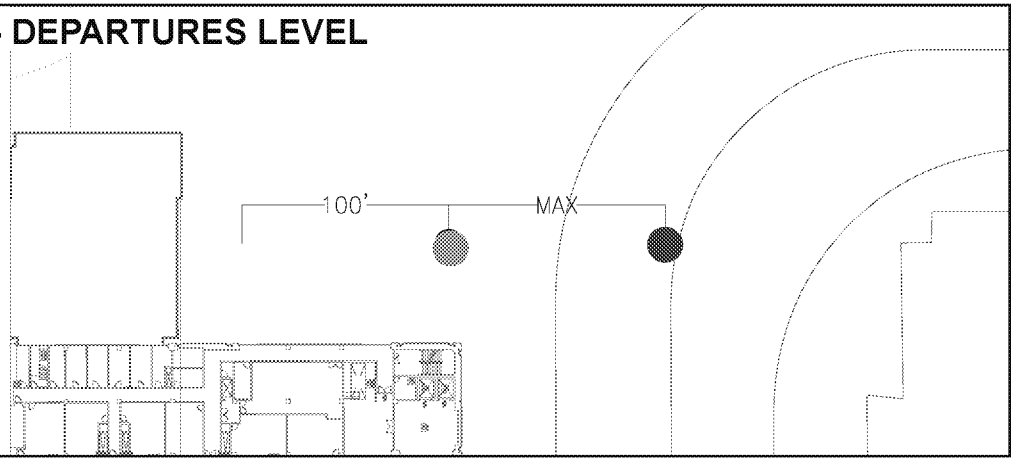



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 16.81 cd/m² |
| ARRIVALS LEVEL | N/A |

**PROPOSED SIGNAGE LOCATION**
TOM BRADLEY INTERNATIONAL - EAST ELEVATION

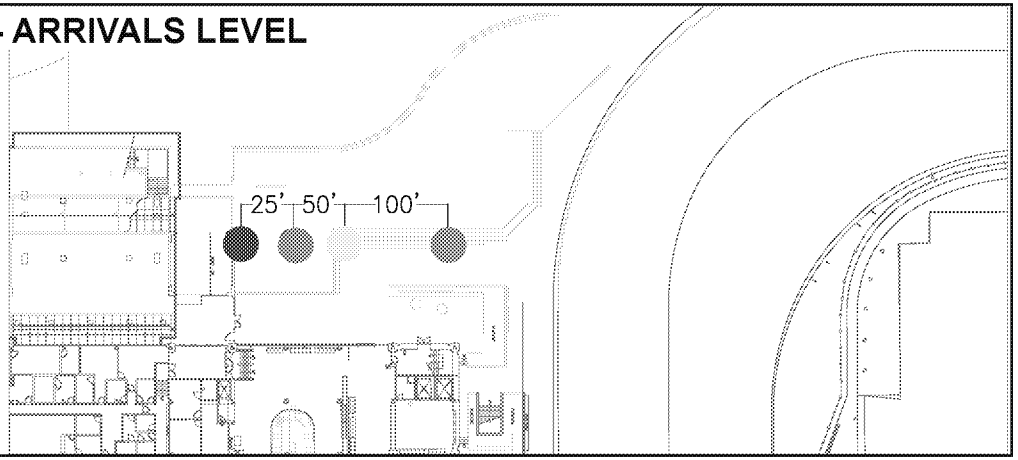
## D2 - TOM BRADLEY INTERNATIONAL TERMINAL - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 50'-0" | N/A |
| AT 100'-0" | 0.77 FC |
| AT MAX | 0.76 FC |




## D2 - TOM BRADLEY INTERNATIONAL TERMINAL - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.08 FC |
| AT 25'-0" | 0.11 FC |
| AT 50'-0" | 0.10 FC |
| AT 100'-0" | 0.19 FC |
| AT 350'-0" | N/A |

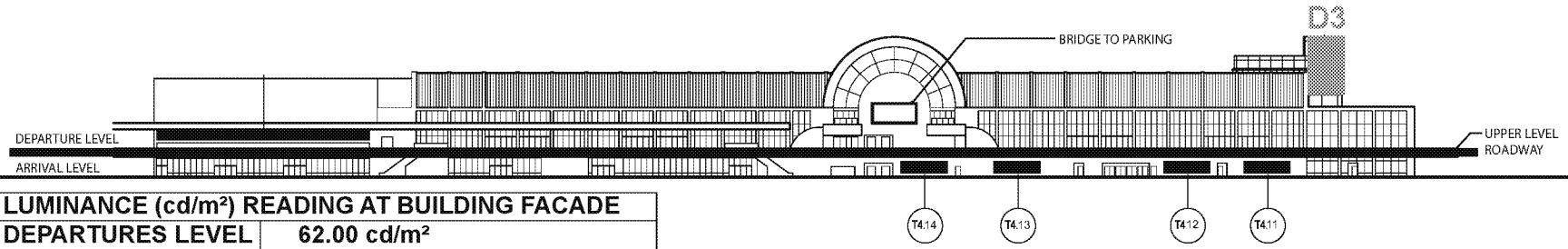



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



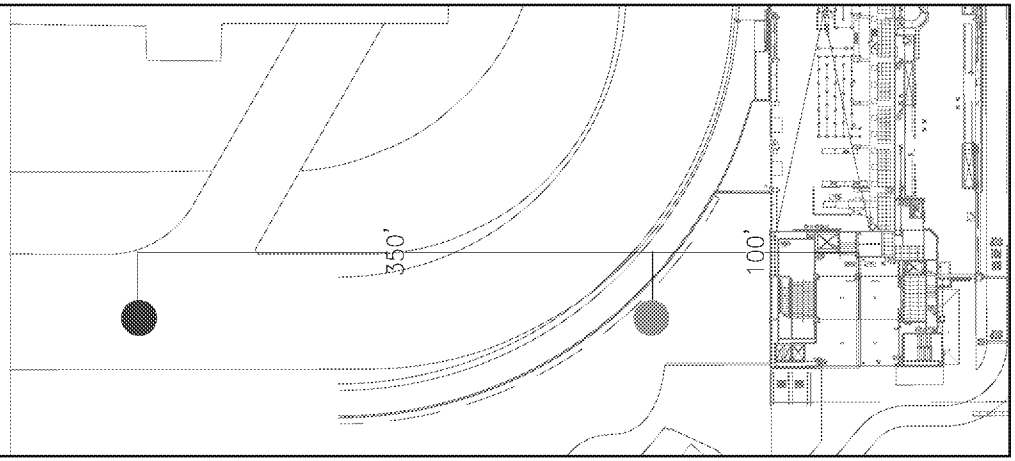
## D3 - TERMINAL 4 - LANDSIDE




| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 62.00 cd/m² |
| ARRIVALS LEVEL | 17.20 cd/m² |

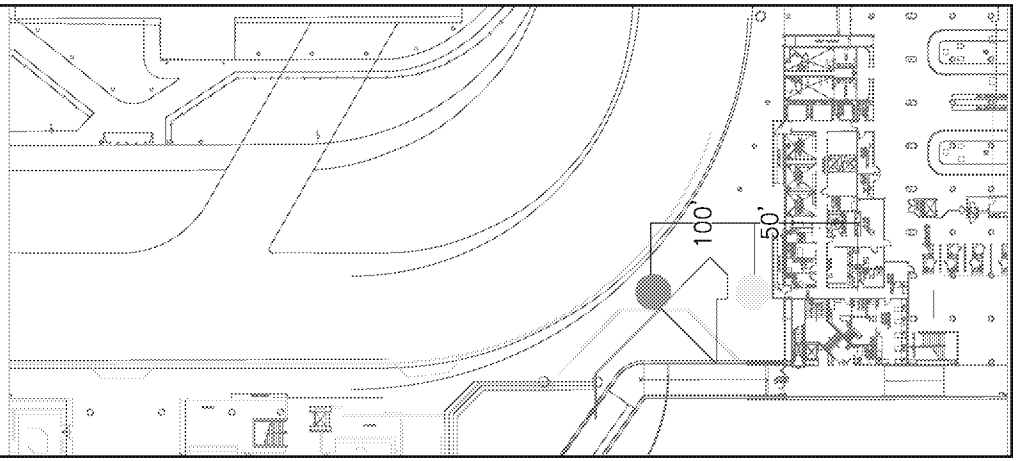
## D3 - TERMINAL 4 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 50'-0" | N/A |
| AT 100'-0" | 0.40 FC |
| AT 350'-0" | 3.40 FC |




## D3 - TERMINAL 4 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 50'-0" | 2.00 FC |
| AT 100'-0" | 7.60 FC |
| AT 350'-0" | N/A |

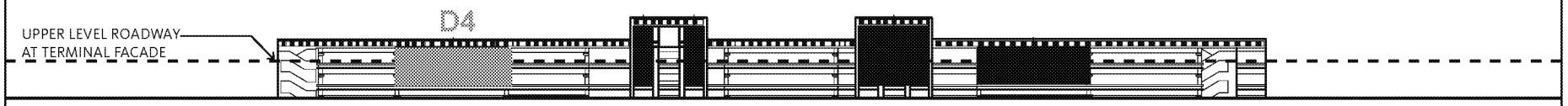



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D4 - PARKING 1 - LANDSIDE

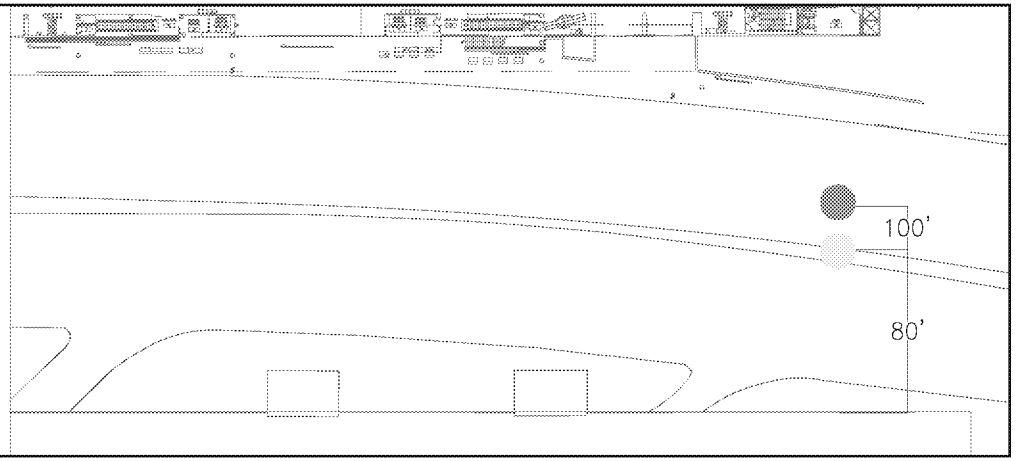



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 0.59 cd/m² |
| ARRIVALS LEVEL | 2.33 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 4 - NORTH ELEVATION

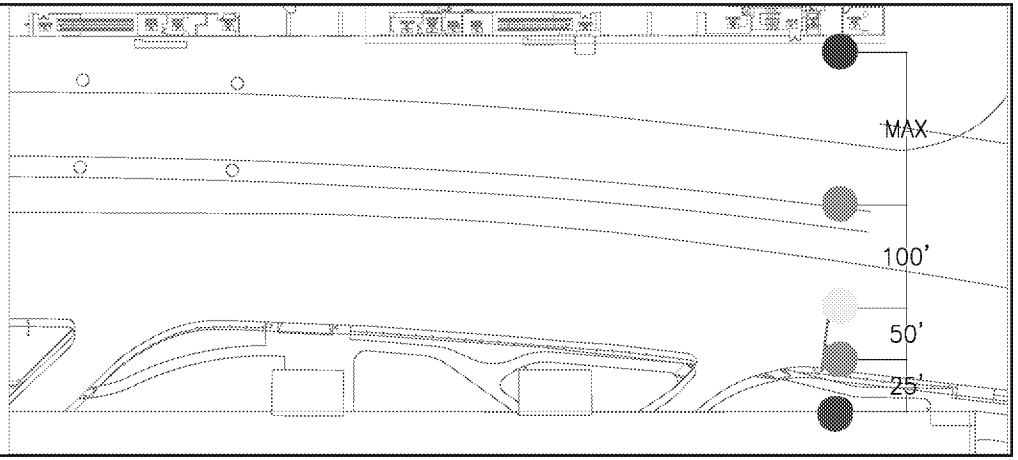
## D4 - PARKING 1 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 80'-0" | 1.53 FC |
| AT 100'-0" | 0.33 FC |
| AT MAX | N/A |




## D4 - PARKING 1 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 2.84 FC |
| AT 25'-0" | 2.84 FC |
| AT 50'-0" | 3.85 FC |
| AT 100'-0" | 4.32 FC |
| AT MAX | 0.49 FC |

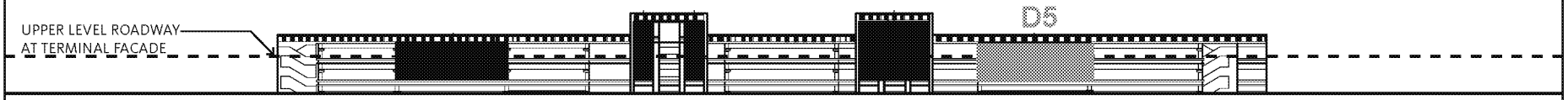



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D5 - PARKING 1 - LANDSIDE

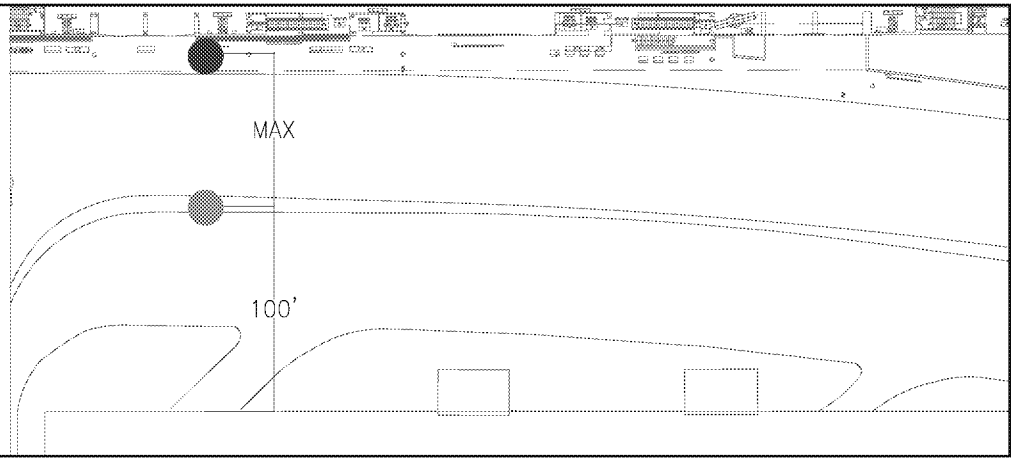



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 1.05 cd/m² |
| ARRIVALS LEVEL | 0.56 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 4 - NORTH ELEVATION

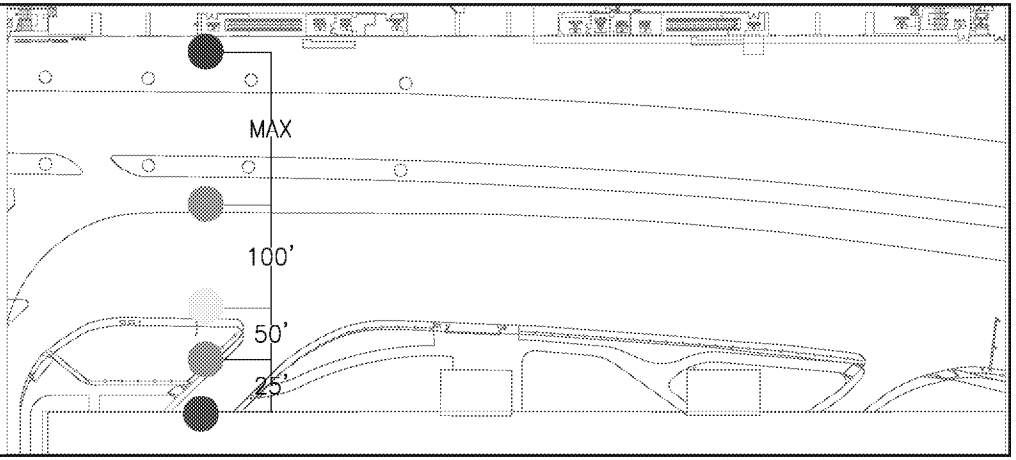
## D5 - PARKING 1 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 80'-0" | N/A |
| AT 100'-0" | 0.48 FC |
| AT MAX | 14.24 FC |




## D5 - PARKING 1 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.29 FC |
| AT 25'-0" | 0.95 FC |
| AT 50'-0" | 1.51 FC |
| AT 100'-0" | 7.45 FC |
| AT MAX | 8.15 FC |

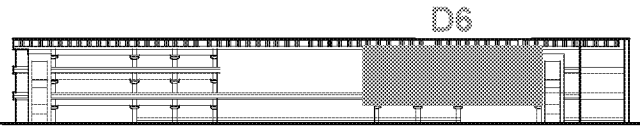



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D6 - PARKING 1 - LANDSIDE



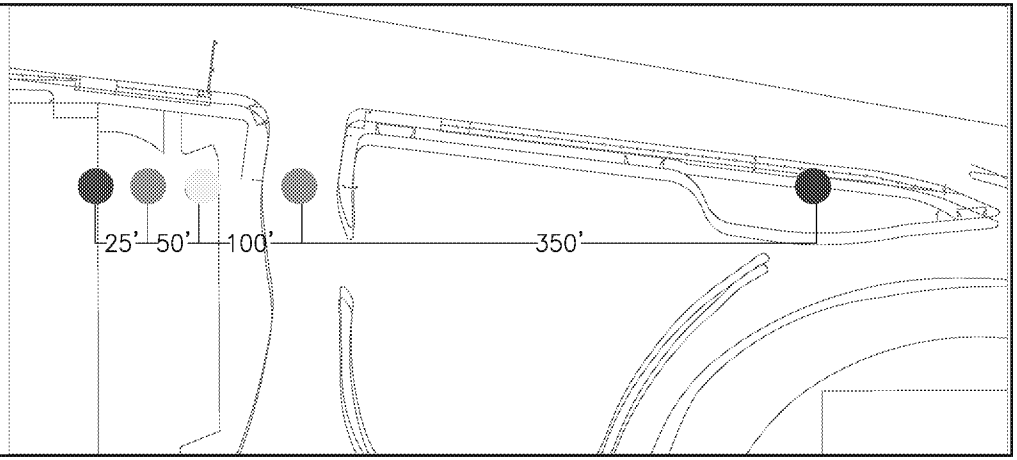

| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 16.81 cd/m² |
| ARRIVALS LEVEL | N/A |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 1 - EAST ELEVATION

## D6 - PARKING 1 - DEPARTURES LEVEL - N/A

## D6 - PARKING 1 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 2.64 FC |
| AT 25'-0" | 2.34 FC |
| AT 50'-0" | 0.98 FC |
| AT 100'-0" | 1.18 FC |
| AT 350'-0" | 0.14 FC |

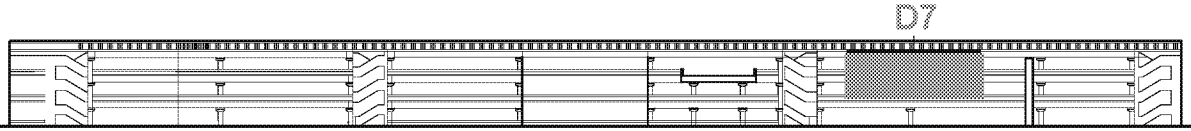



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D7 - PARKING 1 - LANDSIDE



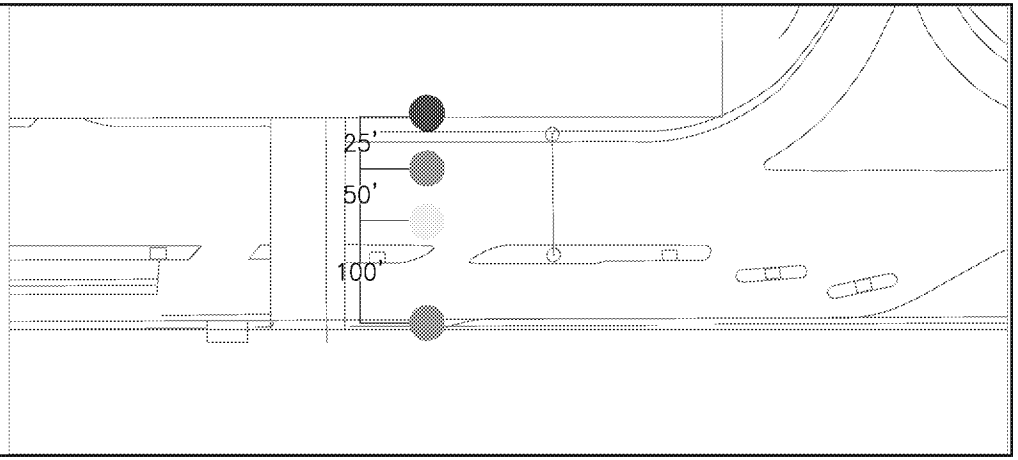

| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | N/A |
| ARRIVALS LEVEL | 2.51 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 1 - SOUTH ELEVATION

## D7 - PARKING 1 - DEPARTURES LEVEL - N/A

## D7 - PARKING 1 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 4.29 FC |
| AT 25'-0" | 1.41 FC |
| AT 50'-0" | 1.47 FC |
| AT 100'-0" | 0.68 FC |
| AT 350'-0" | N/A |

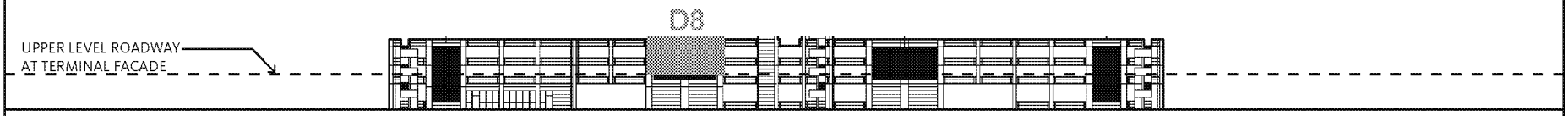



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D8 - PARKING 2A - LANDSIDE

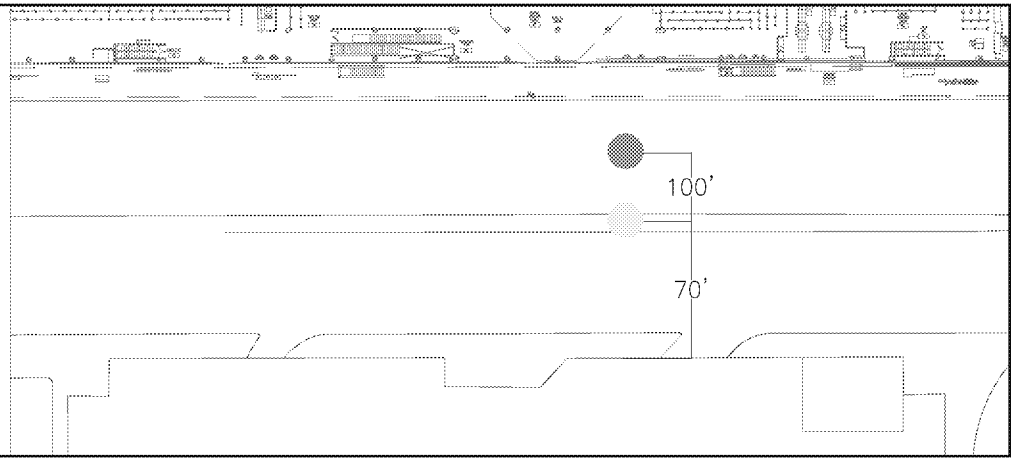



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 2.63 cd/m² |
| ARRIVALS LEVEL | 1.42 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 2A - NORTH ELEVATION

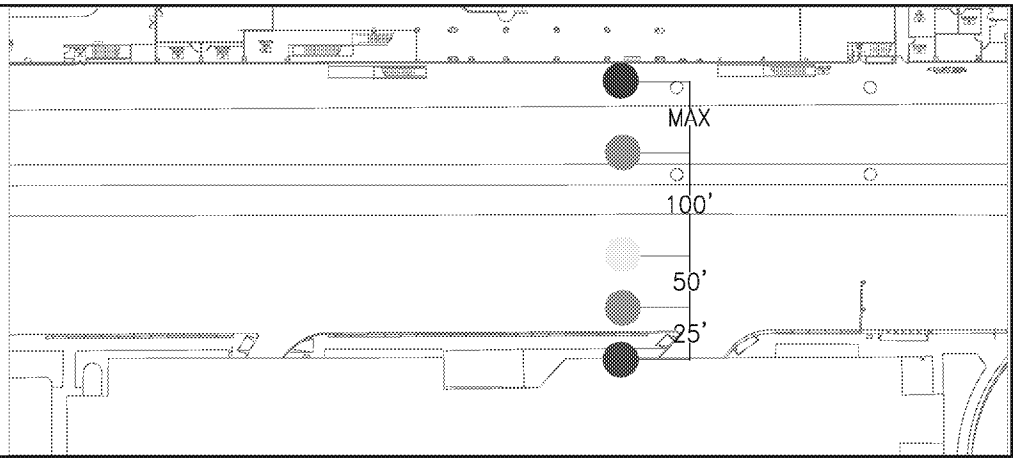
## D8 - PARKING 2A - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 70'-0" | 0.88 FC |
| AT 100'-0" | 1.03 FC |
| AT MAX | N/A |




## D8 - PARKING 2A - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.61 FC |
| AT 25'-0" | 1.01 FC |
| AT 50'-0" | 2.05 FC |
| AT 100'-0" | 1.20 FC |
| AT MAX | 15.68 FC |

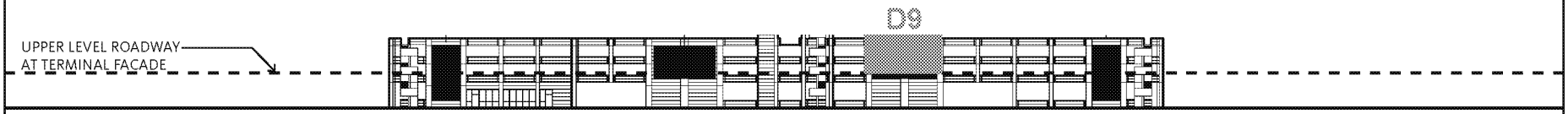



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D9 - PARKING 2A - LANDSIDE

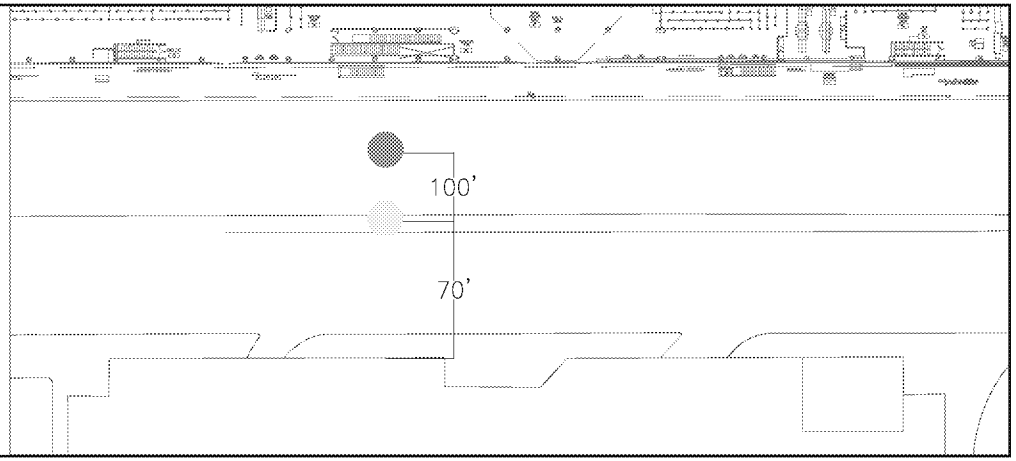



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 1.62 cd/m² |
| ARRIVALS LEVEL | 1.45 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 2A - NORTH ELEVATION

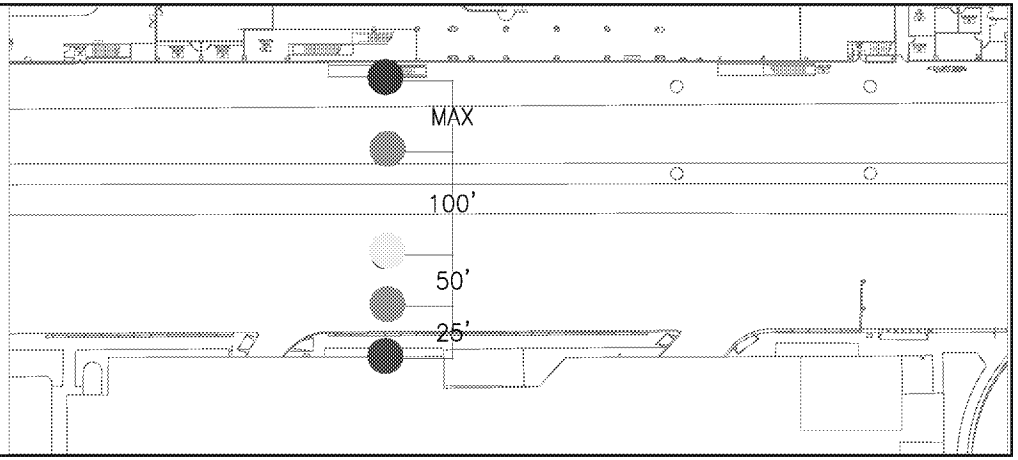
## D9 - PARKING 2A - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 70'-0" | 5.95 FC |
| AT 100'-0" | 0.83 FC |
| AT MAX | N/A |




## D9 - PARKING 2A - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.65 FC |
| AT 25'-0" | 1.39 FC |
| AT 50'-0" | 3.06 FC |
| AT 100'-0" | 0.90 FC |
| AT MAX | 6.51 FC |

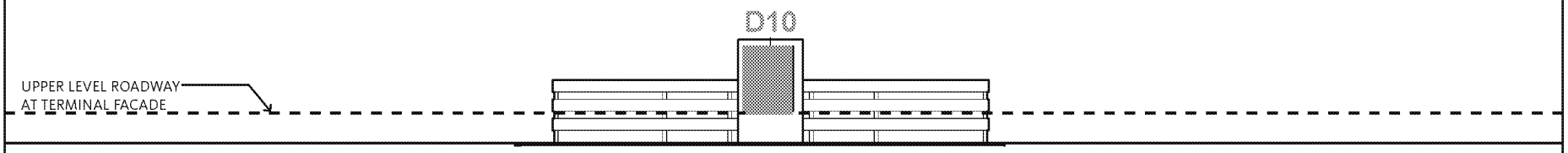



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D10 - PARKING 2B

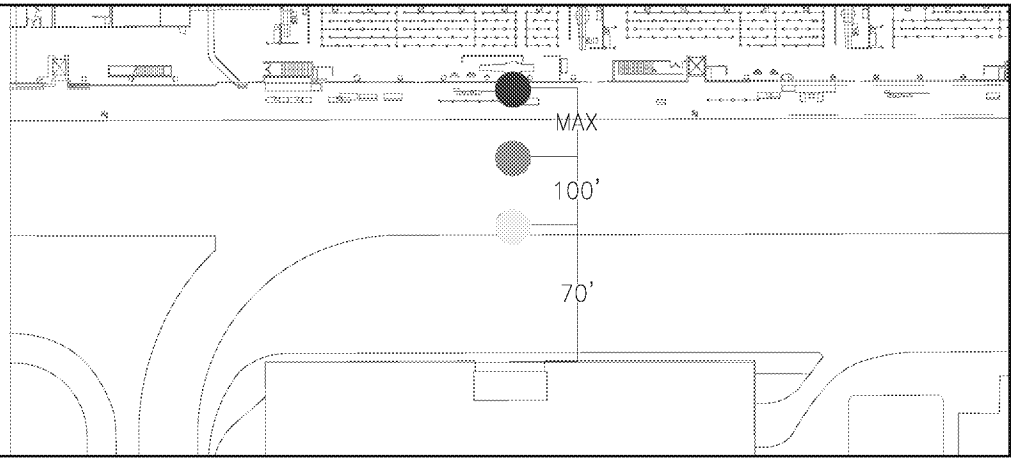



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 1.50 cd/m² |
| ARRIVALS LEVEL | 2.23 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 2B - NORTH ELEVATION

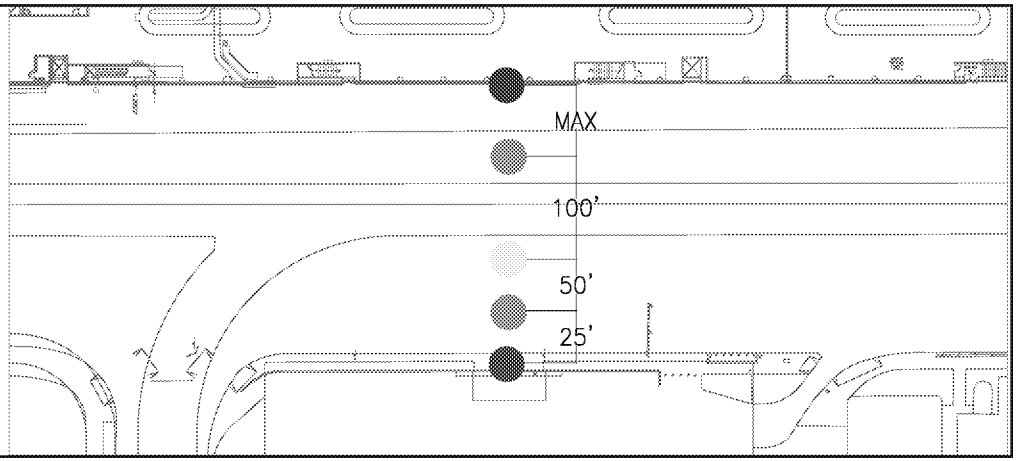
## D10 - PARKING 2B - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 70'-0" | 0.91 FC |
| AT 100'-0" | 0.51 FC |
| AT MAX | 23.10 FC |




## D10 - PARKING 2B - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.49 FC |
| AT 25'-0" | 0.93 FC |
| AT 50'-0" | 1.86 FC |
| AT 100'-0" | 1.79 FC |
| AT MAX | 13.36 FC |

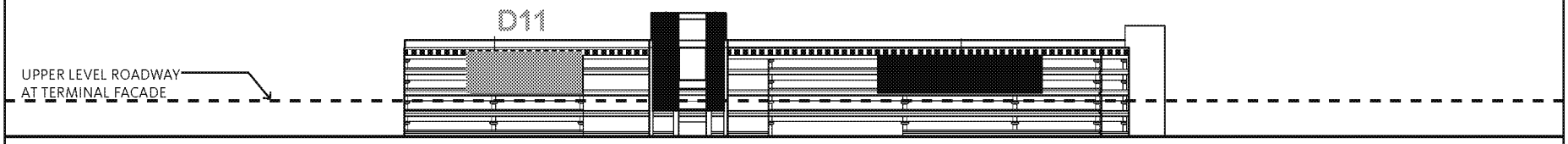



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D11 - PARKING 3 - LANDSIDE

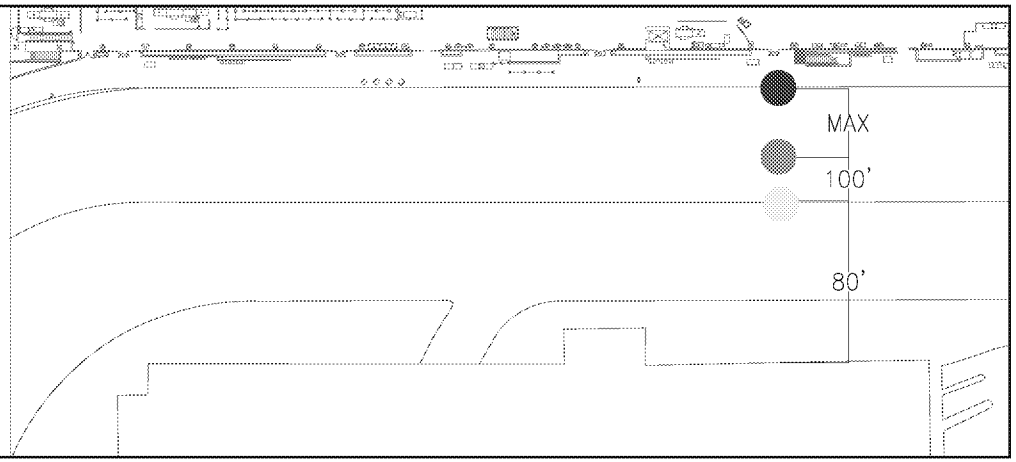



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 0.66 cd/m² |
| ARRIVALS LEVEL | 0.84 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 3 - NORTH ELEVATION

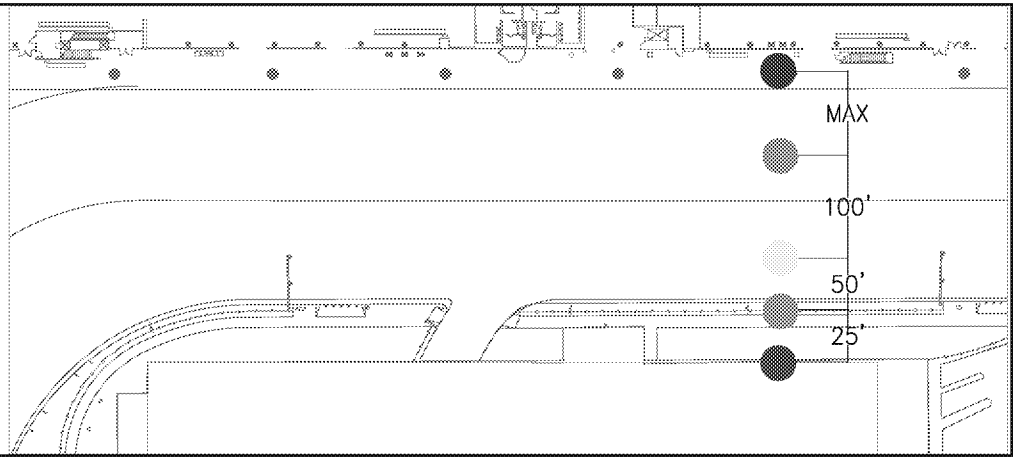
## D11 - PARKING 3 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 80'-0" | 1.53 FC |
| AT 100'-0" | 0.83 FC |
| AT MAX | 23.10 FC |




## D11 - PARKING 3 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.71 FC |
| AT 25'-0" | 1.16 FC |
| AT 50'-0" | 2.17 FC |
| AT 100'-0" | 2.41 FC |
| AT MAX | 8.15 FC |

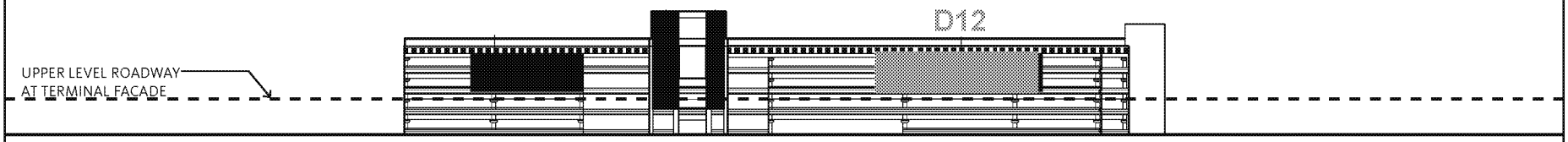



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D12 - PARKING 3 - LANDSIDE

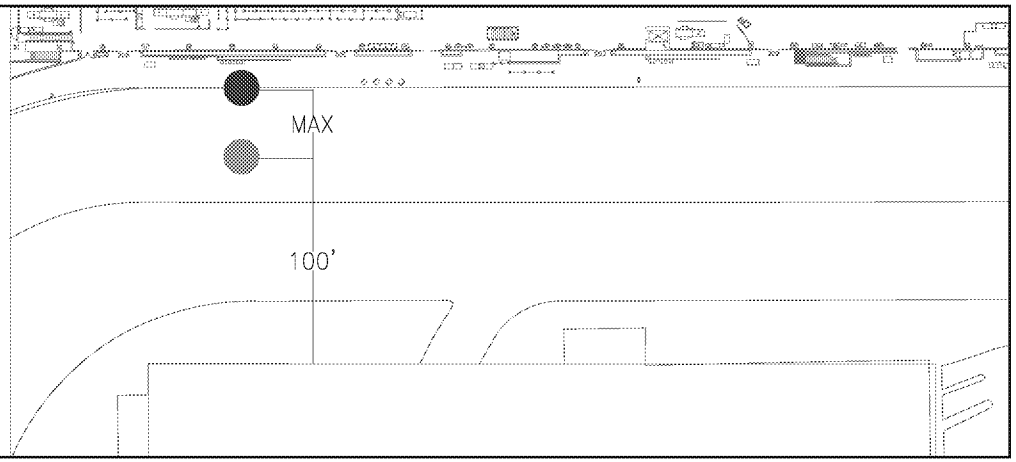



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 0.61 cd/m² |
| ARRIVALS LEVEL | 1.99 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 3 - NORTH ELEVATION

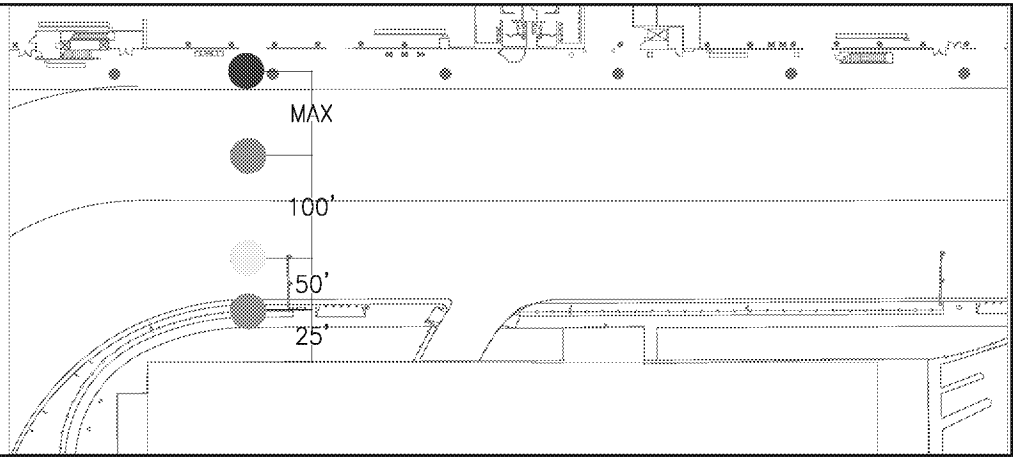
## D12 - PARKING 3 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A** |
| AT 25'-0" | N/A** |
| AT 80'-0" | N/A** |
| AT 100'-0" | 3.15 FC |
| AT MAX | 3.18 FC |




## D12 - PARKING 3 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A** |
| AT 25'-0" | 1.01 FC |
| AT 50'-0" | 0.26 FC |
| AT 100'-0" | 1.34 FC |
| AT MAX | 18.99 FC |

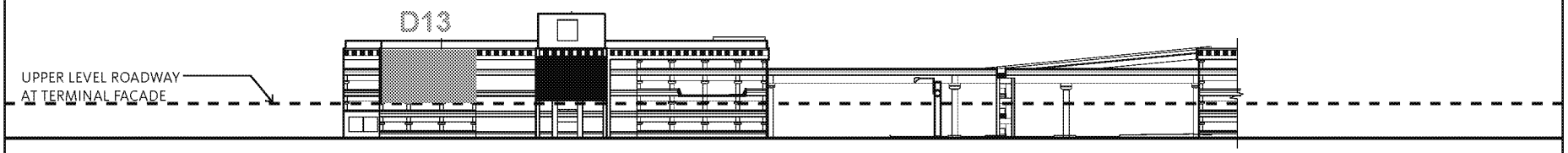



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
* *SIDEWALK AND IMMEDIATELY ADJACENT AREAS ON ARRIVALS LEVEL WERE CLOSED OFF FOR CONSTRUCTION AT TIME OF SURVEY
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D13 - PARKING 3 - LANDSIDE

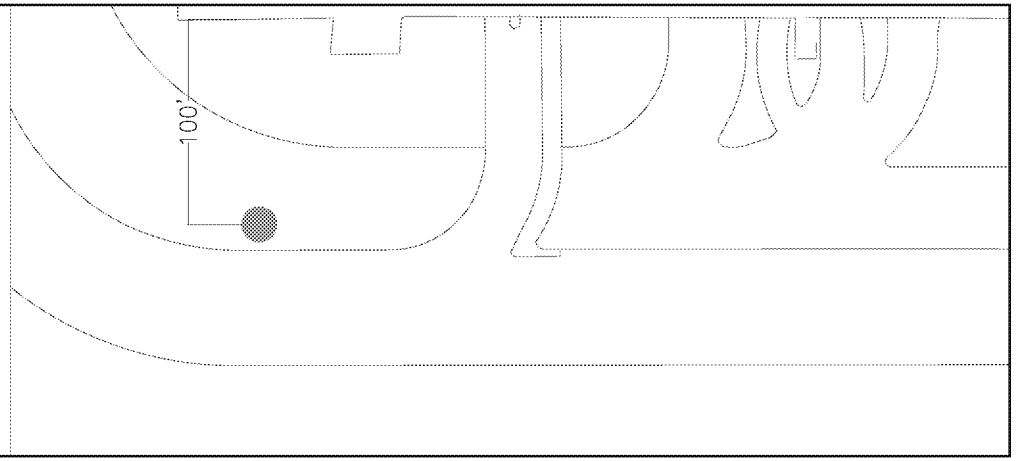



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 0.73 cd/m² |
| ARRIVALS LEVEL | 6.49 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 3 - WEST ELEVATION

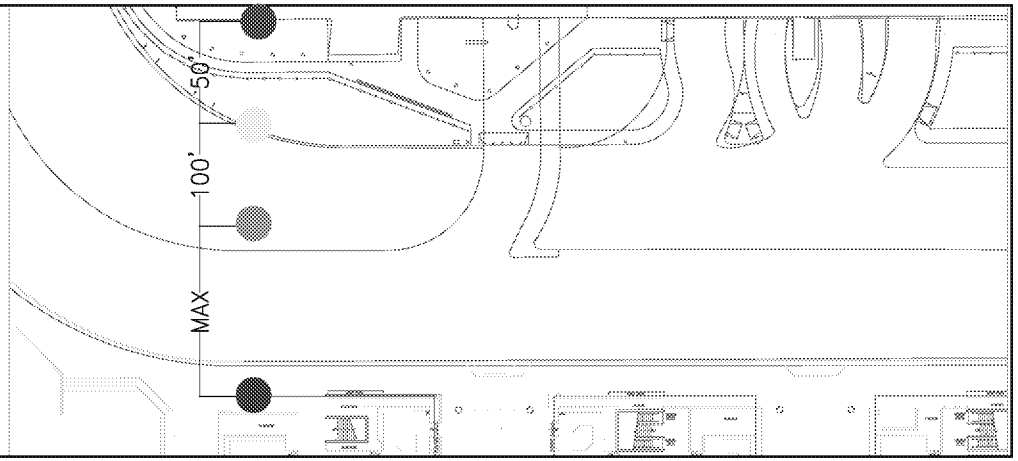
## D13 - PARKING 3 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A** |
| AT 25'-0" | N/A** |
| AT 80'-0" | N/A** |
| AT 100'-0" | 0.76 FC |
| AT MAX | N/A** |




## D13 - PARKING 3 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.32 FC |
| AT 25'-0" | N/A** |
| AT 50'-0" | 0.55 FC |
| AT 100'-0" | 1.05 FC |
| AT MAX | 0.19 FC |

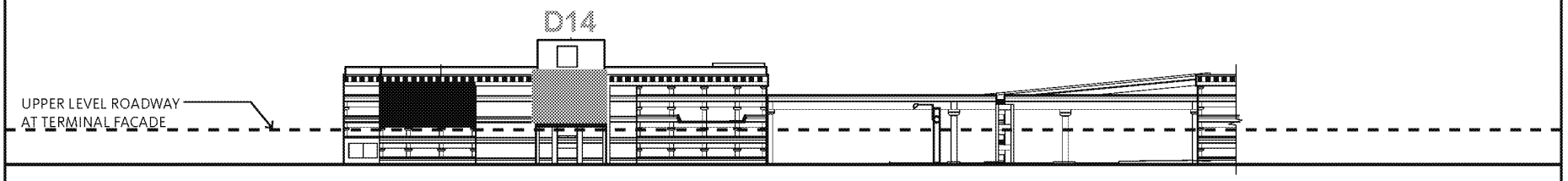



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
* *SIDEWALK AND IMMEDIATELY ADJACENT AREAS ON ARRIVALS LEVEL WERE CLOSED OFF FOR CONSTRUCTION AT TIME OF SURVEY
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D14 - PARKING 3 - LANDSIDE

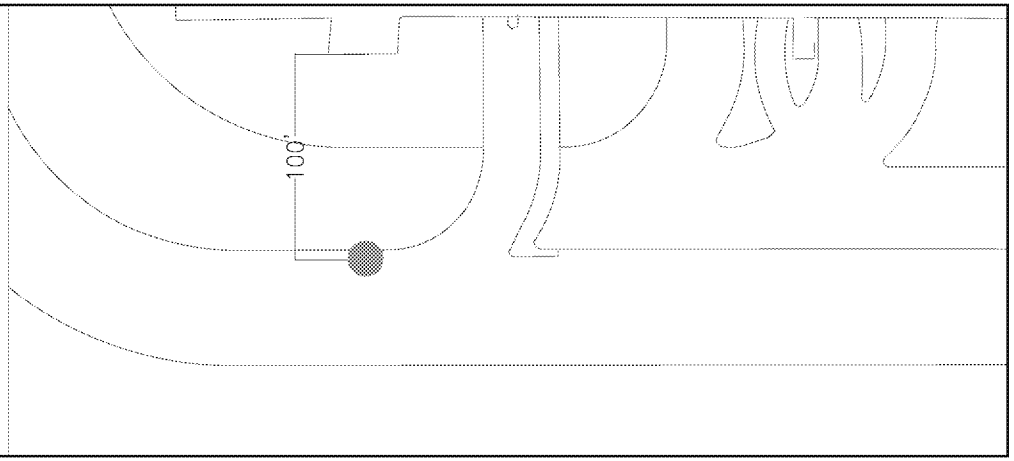



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 0.84 cd/m² |
| ARRIVALS LEVEL | 7.73 cd/m² |

**PROPOSED SIGNAGE LOCATION**
**PARKING STRUCTURE 3 - WEST ELEVATION**
**MAXIMUM PROPOSED AREA:** 2,456 SF

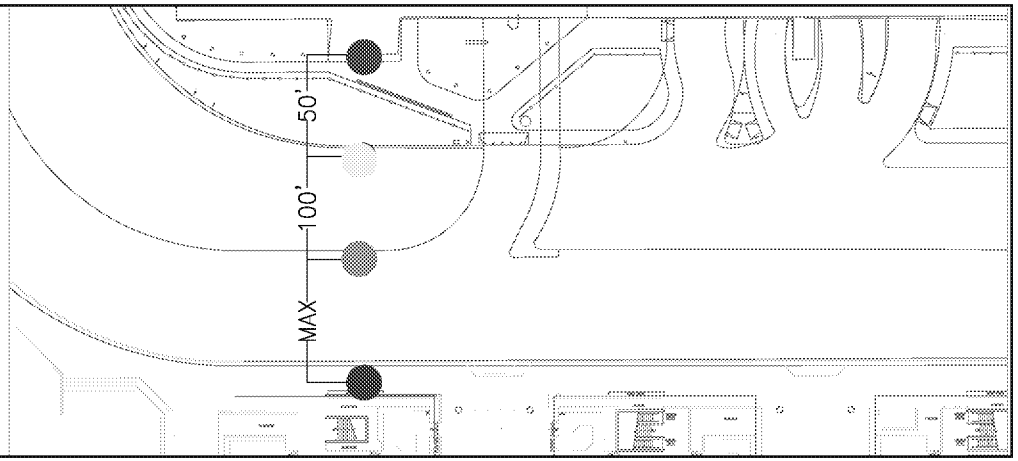
## D14 - PARKING 3 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A** |
| AT 25'-0" | N/A** |
| AT 80'-0" | N/A** |
| AT 100'-0" | 1.95 FC |
| AT MAX | N/A** |




## D14 - PARKING 3 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.32 FC |
| AT 25'-0" | N/A** |
| AT 50'-0" | 1.98 FC |
| AT 100'-0" | 7.00 FC |
| AT MAX | 1.13 FC |

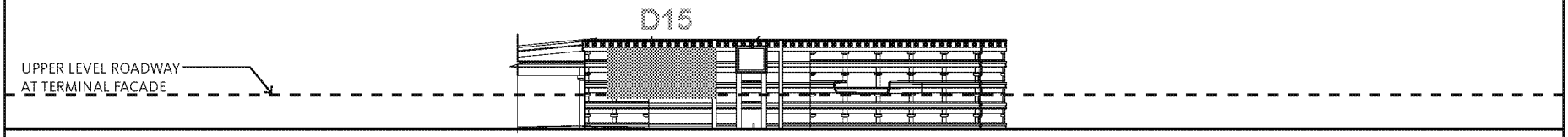



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
* *SIDEWALK AND IMMEDIATELY ADJACENT AREAS ON ARRIVALS LEVEL WERE CLOSED OFF FOR CONSTRUCTION AT TIME OF SURVEY
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D15 - PARKING 4 - LANDSIDE

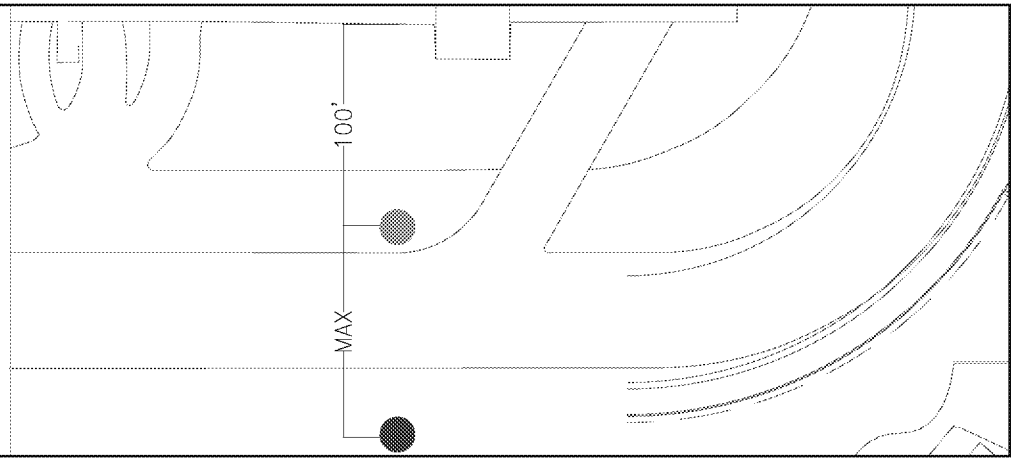



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 4.30 cd/m² |
| ARRIVALS LEVEL | 6.80 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 4 - WEST ELEVATION

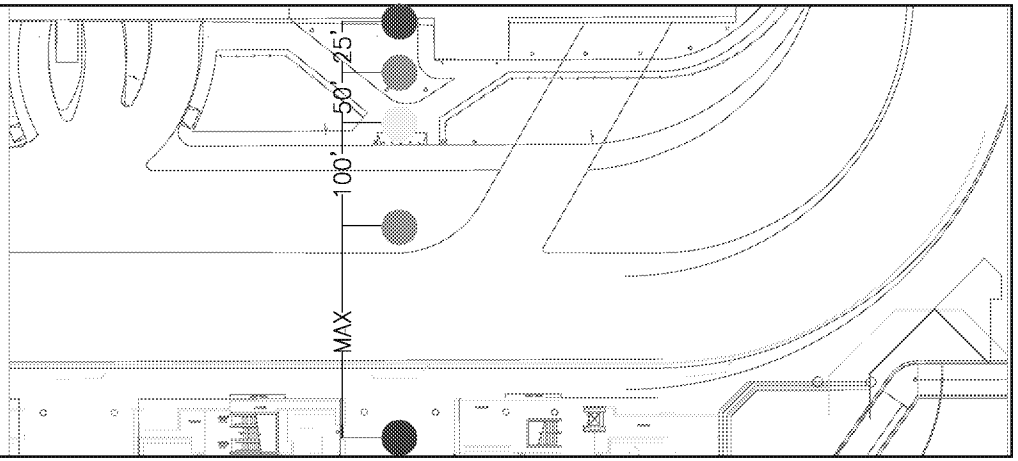
## D15 - PARKING 4 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 80'-0" | N/A |
| AT 100'-0" | 5.50 FC |
| AT MAX | 4.00 FC |




## D15 - PARKING 4 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.00 FC |
| AT 25'-0" | 1.80 FC |
| AT 50'-0" | 1.68 FC |
| AT 100'-0" | 9.85 FC |
| AT 350'-0" | 3.55 FC |

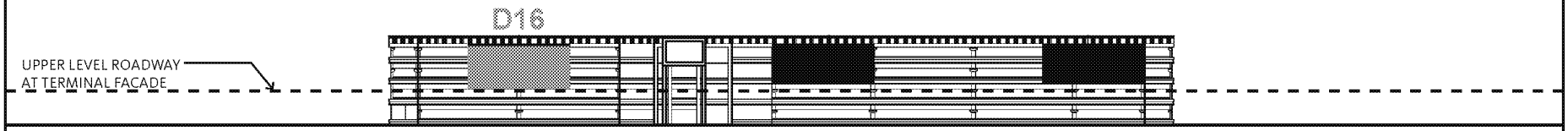



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D16 - PARKING 4 - LANDSIDE

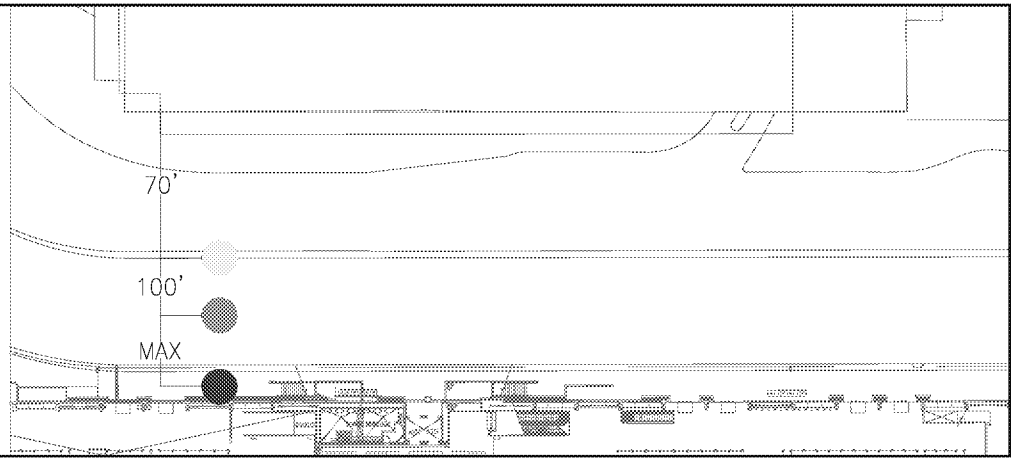



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 2.20 cd/m² |
| ARRIVALS LEVEL | 3.60 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 4 - SOUTH ELEVATION

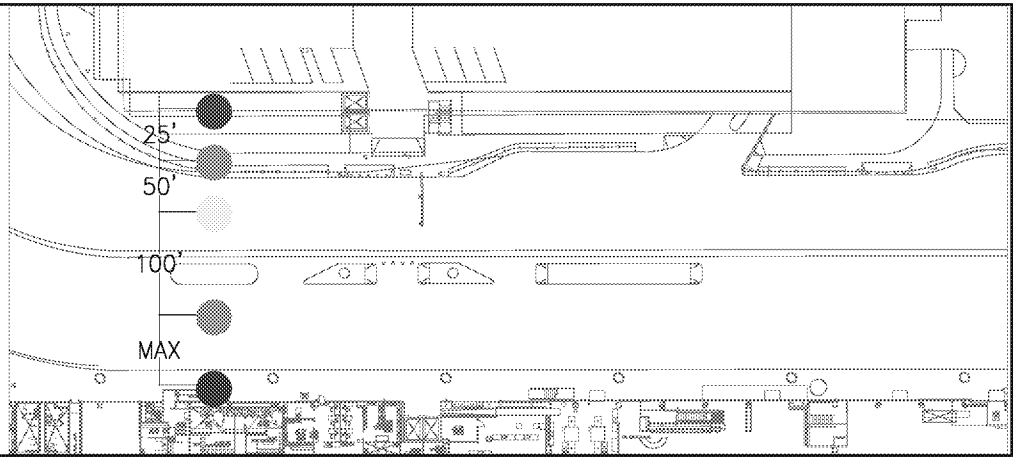
## D16 - PARKING 4 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 70'-0" | 1.35 FC |
| AT 100'-0" | 1.85 FC |
| AT MAX | 0.90 FC |




## D16 - PARKING 4 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.64 FC |
| AT 25'-0" | 1.09 FC |
| AT 50'-0" | 4.30 FC |
| AT 100'-0" | 1.85 FC |
| AT MAX | 4.75 FC |

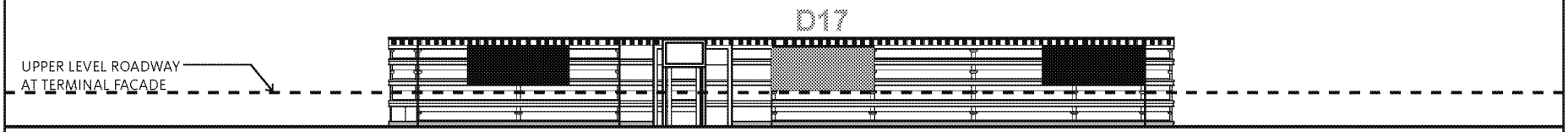



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D17 - PARKING 4 - LANDSIDE

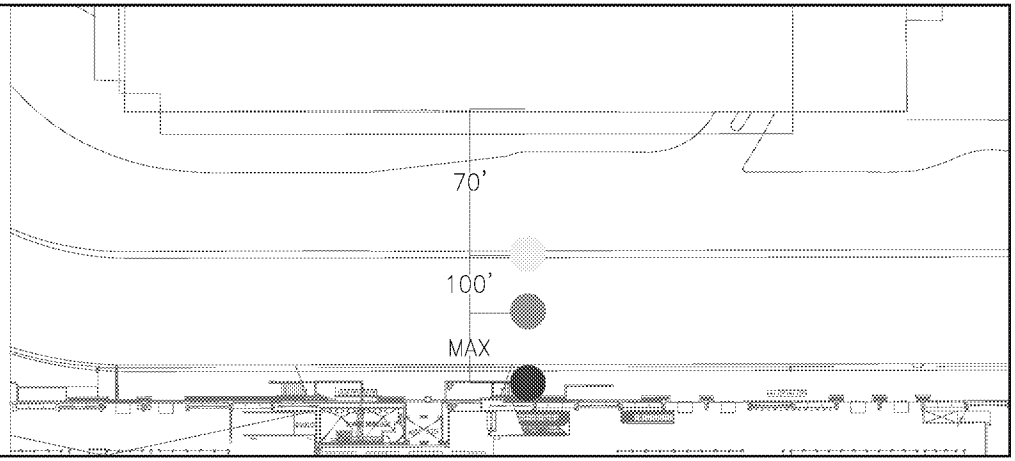



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 1.75 cd/m² |
| ARRIVALS LEVEL | 2.00 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 4 - SOUTH ELEVATION

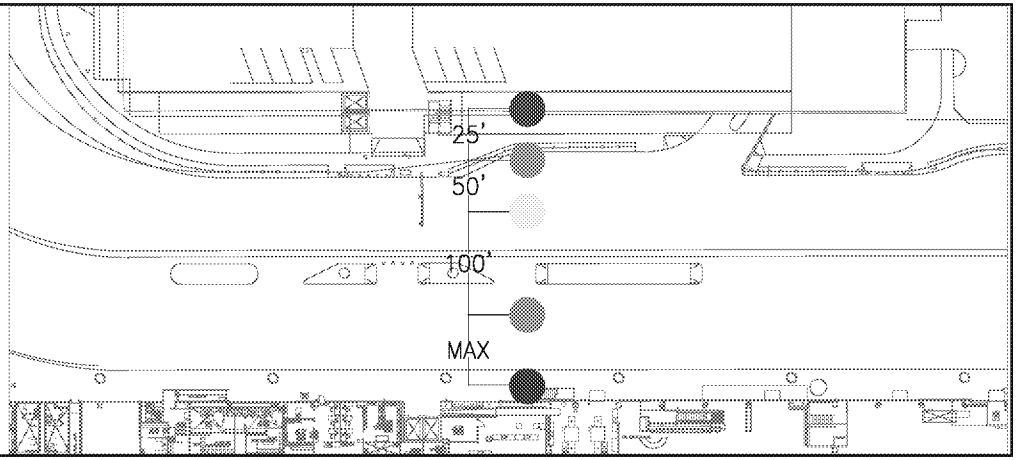
## D17 - PARKING 4 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 70'-0" | 1.65 FC |
| AT 100'-0" | 12.30 FC |
| AT MAX | 15.60 FC |




## D17 - PARKING 4 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.56 FC |
| AT 25'-0" | 4.50 FC |
| AT 50'-0" | 4.30 FC |
| AT 100'-0" | 0.75 FC |
| AT MAX | 1.30 FC |

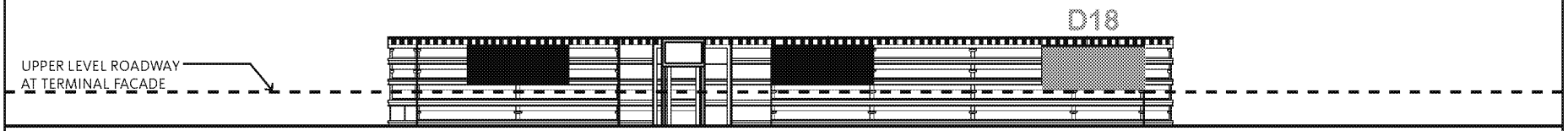



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D18 - PARKING 4 - LANDSIDE

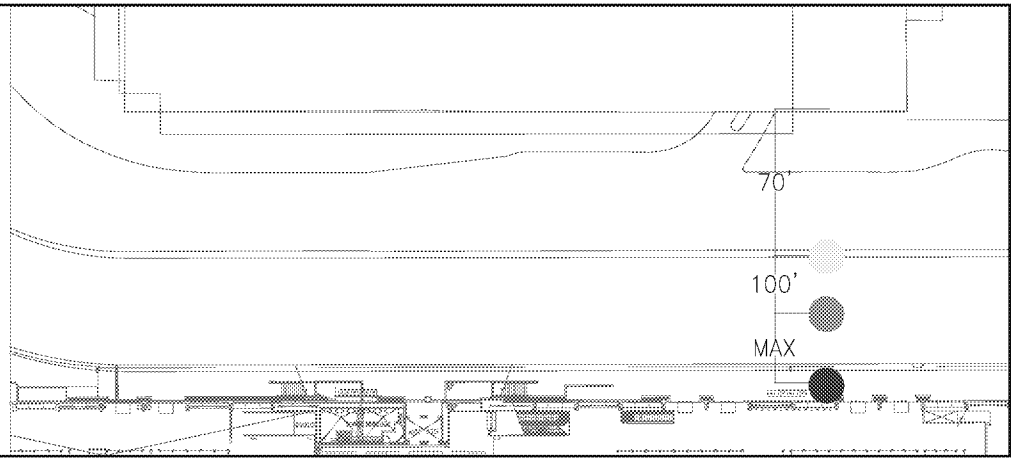



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 0.80 cd/m² |
| ARRIVALS LEVEL | 0.90 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 4 - SOUTH ELEVATION

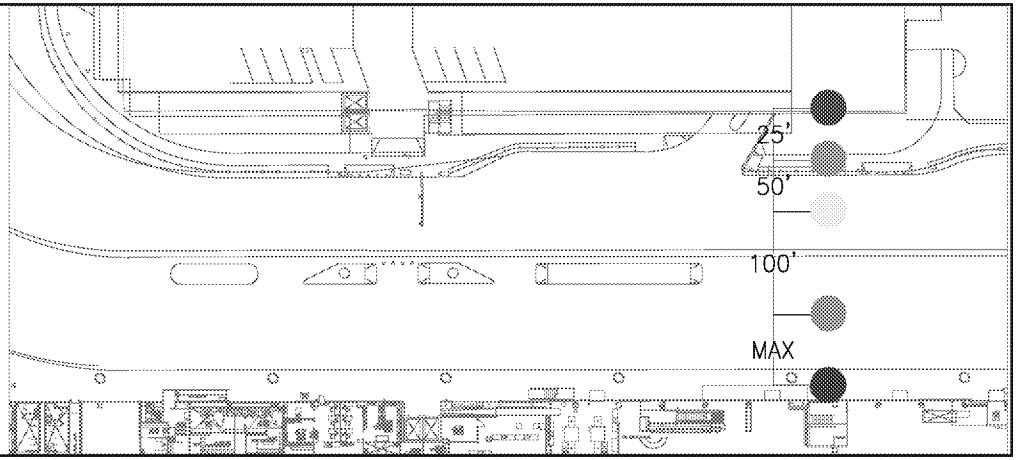
## D18 - PARKING 4 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 70'-0" | 0.80 FC |
| AT 100'-0" | 0.85 FC |
| AT MAX | 25.00 FC |




## D18 - PARKING 4 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.75 FC |
| AT 25'-0" | 1.30 FC |
| AT 50'-0" | 2.30 FC |
| AT 100'-0" | 13.00 FC |
| AT MAX | 18.00 FC |

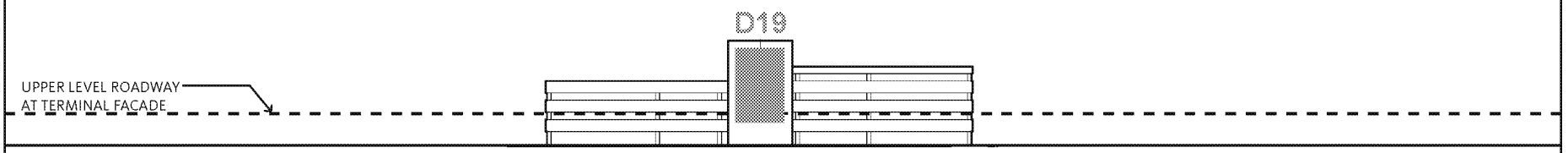



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D19 - PARKING 5 - LANDSIDE

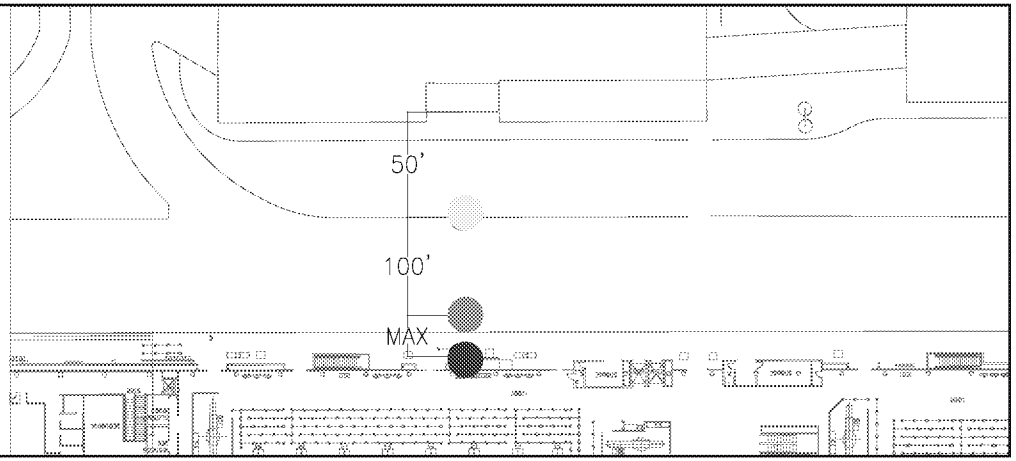



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 1.70 cd/m² |
| ARRIVALS LEVEL | 1.84 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 5 - SOUTH ELEVATION

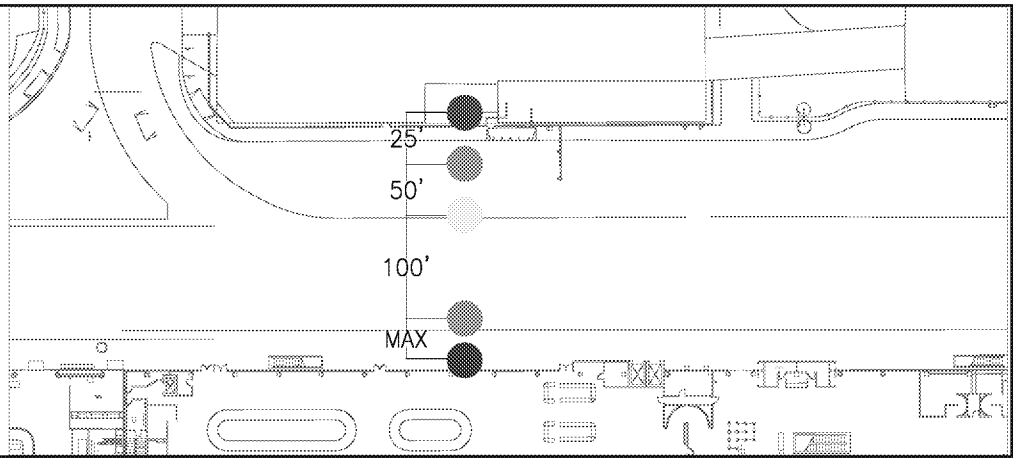
## D19 - PARKING 5 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 50'-0" | 1.10 FC |
| AT 100'-0" | 3.70 FC |
| AT MAX | 4.40 FC |




## D19 - PARKING 5 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.70 FC |
| AT 25'-0" | 3.70 FC |
| AT 50'-0" | 12.40 FC |
| AT 100'-0" | 4.40 FC |
| AT MAX | 3.80 FC |

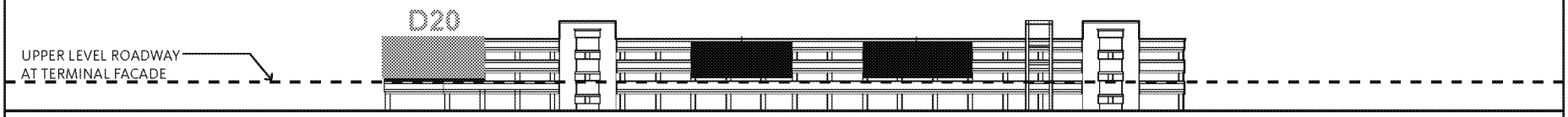



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D20 - PARKING 6 - LANDSIDE

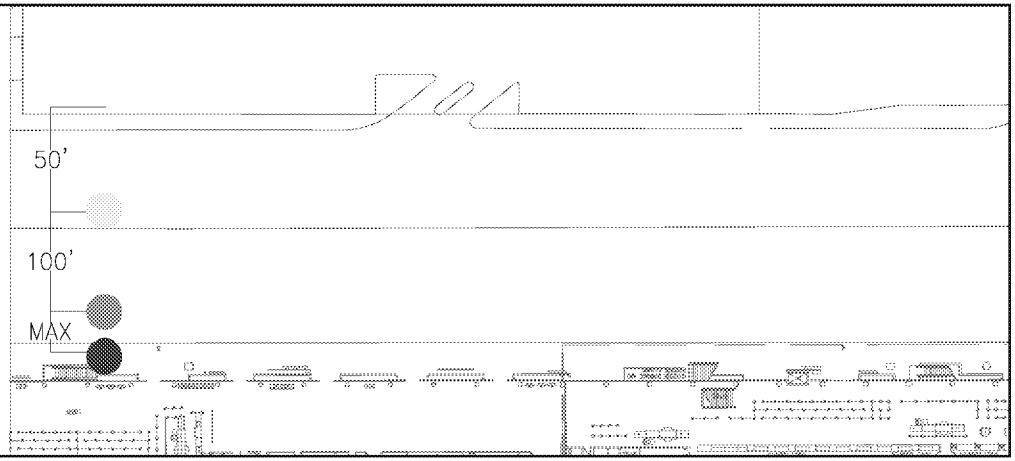



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 1.20 cd/m² |
| ARRIVALS LEVEL | 3.30 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 6 - SOUTH ELEVATION

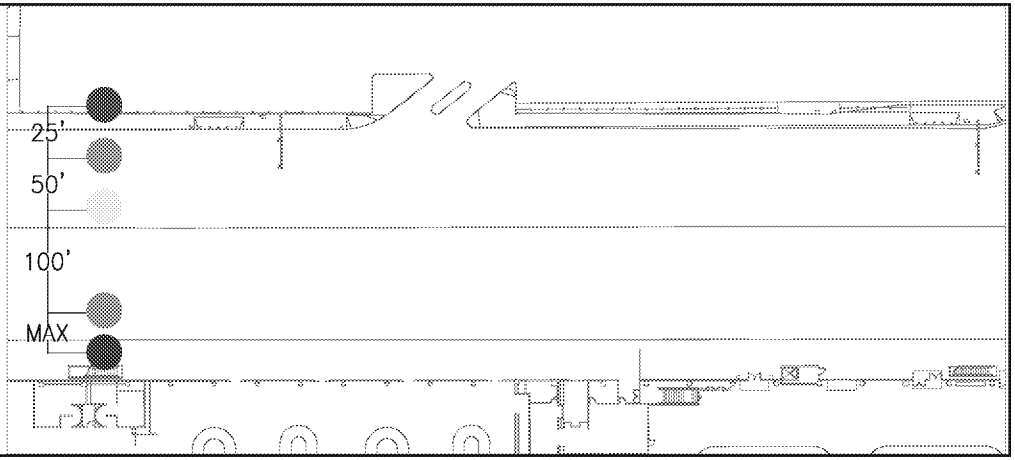
## D20 - PARKING 6 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 50'-0" | 14.50 FC |
| AT 100'-0" | 4.00 FC |
| AT MAX | 3.65 FC |




## D20 - PARKING 6 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.60 FC |
| AT 25'-0" | 3.70 FC |
| AT 50'-0" | 1.35 FC |
| AT 100'-0" | 1.45 FC |
| AT MAX | 15.20 FC |

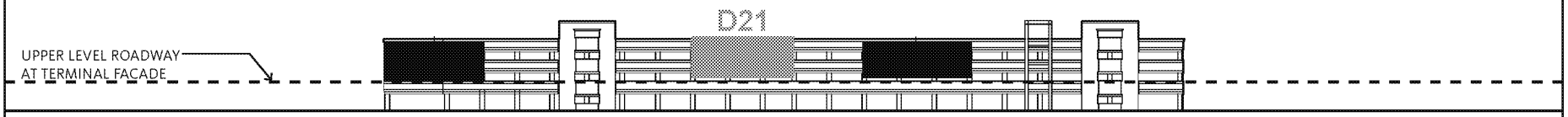



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEV-



## D21 - PARKING 6 - LANDSIDE

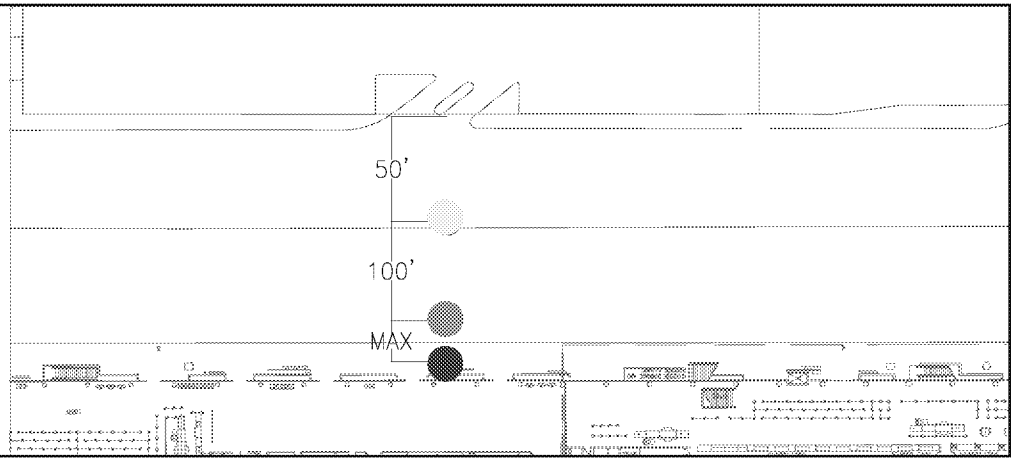



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 6.09 cd/m² |
| ARRIVALS LEVEL | 2.75 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 6 - SOUTH ELEVATION

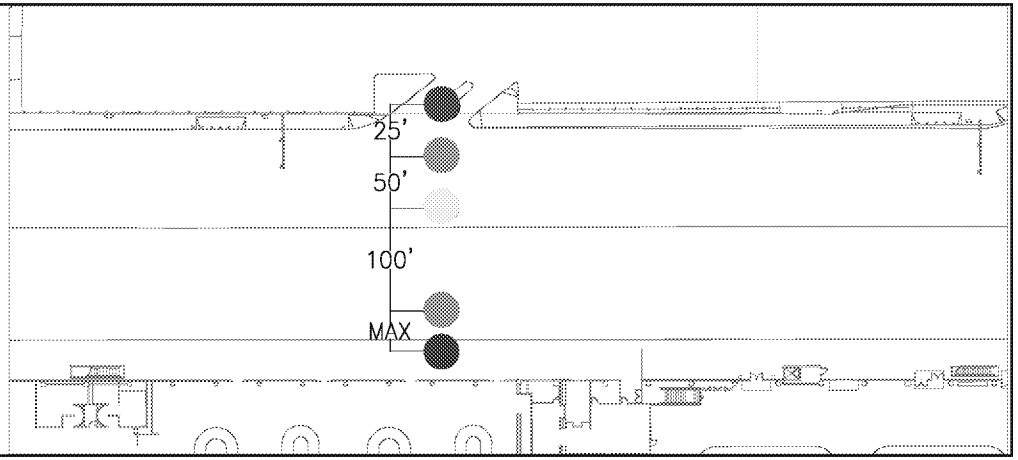
## D21 - PARKING 6 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 50'-0" | 19.00 FC |
| AT 100'-0" | 1.05 FC |
| AT MAX | 4.70 FC |




## D21 - PARKING 6 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.40 FC |
| AT 25'-0" | 0.75 FC |
| AT 50'-0" | 2.50 FC |
| AT 100'-0" | 3.75 FC |
| AT MAX | 10.65 FC |

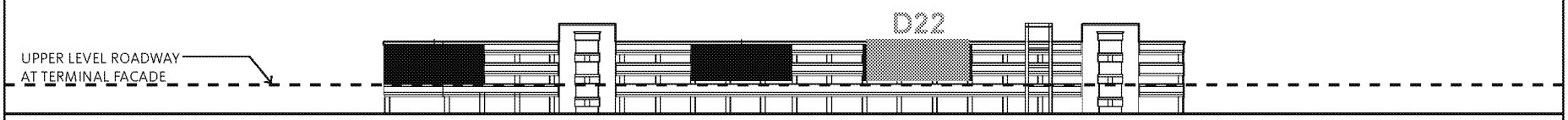



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D22 - PARKING 6 - LANDSIDE

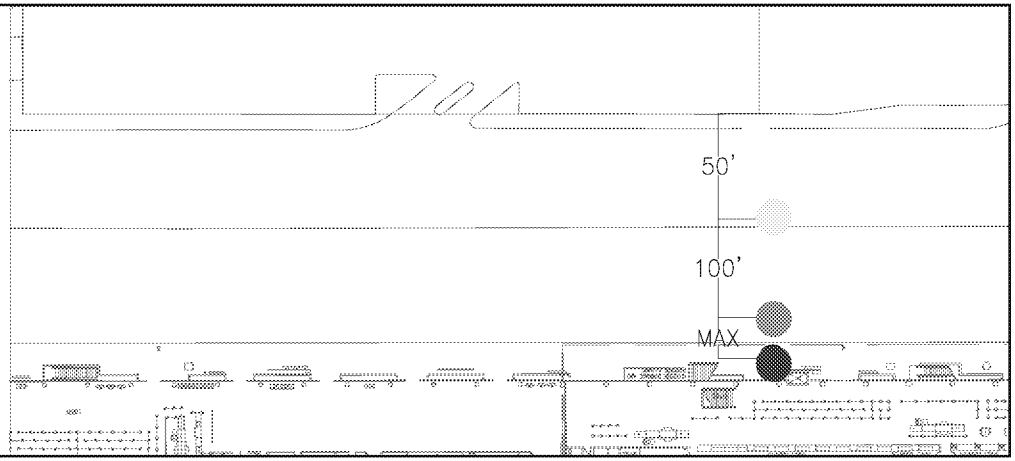



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 1.50 cd/m² |
| ARRIVALS LEVEL | 2.20 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 6 - SOUTH ELEVATION

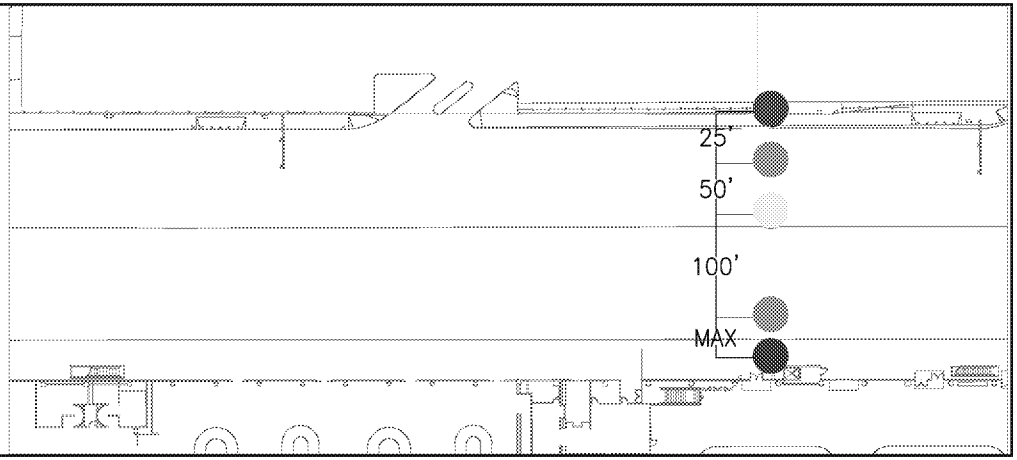
## D22 - PARKING 6 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 50'-0" | 0.60 FC |
| AT 100'-0" | 4.30 FC |
| AT MAX | 3.85 FC |




## D22 - PARKING 6 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.50 FC |
| AT 25'-0" | 1.90 FC |
| AT 50'-0" | 2.75 FC |
| AT 100'-0" | 1.04 FC |
| AT MAX | 11.70 FC |

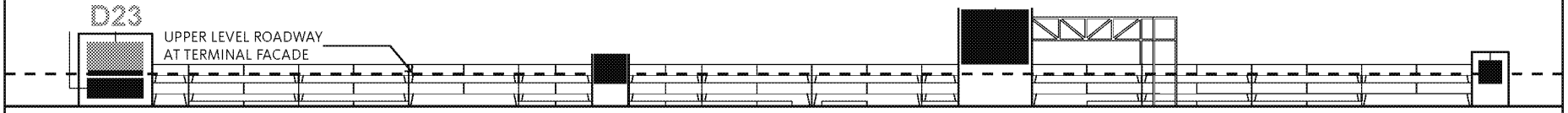



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D23 - PARKING 7 - LANDSIDE

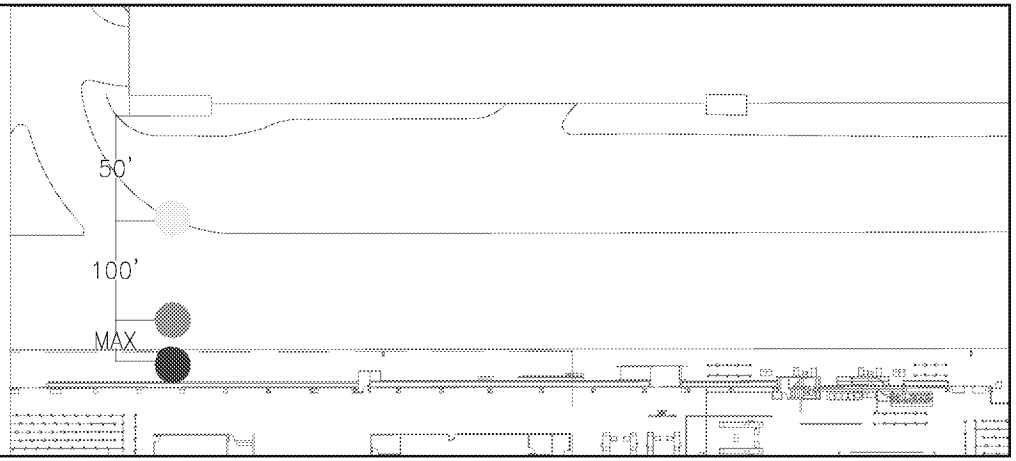



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 1.85 cd/m² |
| ARRIVALS LEVEL | 3.10 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 7 - SOUTH ELEVATION

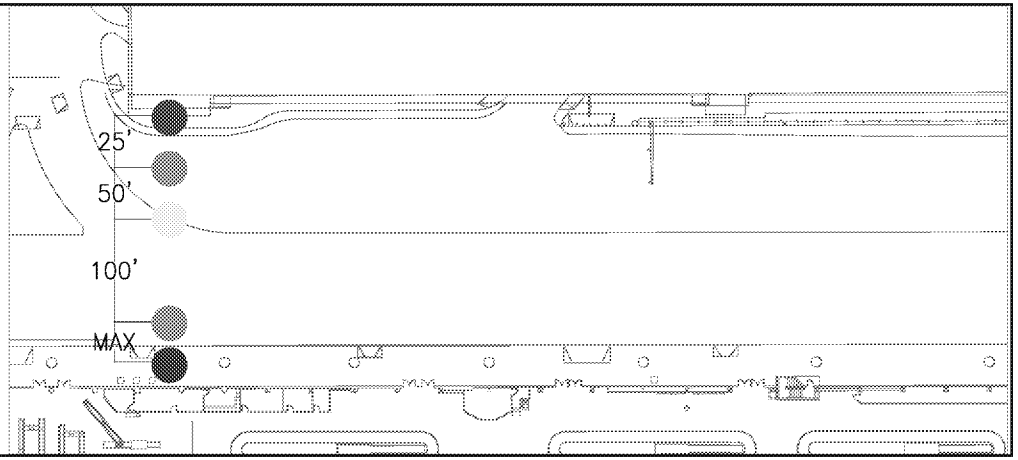
## D23 - PARKING 7 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 50'-0" | 2.85 FC |
| AT 100'-0" | 5.20 FC |
| AT MAX | 4.20 FC |




## D23 - PARKING 7 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.70 FC |
| AT 25'-0" | 1.45 FC |
| AT 50'-0" | 1.25 FC |
| AT 100'-0" | 7.80 FC |
| AT MAX | 6.20 FC |

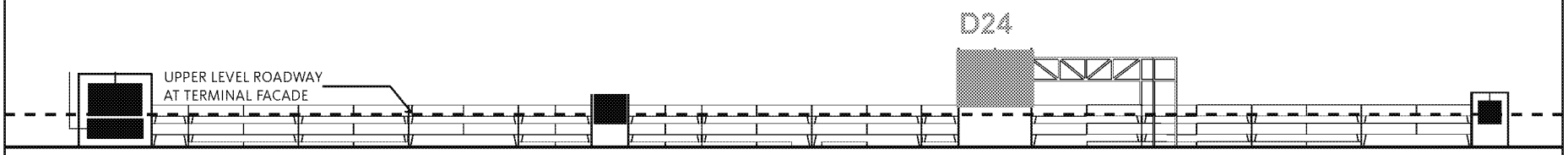



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.D: PROPOSED DIGITAL SIGNAGE EXISTING AMBIENT LIGHT LEVELS



## D24 - PARKING 7 - LANDSIDE

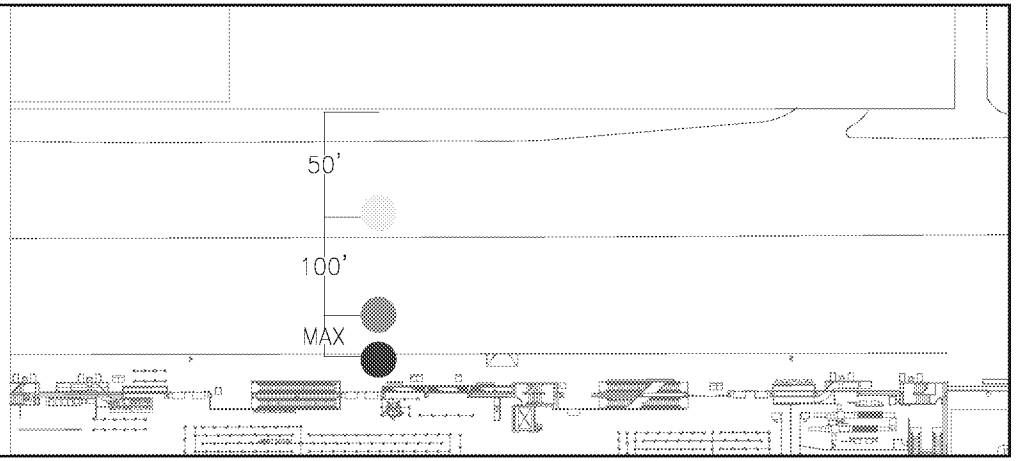



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURES LEVEL | 2.00 cd/m² |
| ARRIVALS LEVEL | 3.50 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 7 - SOUTH ELEVATION

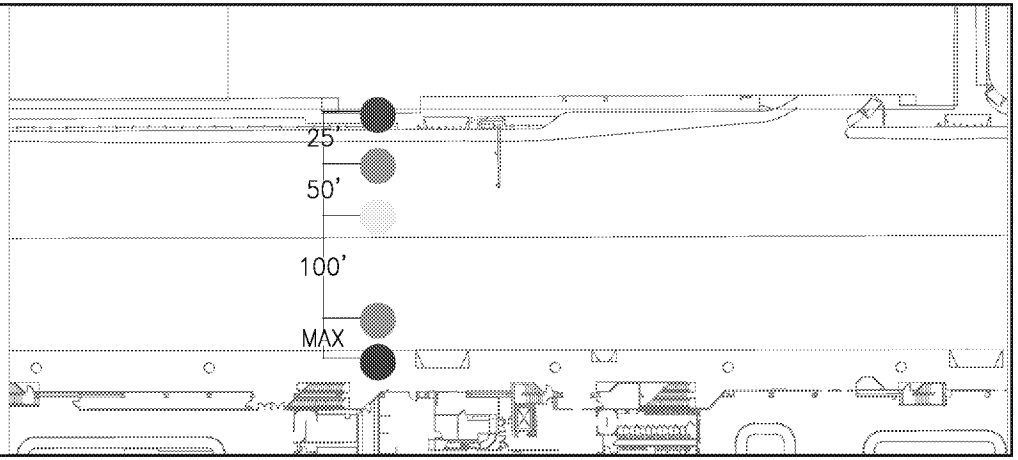
## D24 - PARKING 7 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 50'-0" | 1.50 FC |
| AT 100'-0" | 3.70 FC |
| AT MAX | 22.30 FC |




## D24 - PARKING 7 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 1.25 FC |
| AT 25'-0" | 2.20 FC |
| AT 50'-0" | 3.40 FC |
| AT 100'-0" | 7.15 FC |
| AT MAX | 3.80 FC |




*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.F: EXISTING FACADE LIGHTING

## ENCOUNTER

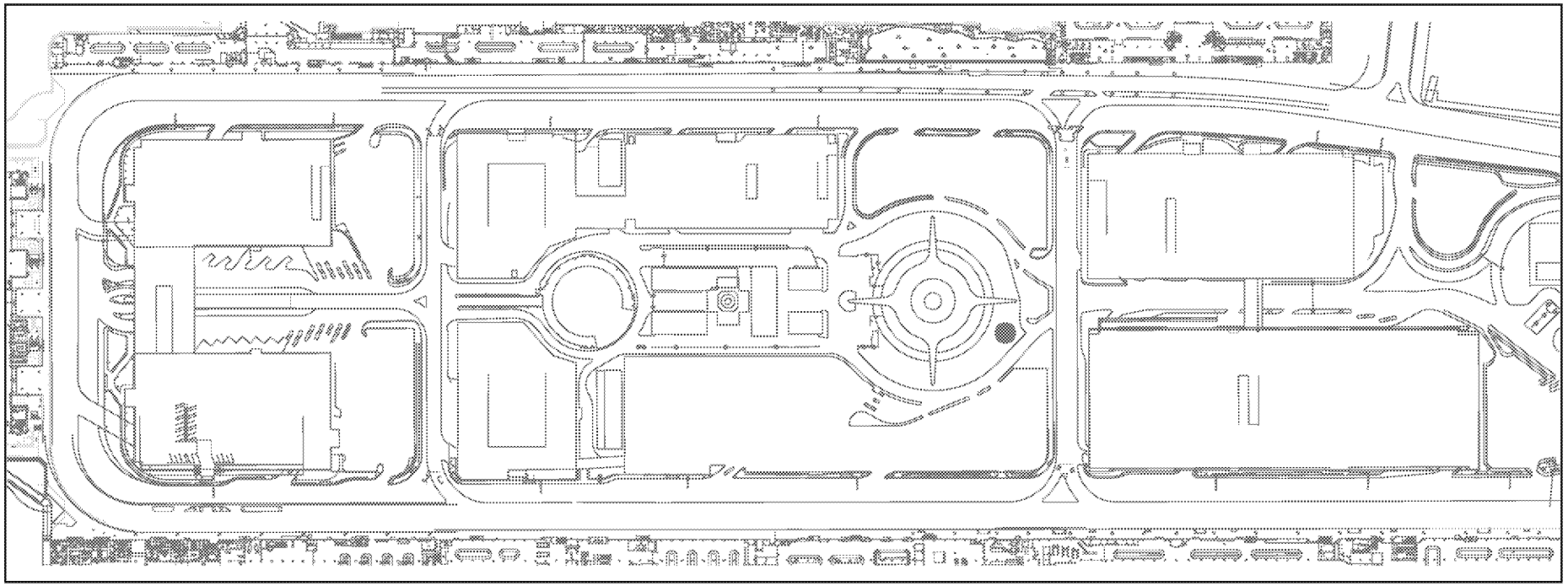
**LUMINANCE RANGE:**

**1-8 cd/m²**

# APPENDIX 4.F: ENCOUNTER SIDEWALK EXISTING AMBIENT LIGHT LEVELS



## FOOTCANDLE (FC) READINGS AT ENCOUNTER SIDEWALK



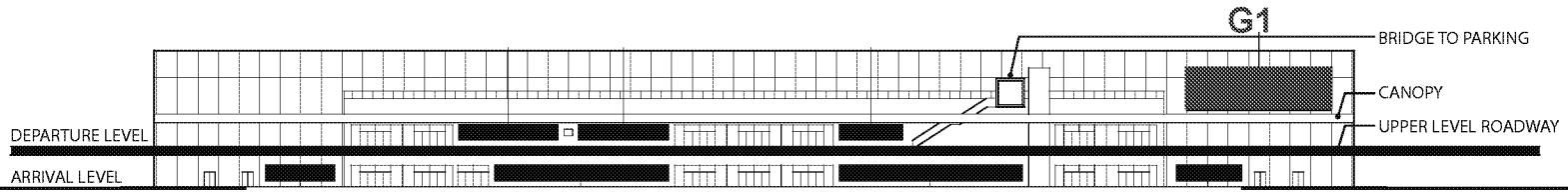
| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| ● | 1.27 FC |

*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.G: PROPOSED SUPERGRAPHIC EXISTING AMBIENT LIGHT LEVELS



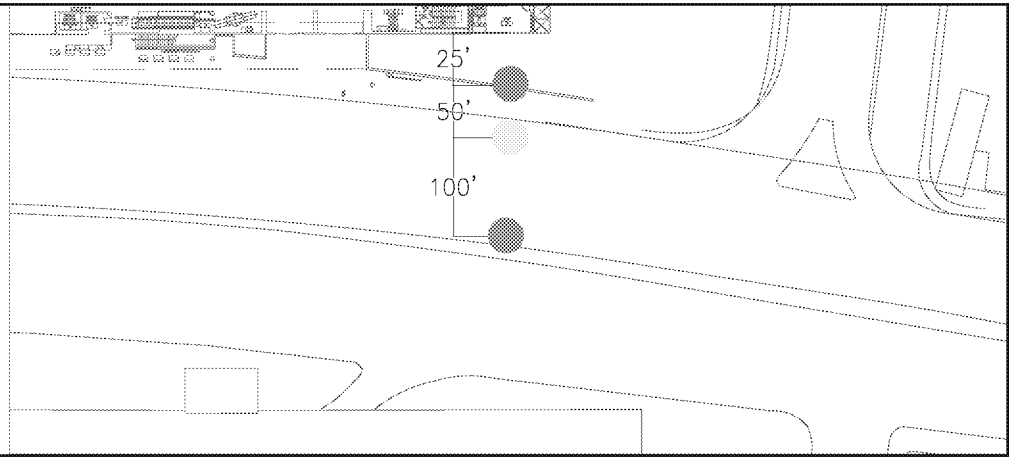
## G1 - TERMINAL 1 - LANDSIDE




**PROPOSED SIGNAGE LOCATION**
TERMINAL 1 - SOUTH ELEVATION

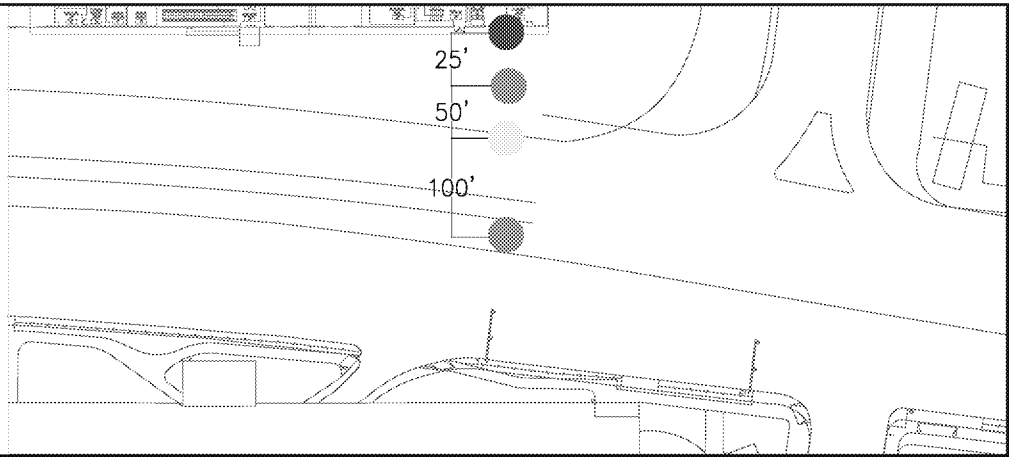
| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURE LEVEL | 0.74 cd/m² |
| ARRIVALS LEVEL | N/A |

## G1 - TERMINAL 1 - DEPARTURES LEVEL




| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | 14.87 FC |
| AT 50'-0" | 0.57 FC |
| AT 100'-0" | 0.85 FC |

## G1 - TERMINAL 1 - ARRIVALS LEVEL



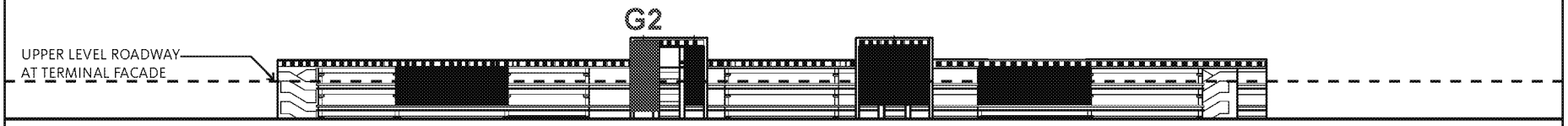

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.41 FC |
| AT 25'-0" | 2.65 FC |
| AT 50'-0" | 10.91 FC |
| AT 100'-0" | 10.51 FC |

*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.G: PROPOSED SUPERGRAPHIC EXISTING AMBIENT LIGHT LEVELS



## G2 - PARKING 1 - LANDSIDE

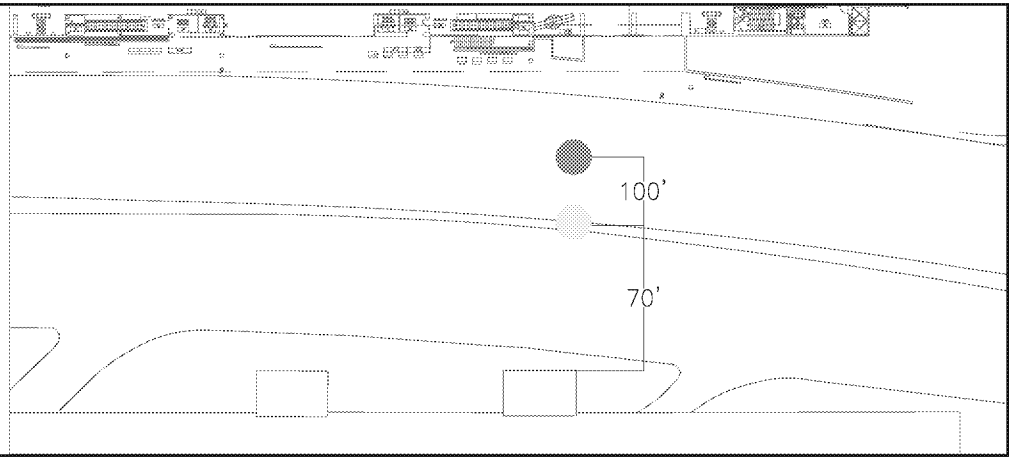



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURE LEVEL | 0.36 cd/m² |
| ARRIVALS LEVEL | 9.98 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 4 - NORTH ELEVATION

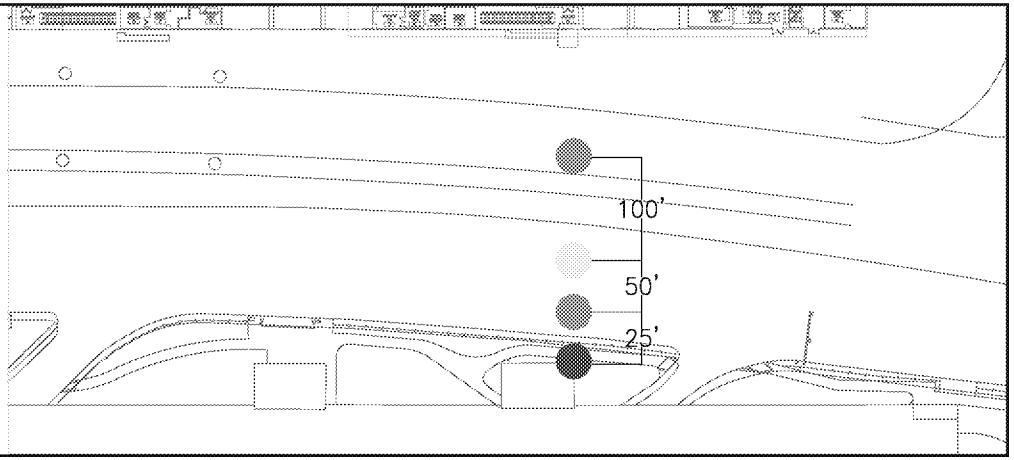
## G2 - PARKING 1 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 70'-0" | 0.57 FC |
| AT 100'-0" | 0.85 FC |




## G2 - PARKING 1 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 6.37 FC |
| AT 25'-0" | 3.35 FC |
| AT 50'-0" | 1.87 FC |
| AT 100'-0" | 3.71 FC |

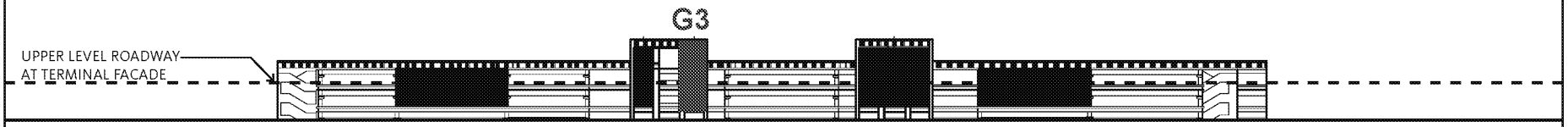



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.G: PROPOSED SUPERGRAPHIC EXISTING AMBIENT LIGHT LEVELS



## G3 - PARKING 1 - LANDSIDE

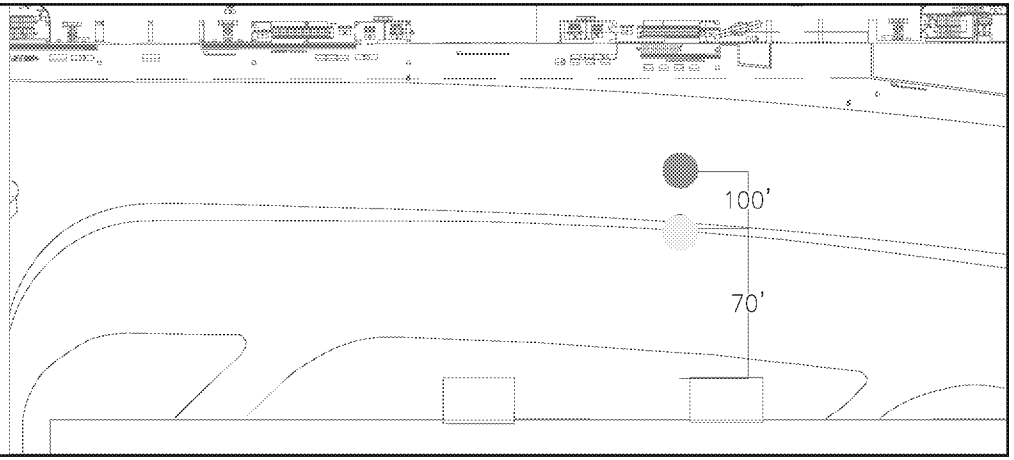



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURE LEVEL | 0.57 cd/m² |
| ARRIVALS LEVEL | 8.38 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 4 - NORTH ELEVATION

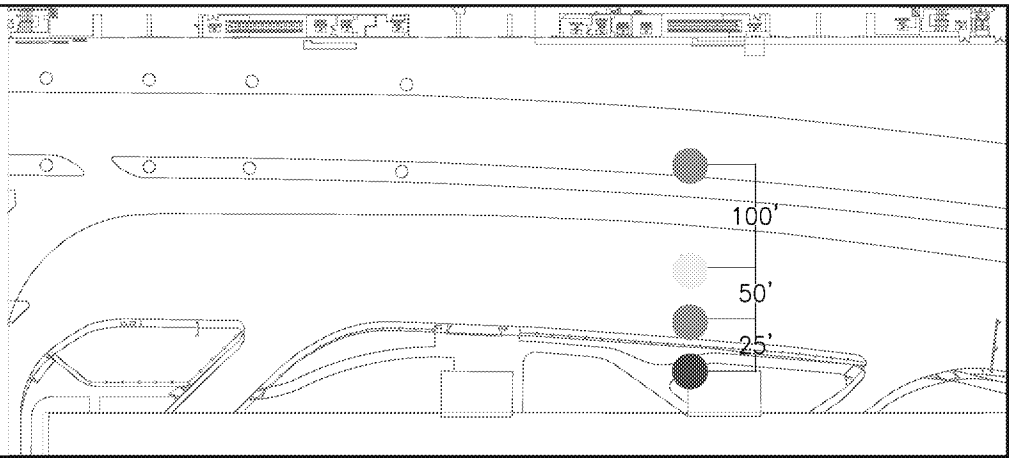
## G3 - PARKING 1 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 70'-0" | 15.51 FC |
| AT 100'-0" | 1.51 FC |




## G3 - PARKING 1 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 6.37 FC |
| AT 25'-0" | 5.74 FC |
| AT 50'-0" | 1.87 FC |
| AT 100'-0" | 3.71 FC |

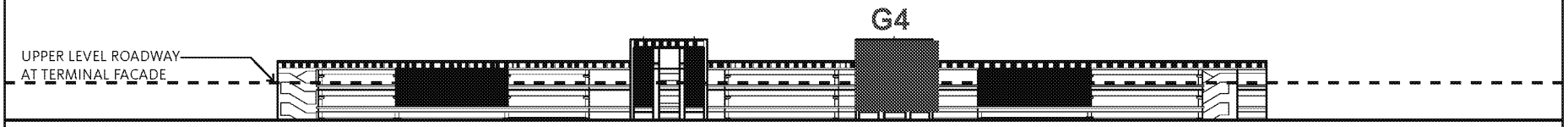



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.G: PROPOSED SUPERGRAPHIC EXISTING AMBIENT LIGHT LEVELS



## G4 - PARKING 1 - LANDSIDE

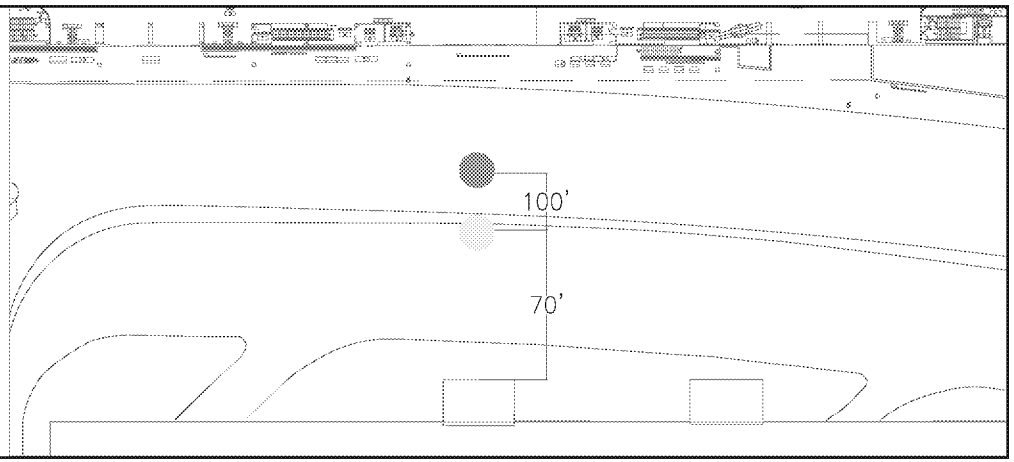



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURE LEVEL | 0.43 cd/m² |
| ARRIVALS LEVEL | 5.40 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 4 - NORTH ELEVATION

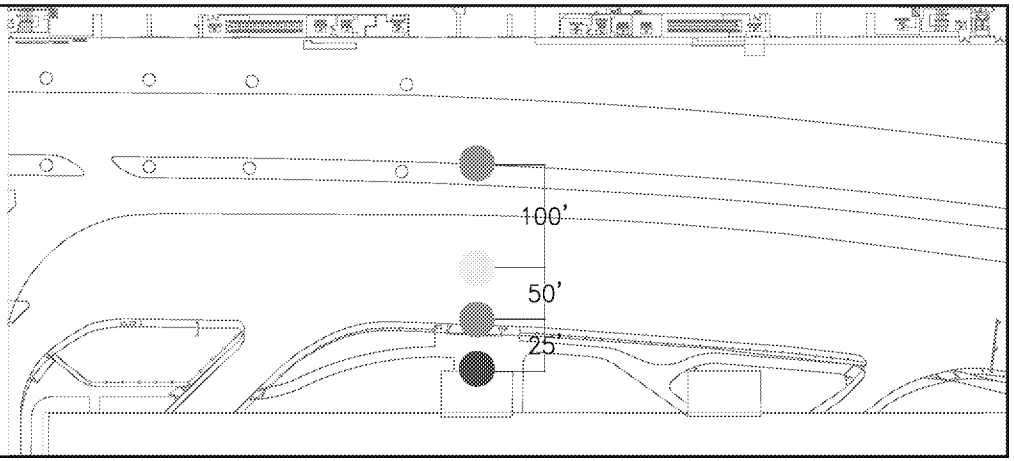
## G4 - PARKING 1 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 70'-0" | 2.87 FC |
| AT 100'-0" | 0.71 FC |




## G4 - PARKING 1 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 5.62 FC |
| AT 25'-0" | 3.12 FC |
| AT 50'-0" | 4.26 FC |
| AT 100'-0" | 2.32 FC |

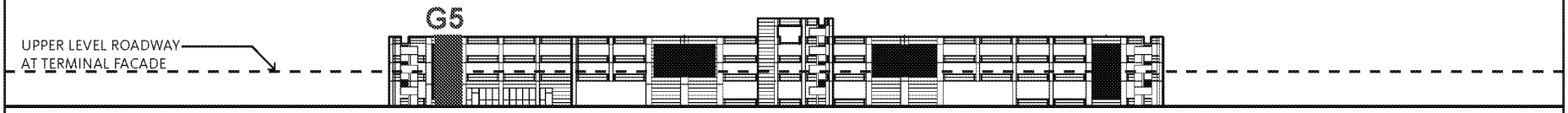



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.G: PROPOSED SUPERGRAPHIC EXISTING AMBIENT LIGHT LEVELS



## G5 - PARKING 2A - LANDSIDE

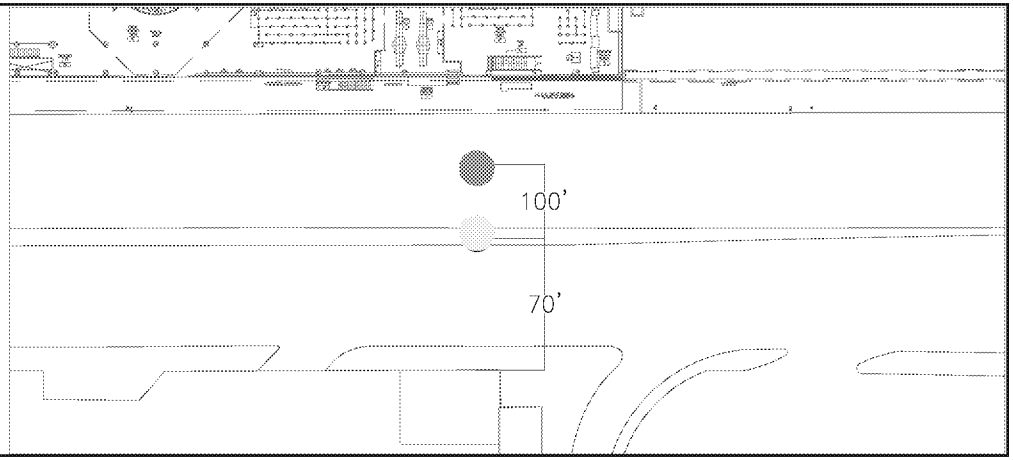



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURE LEVEL | 0.68 cd/m² |
| ARRIVALS LEVEL | 1.09 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 2A - NORTH ELEVATION

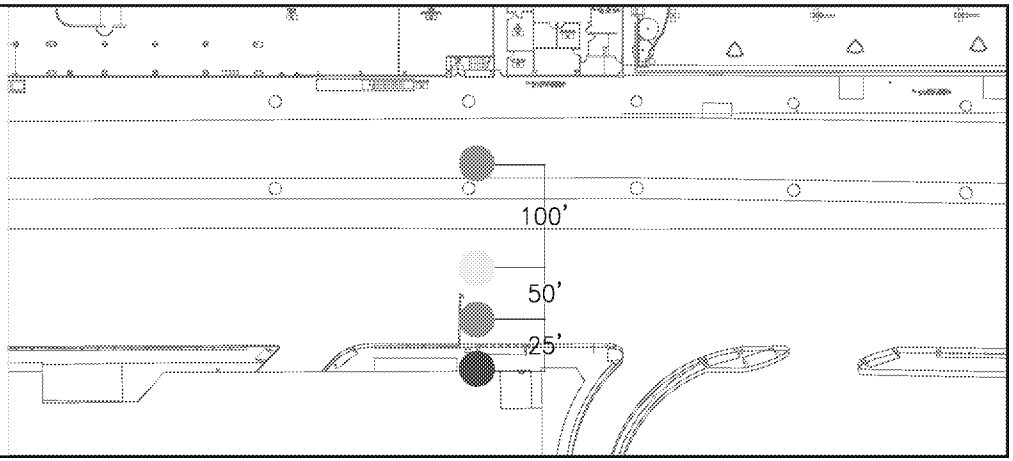
## G5 - PARKING 2A - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 70'-0" | 1.81 FC |
| AT 100'-0" | 0.71 FC |




## G5 - PARKING 2A - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.35 FC |
| AT 25'-0" | 1.05 FC |
| AT 50'-0" | 2.01 FC |
| AT 100'-0" | 2.14 FC |

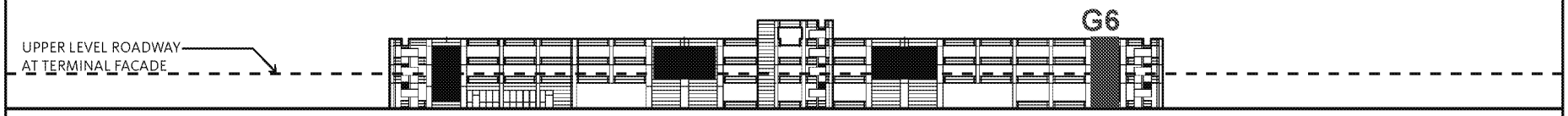



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.G: PROPOSED SUPERGRAPHIC EXISTING AMBIENT LIGHT LEVELS



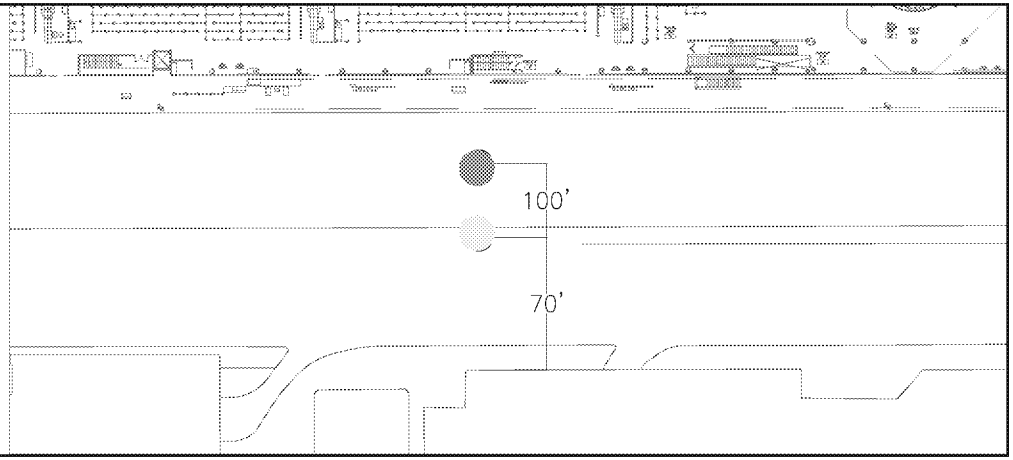
## G6 - PARKING 2A - LANDSIDE




PROPOSED SIGNAGE LOCATION
PARKING STRUCTURE 2A - NORTH ELEVATION

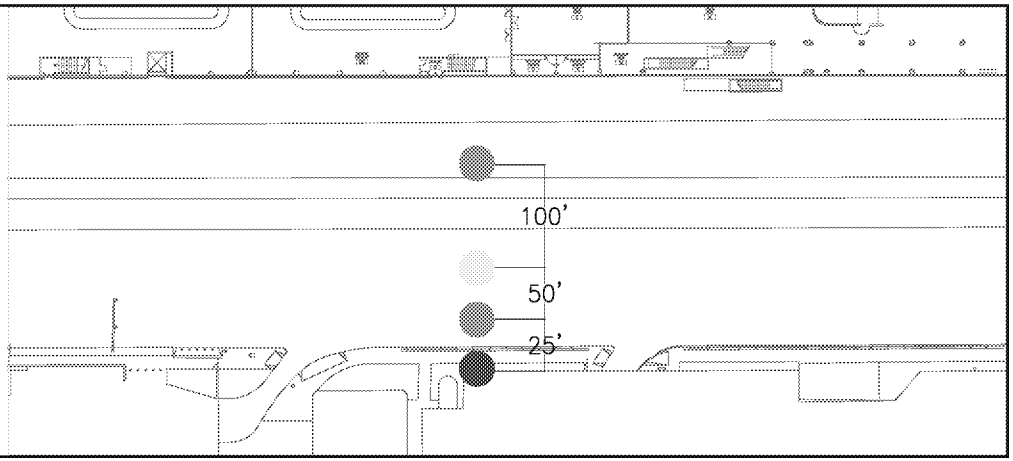
| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURE LEVEL | 0.57 cd/m² |
| ARRIVALS LEVEL | 1.22 cd/m² |

## G6 - PARKING 2A - DEPARTURES LEVEL




| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 70'-0" | 3.17 FC |
| AT 100'-0" | 0.72 FC |

## G6 - PARKING 2A - ARRIVALS LEVEL



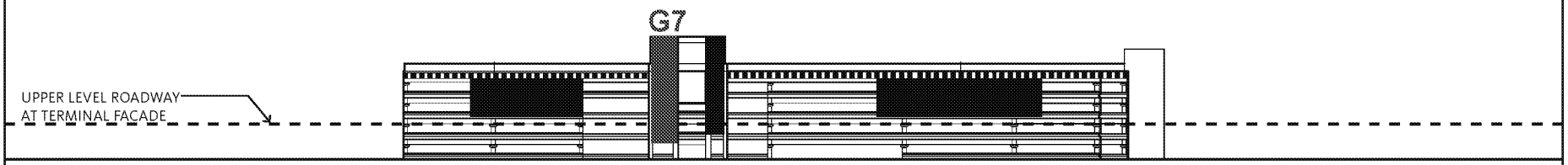

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.61 FC |
| AT 25'-0" | 1.38 FC |
| AT 50'-0" | 2.85 FC |
| AT 100'-0" | 0.81 FC |

*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.G: PROPOSED SUPERGRAPHIC EXISTING AMBIENT LIGHT LEVELS



## G7 - PARKING 3 - LANDSIDE

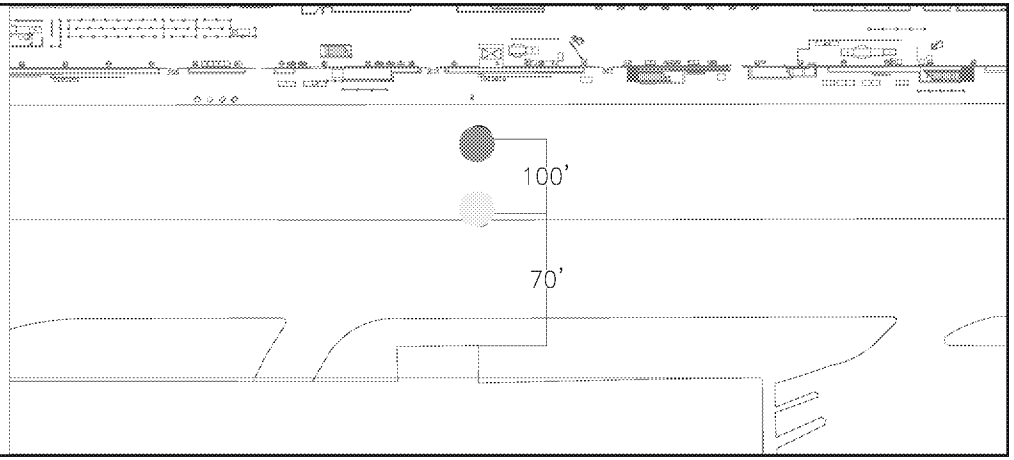



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURE LEVEL | 0.91 cd/m² |
| ARRIVALS LEVEL | 10.23 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 3 - NORTH ELEVATION

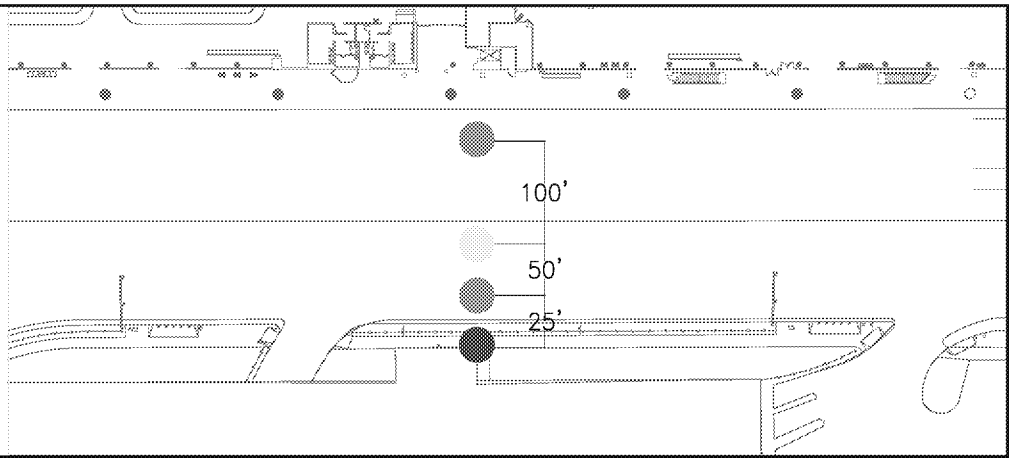
## G7 - PARKING 3 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 70'-0" | 3.46 FC |
| AT 100'-0" | 0.81 FC |




## G7 - PARKING 3 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 2.54 FC |
| AT 25'-0" | 6.06 FC |
| AT 50'-0" | 4.28 FC |
| AT 100'-0" | 1.44 FC |

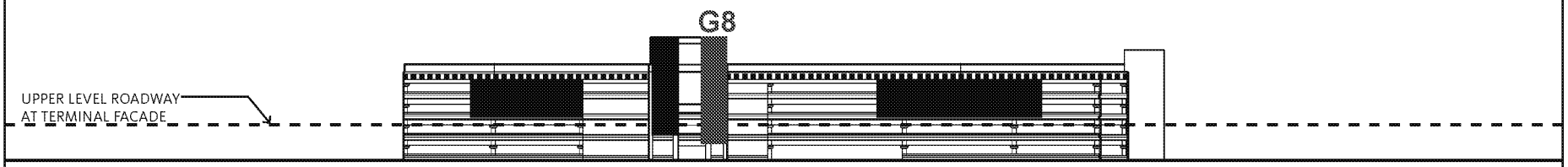



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.G: PROPOSED SUPERGRAPHIC EXISTING AMBIENT LIGHT LEVELS



## G8 - PARKING 3 - LANDSIDE

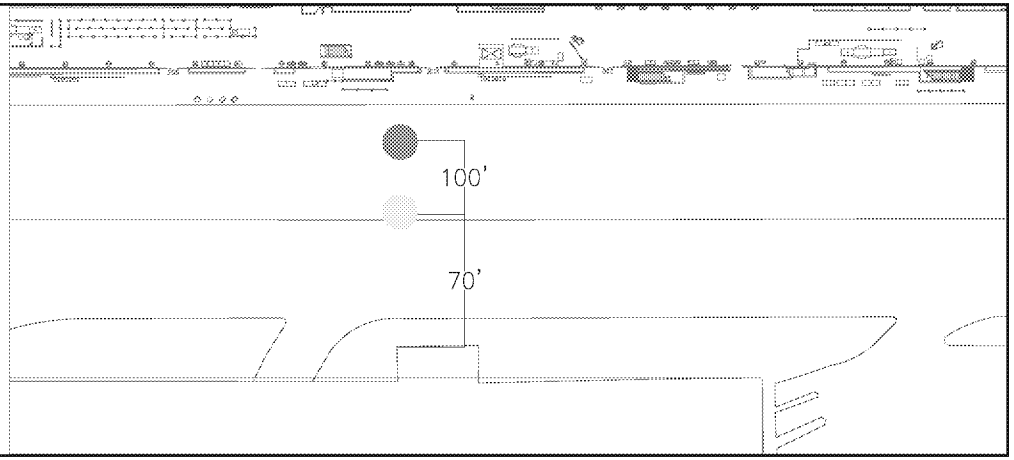



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURE LEVEL | 0.45 cd/m² |
| ARRIVALS LEVEL | 7.35 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 3 - NORTH ELEVATION

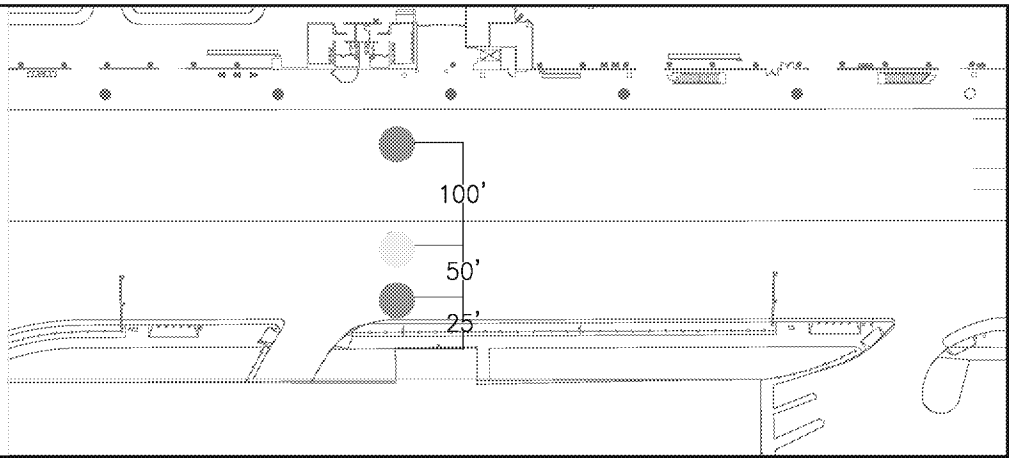
## G8 - PARKING 3 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A** |
| AT 25'-0" | N/A** |
| AT 70'-0" | 3.46 FC |
| AT 100'-0" | 0.81 FC |




## G8 - PARKING 3 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A** |
| AT 25'-0" | 0.88 FC |
| AT 50'-0" | 3.13 FC |
| AT 100'-0" | 2.43 FC |

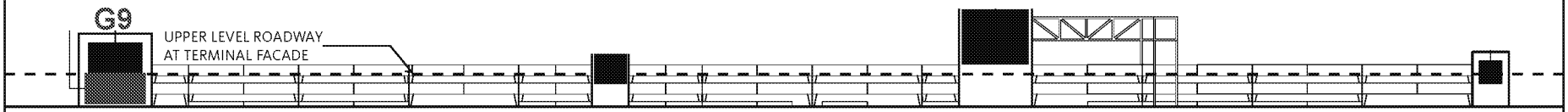



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
* *SIDEWALK AND IMMEDIATELY ADJACENT AREAS ON ARRIVALS LEVEL WERE CLOSED OFF FOR CONSTRUCTION AT TIME OF SURVEY
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.G: PROPOSED SUPERGRAPHIC EXISTING AMBIENT LIGHT LEVELS



## G9 - PARKING 7 - LANDSIDE



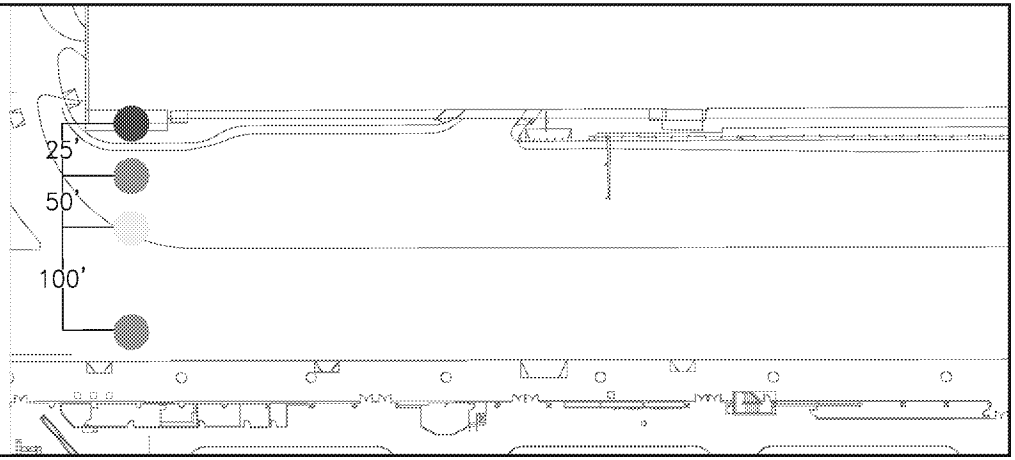

| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURE LEVEL | N/A |
| ARRIVALS LEVEL | 4.67 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 7 - SOUTH ELEVATION

## G9 - PARKING 7 - DEPARTURES LEVEL - N/A

## G9 - PARKING 7 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.90 FC |
| AT 25'-0" | 1.00 FC |
| AT 50'-0" | 5.50 FC |
| AT 100'-0" | 7.80 FC |

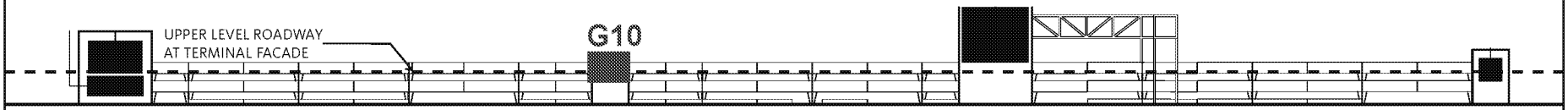



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.G: PROPOSED SUPERGRAPHIC EXISTING AMBIENT LIGHT LEVELS



## G10 - PARKING 7 - LANDSIDE

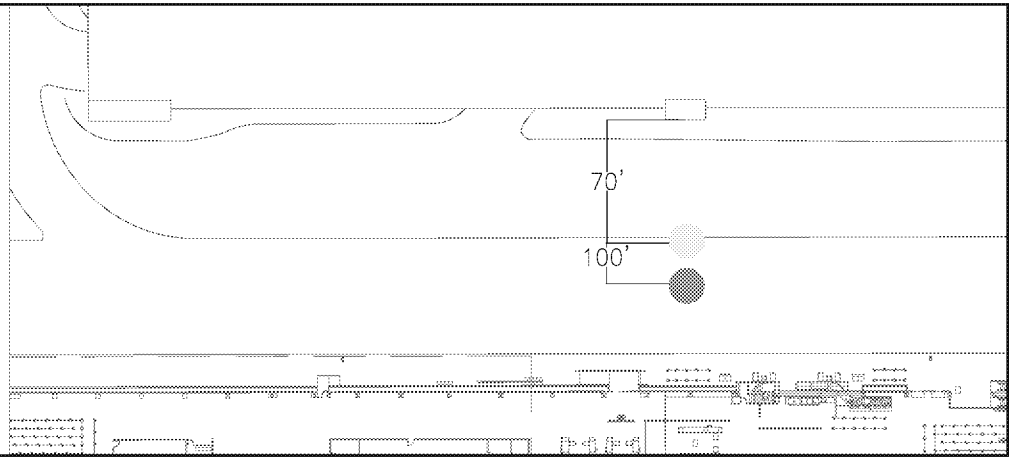



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURE LEVEL | 1.60 cd/m² |
| ARRIVALS LEVEL | 3.60 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 7 - SOUTH ELEVATION

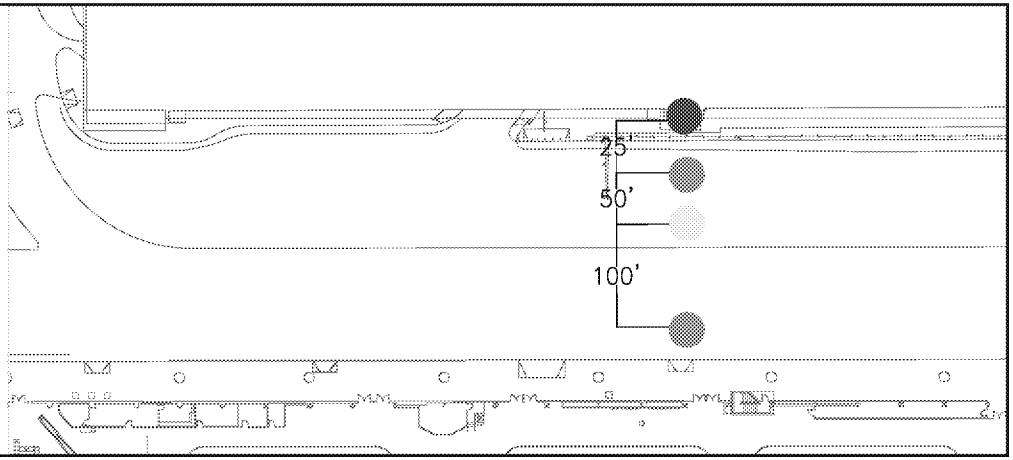
## G10 - PARKING 7 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 70'-0" | 1.95 FC |
| AT 100'-0" | 3.80 FC |




## G10 - PARKING 7 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.97 FC |
| AT 25'-0" | 4.60 FC |
| AT 50'-0" | 4.30 FC |
| AT 100'-0" | 14.20 FC |

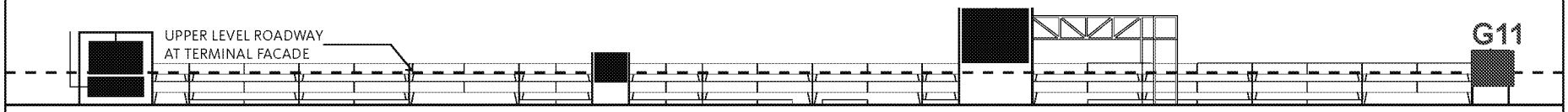



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.G: PROPOSED SUPERGRAPHIC EXISTING AMBIENT LIGHT LEVELS



## G11 - PARKING 7 - LANDSIDE

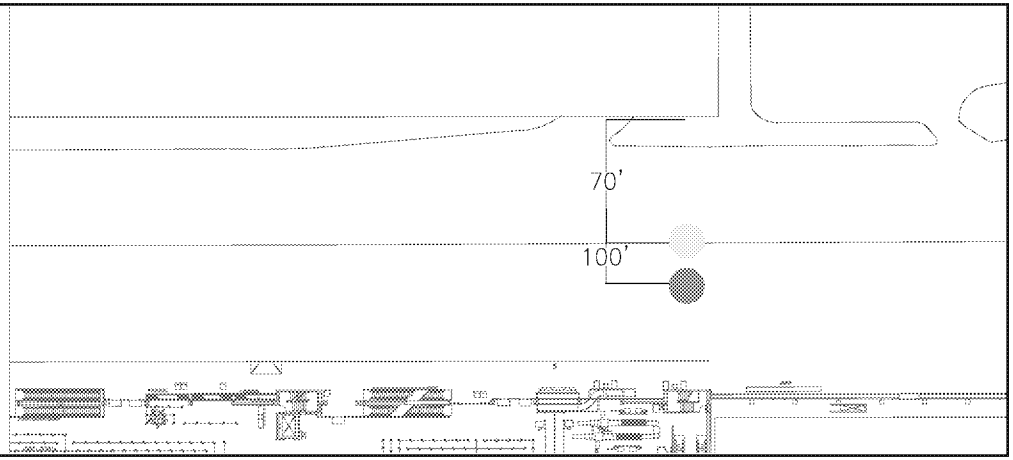



| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURE LEVEL | 1.70 cd/m² |
| ARRIVALS LEVEL | 2.50 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 7 - SOUTH ELEVATION

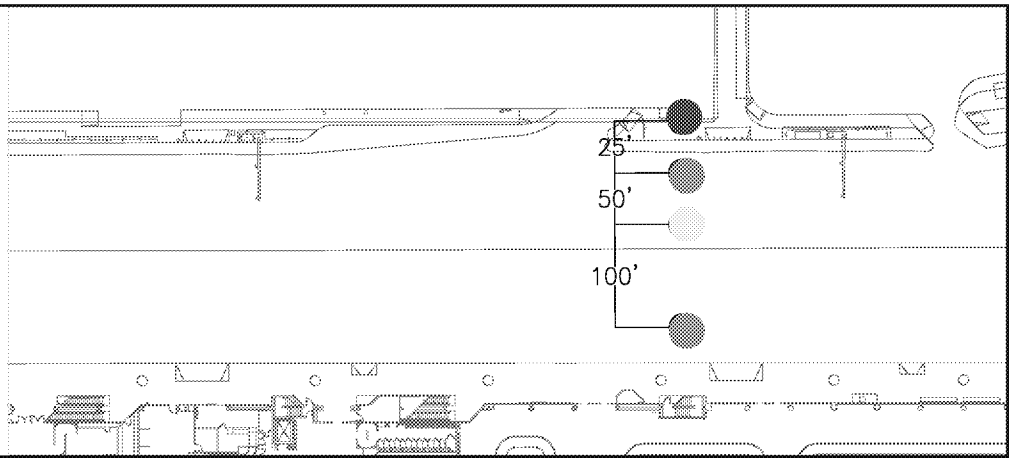
## G11 - PARKING 7 - DEPARTURES LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | N/A |
| AT 25'-0" | N/A |
| AT 70'-0" | 0.75 FC |
| AT 100'-0" | 4.50 FC |




## G11 - PARKING 7 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 5.30 FC |
| AT 25'-0" | 1.10 FC |
| AT 50'-0" | 1.60 FC |
| AT 100'-0" | 12.70 FC |




*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.G: PROPOSED SUPERGRAPHIC EXISTING AMBIENT LIGHT LEVELS



## G12 - PARKING 7 - LANDSIDE

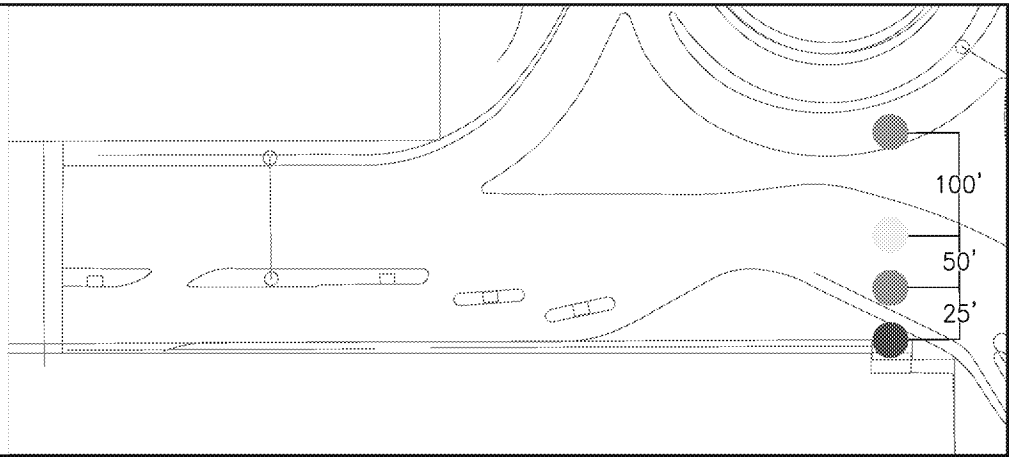

| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURE LEVEL | 1.80 cd/m² |
| ARRIVALS LEVEL | 1.40 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 7 - NORTH ELEVATION

## G12 - PARKING 7 - DEPARTURES LEVEL - N/A

## G12 - PARKING 7 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 0.40 FC |
| AT 25'-0" | 0.38 FC |
| AT 50'-0" | 0.30 FC |
| AT 100'-0" | 0.70 FC |

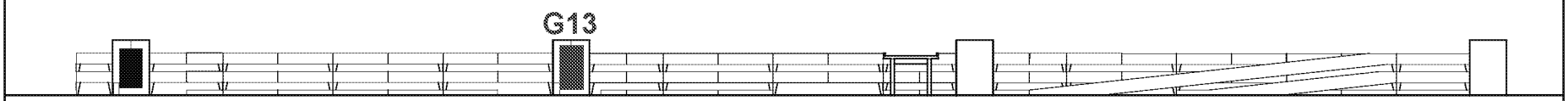



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4.G: PROPOSED SUPERGRAPHIC EXISTING AMBIENT LIGHT LEVELS



## G13 - PARKING 7 - LANDSIDE



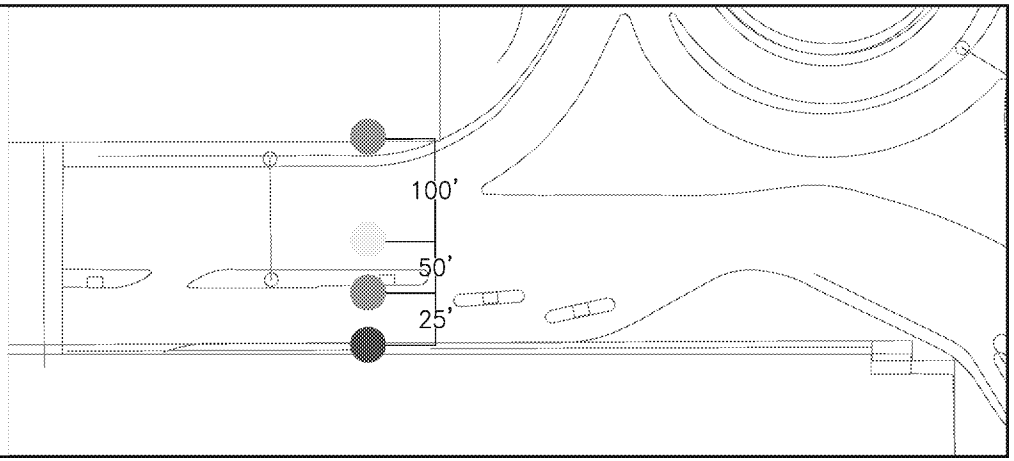

| LUMINANCE (cd/m²) READING AT BUILDING FACADE | |
|---|---|
| DEPARTURE LEVEL | 1.01 cd/m² |
| ARRIVALS LEVEL | 5.20 cd/m² |

**PROPOSED SIGNAGE LOCATION**
PARKING STRUCTURE 7 - NORTH ELEVATION

## G13 - PARKING 7 - DEPARTURES LEVEL - N/A

## G13 - PARKING 7 - ARRIVALS LEVEL

| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| AT ADJACENT SIDEWALK | 2.30 FC |
| AT 25'-0" | 2.20 FC |
| AT 50'-0" | 3.00 FC |
| AT 100'-0" | 9.80 FC |

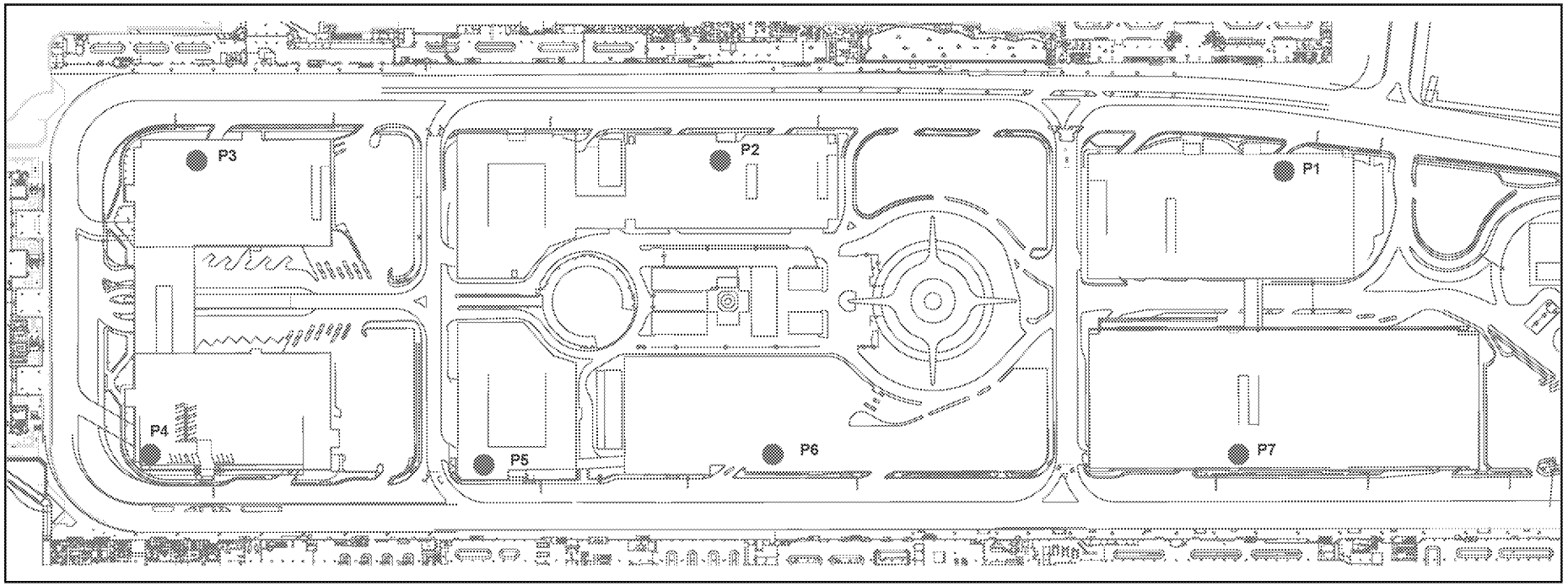



*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4: PARKING STRUCTURES L1 EXISTING AMBIENT LIGHT LEVELS



## FOOTCANDLE (FC) READINGS INSIDE PARKING STRUCTURES L1




| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| P1 | 6.46 FC |
| P2 | 7.66 FC |
| P3 | 5.17 FC |
| P4 | 14.03 FC |
| P5 | 9.60 FC |
| P6 | 27.00 FC |
| P7 | 1.80 FC |

*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

# APPENDIX 4: PARKING STRUCTURES L1 LUMINANCE READINGS



## PARKING INTERIOR: HIGH PRESSURE SODIUM

**LUMINANCE RANGE:**

**3-8 cd/m²**

## PARKING INTERIOR: METAL HALIDE

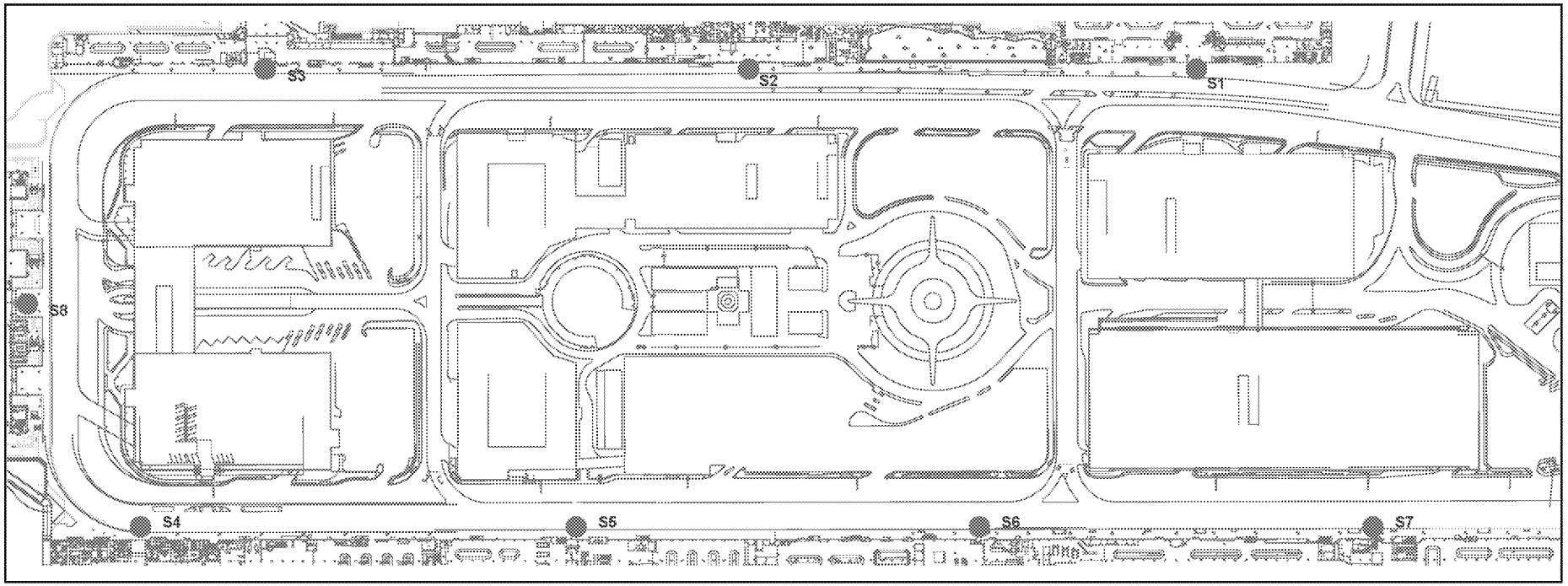
**LUMINANCE RANGE:**

**16-20 cd/m²**

# APPENDIX 4: TERMINAL ARRIVALS SIDEWALK EXISTING AMBIENT LIGHT LEV-



## FOOTCANDLE (FC) READINGS ON THE SIDEWALK BETWEEN TERMINAL DOORS




| HORIZONTAL FOOTCANDLE (FC) READINGS | |
|---|---|
| S1 | 2.71 FC |
| S2 | 1.14 FC |
| S3 | 5.02 FC |
| S4 | 3.40 FC |
| S5 | 18.50 FC |
| S6 | 3.50 FC |
| S7 | 18.10 FC |
| S8 | 3.66 FC |

*ALL FC MEASUREMENTS WERE TAKEN AT THE PEDESTRIAN LEVEL
***EXISTING LIGHT READINGS AT PROJECT SITE INCLUDE STREET LIGHTING, FLOOD LIGHTING, DOWNLIGHTING, TERMINAL SIGNAGE WHICH INFLUENCE LIGHT READINGS OF EXISTING CONDITIONS.

**TABLE 1 ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) RECOMMENDED ILLUMINANCE REQUIREMENTS OF DIFFERENT ENVIRONMENTAL ZONES WHICH REQUIRE CONTROL OF LIGHT TRESPASS.**

| Table 1<br>(SOURCE: IESNA TM-11-00)<br>Eye Illuminance Limits (Light produced by Billboard, Above Ambient) | | |
|---|---|---|
| ZONE | | EYE ILLUMINANCE LIMIT (FC) |
| E1 | Very low ambient electric lights | 0.1 |
| E2 | Low ambient electric lights | 0.3 |
| E3 | Medium ambient electric lights | 0.8 |
| E4 | High ambient electric lights | 1.5 |

**TABLE 2 ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) RECOMMENDED DISTANCE TO MEASURE ILLUMINANCE CONTRIBUTION OF DIFFERENT SIZE SIGNAGE.**

| Table 2<br>(SOURCE: IESNA TM-11-00)<br>Proposed Viewer Distance Values | | |
|---|---|---|
| BILLBOARD SIZE | BILLBOARD DIMENSIONS (FT) | DISTANCE (FT) |
| Small | 11 x 22 | 150 |
| Medium | 10.5 x 36 | 200 |
| Large | 14 x 48 | 250 |
| Very Large | 20 x 60 | 350 |

**TABLE 3 ILLUMINATING ENGINEERING SOCIETY OF NORTH AMERICA (IESNA) RECOMMENDED ILLUMINANCE LEVELS FOR VERTICAL FLOODLIT SURFACES.**

| Table 3<br>(SOURCE: IESNA RP-33-99)<br>Illuminance Levels for Floodlighting Buildings or Monuments | |
|---|---|
| AREA DESCRIPTION | AVERAGE TARGET ILLUMINANCE (VERTICAL) |
| Bright Surroundings and Light Surfaces | 5 |
| Bright Surroundings and Medium Light Surfaces | 7 |
| Bright Surroundings and Dark Surfaces | 10 |
| Bright Surroundings and Light Surfaces | 2 |
| Dark Surroundings and Medium Light Surfaces | 3 |
| Dark Surroundings and Medium Dark Surfaces | 4 |
| Dark Surroundings and Dark Surfaces | 5 |